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# MEDICAL RECORD

*A Weekly Journal of Medicine and Surgery*

EDITED BY

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Volume 56

JULY 1, 1899—DECEMBER 30, 1899

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NEW YORK
WILLIAM WOOD AND COMPANY
1899

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# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 56, No. 1.
Whole No. 1495.

NEW YORK, JULY 1, 1899.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### NOTES ON THE TREATMENT OF YELLOW FEVER WITH THE BLOOD-SERUM OF THE BACILLUS ICTEROIDES, AND ITS PREPARATION.

BY CHARLES B. FITZPATRICK, M.D.,

PATHOLOGIST AND DIRECTOR OF THE BACTERIOLOGICAL LABORATORIES OF THE NEW YORK HEALTH OFFICER'S DEPARTMENT, ASSISTANT BACTERIOLOGIST TO THE DEPARTMENT OF HEALTH, CITY OF NEW YORK, ETC.

THE manifest advantages of the serum treatment of yellow fever in both the prevention and cure of the disease caused Dr. Alvah H. Doty, health officer of the port of New York, to have undertaken a series of experiments in the laboratories of his department, under my direction, with the view of obtaining a serum for the treatment of yellow fever. I have now succeeded, after eighteen months of experimental work, in obtaining a serum which is both curative and preventive.

The work preliminary to the preparation of the serum was to obtain cultures of the micro-organism bearing an etiological relation to the disease. In March, 1897, I isolated a micro-organism from the blood of three cases of yellow fever in the Swinburne Island Hospital. This organism,[1] which I have designated as the bacillus coli icteroides, I regarded as a special, virulent form of the bacterium coli commune. This culture was obtained prior to the publication in the *Annales de l'Institut Pasteur*, of June, 1897, by Dr. José Sanarelli, of his article describing the bacillus icteroides, which he had found in some cases of yellow fever. Dr. Sanarelli was so kind as to send a culture of his bacillus to the New York health officer's department. Comparisons of this culture with that of the bacillus coli icteroides led me to conclude that these organisms were practically the same, and the pathogenic powers of these bacilli convinced me that they bore an etiological relation to yellow fever, notwithstanding their intimate connections with the bacterium coli commune. This conclusion was reached by giving more importance to their pathogenic virulence and their serum-therapeutic properties as proofs of a specific causative relation than to mere biological differences, such as peculiarities of colony formation, or different degrees of gas production, motility, and acidity. By serum-therapeutic properties I mean the power that specific pathogenic bacteria possess of producing toxins and causing to be formed in the blood of susceptible animals a substance which bears a preventive and curative relation to the specific disease.

The methods employed in the immunization of the animals to the bacillus icteroides are essentially the same as those pursued by me when I succeeded in obtaining the first diphtheria antitoxin serum used by the New York City health department for the free treatment of diphtheria in the public hospitals, and which I have already described at length in an article in the *New York Medical Journal*.[2] The culture used to produce the toxins and to inoculate the animals was the culture of the bacillus icteroides which Dr. Sanarelli sent to the health officer's department. Two horses were chosen to be subjected to the process of immunization, in order to obtain the preventive and curative serum from their blood. The injection fluid was made up of the living culture, or filtered cultures. The cultures were allowed to grow at 37° C. for about twenty-five days and then filtered. The filtrate contained a toxin of varying strength. The intra-jugular injection of two or three hundred cubic centimetres of the toxin was usually required to cause a reaction of two degrees in a horse which had undergone the process of immunization for fifteen months. The subcutaneous injections of the living culture are not well tolerated. They cause extensive necrosis of the subcutaneous tissues. The subcutaneous injections of the toxins are tolerated better than the cultures, but are not so satisfactory as the intravenous injections of the filtered toxin. The necrosis of the subcutaneous tissues resulting from extravasations of intravenous and subcutaneous injections was so extensive that it resulted in the death of one of the horses.

The virulence of the culture used has varied. The original culture sent to the laboratory by Dr. Sanarelli caused the death of a guinea-pig weighing 300 gm. in about seven days when injected in a dose of ½ c.c. or more intraperitoneally. I have increased the virulence of the culture so that the subcutaneous injection of ½ c.c. to 1 c.c. causes death. The culture now used acts as follows:

Guinea-pig, weight 235 gm. inoculated subcutaneously with 1 c.c. died in 6 days.
Guinea-pig, weight 235 gm. inoculated subcutaneously with 2 c.c. died in 3½ days.
Guinea-pig, weight 260 gm. inoculated subcutaneously with 3 c.c. died in 2½ days.

It is readily seen from the above that the culture does not cause in guinea-pigs a disease with a definite cycle, or an infection which has a definite period of incubation and development. The intensity of the infection depends upon the dose, and with a smaller dose death in some cases takes place as late as nineteen days after the infection. The character of the reaction in horses has been a direct rise of temperature within twenty-four hours and a fall to about normal within the next twenty-four hours. This is the typical reaction following intravenous injections. Subcutaneous injection and extravasation from the veins cause a more gradual descent, or a fall followed by a rise. The horse usually lies down after an injection and often develops long periods of weakness with loss of appetite. The horse which has lived was first injected on January 19, 1898, and has been methodically injected at the proper intervals to date.

Table showing injections and reactions of the horse.

January 19, 1898.—Subcutaneous injection of 1 c.c. of a 21-day living culture caused a temperature of 102° F.
February 23, 1898.—Subcutaneous injection of 3 c.c. of a living culture 33 days old caused a temperature of 102° F.
May 8, 1898.—Subcutaneous injection of 2 c.c. of a living culture caused a temperature of 102° F.
May 29, 1898.—Subcutaneous injection of 10 c.c. of a living culture 6 days old, containing 0.5 per cent carbolic acid caused a temperature of 102.3° F. with considerable prostration and swelling.

[1] Fitzpatrick: MEDICAL RECORD, January 29, 1898.
[2] Fitzpatrick: New York Medical Journal, April 27, 1895.

June 23 1898.—Subcutaneous injection of 9 c.c of a living culture 13 days old, containing 0.5 per cent carbolic acid, caused a temperature of 101 3° F

July 14 1898.—Subcutaneous injection of 12 c c. of a living culture 5 days old caused no rise of temperature.

July 18 1898.—Subcutaneous injection of 18 c.c of a 24-hour culture caused a temperature of 104 4° F.

July 30, 1898 —Subcutaneous injection of 50 c c. of a 24-hour culture caused a temperature of 102.1° F.

August 6 1898.—Subcutaneous injection of 105 c.c of a 24-hour culture caused a temperature of 103 2° F

August 21, 1898 —Subcutaneous injection of 150 c c of a 24-hour culture caused a temperature of 104 1° F

September 17, 18, and 19 1898 —Subcutaneous injections amounting to 116 c.c. of living cultures caused a temperature of 101 2° F.

October 18, 1898 —Subcutaneous injection of 35 c.c. of a living culture caused a temperature of 102° F.

November 22 1898.—Subcutaneous injection of 90 c c of a 7-day culture caused a temperature of 101 2° F

December 14 1898 —Subcutaneous injection of 112 c c. of a living culture caused a temperature of 101.4° F.

January 7 and 17 —Subcutaneous injection of 100 c.c of a living culture caused a temperature of 101.2° F

January 31 1899.—Subcutaneous injection of 100 c.c. of a living culture caused a temperature of 100 2° F.

February 18 1899.—800 c c of a living culture in drinking-water caused a temperature of 101 2° F

February 23, 1899.—325 c c of a living culture in drinking-water caused a temperature of 100 2° F

February 24, 1899.—325 c c. of a living culture in drinking-water caused a temperature of 100 2° F

February 24 1899.—600 c c of a living culture in drinking-water caused a temperature of 100 2° F

February 25, 1899 —600 c c. of a living culture in drinking-water caused a temperature of 100.2° F

February 28 1899.—800 c c of a living culture in drinking-water caused a temperature of 100 2° F

March 8 1899 —Subcutaneous injection of 300 c c. of a living culture caused a temperature of 103 2° F

March 11 1899 —Injection of 75 c c (intrajugular injection) caused a temperature of 103° F

March 18 1899 —97 c.c intrajugular injection caused a temperature of 102° F.

April 13 1899 —50 c.c. of filter culture (toxin) in jugular caused a temperature of 101° F.

April 17, 1899.—135 c c. of filter culture (toxin) in jugular caused a temperature of 101 3° F

April 22 1899.—170 c.c. of filter culture (toxin) in jugular caused a temperature of 100.2° F

May 2 1899 —300 c c of filter culture (toxin) in jugular caused a temperature of 100 2° F

May 10, 1899 —350 c c of filter culture (toxin) in jugular caused a temperature of 100 2° F.

May 13, 1899.—215 c.c of filter culture (toxin) in jugular caused a temperature of 100 4° F

May 10, 1899 —300 c c. of filter culture (toxin) in jugular caused a temperature of 101 4° F

June 9 1899 —225 c.c. of filter culture (toxin) in jugular caused a temperature of 101 4° F

June 15, 1899.—300 c c. of filter culture (toxin) in jugular caused a temperature of 101.2° F.

The blood serum of this horse first began to show therapeutic properties on October 18, 1898. The serum of that date was effective to the extent that when three guinea-pigs were inoculated with a fatal dose of a twenty-four-hour bouillon culture of the bacillus icteroides, and two of these had twelve hours previously received an injection of the blood serum, the two which had received the serum treatment remained alive two and three days longer than the guinea-pigs which had not received the serum treatment.

Table showing the beginning of the therapeutic action of the serum:

Guinea-pig, weight 245 gm., received a subcutaneous injection of 2 c.c. of serum November 6 1898 and in 12 hours later was inoculated with a fatal dose of the culture Died November 14, 1898, 10 A.M

Guinea pig, weight 255 gm. received a subcutaneous injection of 1 c c of serum. November 6, 1898 and 12 hours later was inoculated with a fatal dose of the culture. Died November 15 1898 10 A M

Guinea-pig, weight 255 gm received no injection of the serum, but was inoculated on November 6, 1898, at 9 P M with the same dose as above. Died November 12 1898.

The succeeding experiments gave varying results. On May 2, 1899, however, a much stronger serum was obtained. Fourteen cubic centimetres of this serum, when injected into a guinea-pig which was at the same time infected with a fatal dose of the culture, cured the animal so injected, and it has lived and remained perfectly well and healthy. If it had not received the serum injection, it would surely have died. This is proven by the death of another larger guinea-pig, which was injected with a fatal dose of the culture at the same time and under exactly the same conditions as the one treated and cured by the serum. The one which died eighteen days after the inoculation, although a larger and stronger animal than the animal which was cured, was treated in every way the same as the cured one, with the single difference that the one which died did not receive any injection of serum. A smaller dose of the serum (10 c.c.) succeeded in preventing the infection in a guinea-pig which was injected with a fatal dose of the bacillus icteroides twenty-four hours after it had received the injection of the serum. The control guinea-pig, which was inoculated at the same time and which received no serum, died in nine days. Both the guinea-pig which was cured and the one in which the infection was prevented have remained alive and well to this day, *i.e.*, over a month since the death of the animals which received no treatment with the serum.

Tables showing the preventive and curative action:

I Guinea-pig weight 350 gm. received 14 c.c. serum at 4 P M May 3, 1899. One hour afterward it received 3 c c of culture. It has remained alive and well

Control—Guinea-pig, weight 390 gm , received no serum, but was inoculated with 3 c.c of the same culture as I. It died May 21, 1899.

II Guinea-pig weight 330 gm., received 10 c.c. of serum at 4 P M May 3, 1899 and 24 hours afterward was inoculated with 3 c.c. of the culture It has remained alive and well.

Control—Guinea-pig weight 330 gm., received no serum as above, but was inoculated with 3 c.c. of the culture same as II. It died May 12, 1899

Serum obtained May 31st has also shown about the same strength as the serum obtained on May 2d. Ten cubic centimetres of this serum were sufficient to prevent infection and death in a guinea-pig 300 gm. in weight, although a much heavier guinea-pig, 372 gm. in weight, inoculated at the same time, and which received no serum treatment, died on June 16th.

The serum I have succeeded in preparing has been compared by a series of experiments with serum obtained from the laboratory of Dr. Sanarelli in Montevideo, Uruguay, and has given more uniform results than the South American serum.

June 23 1899

## A FURTHER CONTRIBUTION TO EXCLUSION OF THE INTESTINE.

By FREDERICK KAMMERER, M D

PROFESSOR OF CLINICAL SURGERY, CORNELL UNIVERSITY MEDICAL COLLEGE; SURGEON TO GERMAN AND ST FRANCIS HOSPITALS

The various methods of partial and complete exclusion of parts of the intestine for fecal fistulæ or intestinal neoplasms have of late been frequently employed in cases in which an operation at the seat of the disease itself has been found impracticable. It is, of course, evident that such measures should be employed only when resection and suture of the divided ends are impossible, whatever the condition for which the operation is undertaken. Not long ago, many surgeons were of the opinion that such extreme measures were not justifiable in cases of fecal fistulæ, but I have become convinced from reports in recent surgical literature, and from my own experience, that the indication for this special form of operation is more often pres-

ent than we have hitherto been willing to assume. We all know that fecal fistulæ in the right iliac region, following suppurative appendicitis, do generally close without any further surgical interference, and then in a very short time. But it has been my experience, when they persist for many months, that spontaneous closure is the exception, and resection of a wedge or of the entire circumference of the intestine is often impossible or does not effect a cure. For such failures the dense adhesions of the intestines after inflammatory and suppurative processes must be held responsible, a condition to which I have called attention in my previous publication on this subject.[1] Such adhesions exist, notwithstanding the assertions of some surgeons to the contrary, even when the fistulæ have been present for some time and the inflammatory condition within the peritoneum about them has gradually subsided, as shown by the following case:

A. F——, aged twenty-six years, has on repeated occasions suffered from attacks of appendicitis during the past years. He first came under my care on November 11, 1896. He had been suffering from one of his attacks in the right iliac fossa for the past few weeks, and had felt generally ill and feverish. In the region above mentioned, a tumor, about the size of a fist, was clearly made out, immediately above Poupart's ligament. At the highest point of this mass, an area of inflammation and fluctuation was present. While making an incision at this point, a small extraperitoneal abscess cavity was opened, which extended for two inches in an upward direction. This cavity was packed with gauze. When the latter was removed a few days later, a considerable quantity of fetid pus for the first time escaped from the wound, and a sinus was discovered at the bottom of the wound, along which a probe passed for about eight inches into the lumbar region. Here the point of the probe could be plainly felt through the posterior abdominal wall. To establish better drainage, and to clear up, if possible, the nature of the trouble, I made a posterior lumbar incision on November 30th, which disclosed no abscess cavity in this region, but only a continuation of the sinus up to the diaphragm. I was now rather inclined to assume a tuberculous lesion, but on introducing my finger in an upward direction a large fecal concretion was found, lying near the diaphragm. No trace of the appendix was discovered. On January 20, 1899, the openings showing no tendency to close, an anterior abdominal incision was made for the removal of the appendix. The latter was found lying in dense adhesions, immediately against and behind the cæcum, and its removal proved very difficult, many intestinal adhesions having to be broken up. The wounds were packed and allowed to granulate. On January 27th a large amount of fecal matter appeared in the dressings for the first time, and thereafter until the middle of April a continuous discharge of fæces from all the three incisions was observed. Several attempts were made during this time to close the opening in the cæcum, which was large enough easily to admit my index finger, and was situated at a distance of about three inches from the external abdominal wall. They were, however, unsuccessful. During this time also, as soon as the opening of the various sinuses would show a tendency to close, the patient would suffer from retention of pus and fecal matter, become feverish, and lose ground considerably. Therefore, on April 26th, a median incision was made. On introducing my hand into the abdominal cavity, the right iliac and hypochondriac regions were found to contain a mass of adherent intestines. I now seized a coil of small intestine, about four feet in length, which, however, unfortunately disappeared in both directions in the adhesions, and could not on this account be utilized in the formation of an anastomosis, as it was impossible to determine the direction of the intestinal current in it. The duodenum was therefore brought into the wound, and followed down as far as possible to the adhesions, the small intestines being passed through my fingers. At a distance of four inches from this point, the small intestine was divided transversely, its distal end closed with a double row of sutures, and its proximal end implanted into the middle of the transverse colon with a Murphy button. The patient's recovery was uneventful. The intestinal current was evidently immediately diverted from its former course, scarcely any regurgitation occurring into the ascending colon. Only faint traces of fecal matter now and then appeared in the pus at the site of the fistulæ. The patient's temperature, which for some time prior to operation had run as high as 104° F., now became normal and remained so, and his general condition immediately began to improve. The patient was out of bed in a few weeks, but the fistulæ were still open, and, although secreting only a small quantity, showed no tendency to close. On May 17, 1898, a little more than a year after the last operation, the patient was in splendid condition, having gained between fifty and sixty pounds in weight. The fistulæ occasionally would close and then reopen, discharging a small amount of light yellowish fluid matter with a distinctly feculent odor. This would happen about every six weeks, and was preceded by some discomfort and pain in the iliac fossa. On July 2, 1898, the abdomen was reopened. The seat of the implantation was easily found, and the union of the intestines at this point was seen to be perfect. Not the slightest contraction had occurred, although a year and three months had elapsed since the Murphy button had been used. The transverse colon was now divided immediately before the old implantation, and both ends of the bowel were closed with sutures, thus entirely shutting off from the fecal circulation more than six feet of the small and large intestine. On April 23, 1899, the patient again presented himself for examination. He showed a further gain of six pounds in weight. He still suffered from attacks occurring about every two months, accompanied by a somewhat more profuse discharge from his fistulæ. After the implantation, about a year and three months ago, his bowels had for a short time been very loose, but now they moved, on an average, once or twice a day. He has not felt any additional pain or discomfort in the abdomen since the last operation.

In the above case, more than six feet of the small and large intestine were first unilaterally, and later on completely, excluded from the fecal circulation. In speaking of "complete exclusion," we mean the withdrawal from the intestinal circulation of a loop of intestine by cross-section of the gut at two points, but we do not infer the absolute closure of this excluded loop, so that no communication is present between the lumen of the latter and the external surface of the body. This latter condition I will designate as "complete exclusion with occlusion," or, for brevity's sake, as "complete occlusion." Several contributions to the subject of complete occlusion have lately appeared, from which it would appear that the majority of surgeons now consider this operation inadmissible. I have referred to the experimental work of Salzer, Reichel, and others, and to the cases of Baracz,[1] Obalinski,[2] and Parkhill,[3] in my previous paper on the subject of "intestinal exclusion." Of late, further clinical data have been furnished by Narath,[4] Eiselsberg,[5] and Baracz.[6] The latest publication (1899) is

[1] MEDICAL RECORD, February 20, 1897.

[1] Baracz: Centralblatt fur Chirurgie, 1894, p. 617.
[2] Obalinski. Centralblatt für Chirurgie, 1894, p. 1,193.
[3] Parkhill. Medical News, lxvii., p. 402.
[4] Narath: Archiv für klin. Chirurgie, vol. li., p. 372.
[5] Eiselsberg: Archiv fur klin. Chirurgie, vol. lvi., p. 281
[6] Baracz: Archiv für klin. Chirurgie, vol. lviii., p. 120.

by Baracz. This author, after a careful review of the literature of the subject, has found four cases of successful complete occlusion. They are his own and Obalinski's case, to which I have referred, and one case each by Friele[1] and Wiesinger.[2] To these must be added Parkhill's[3] case, the only case in which part of the small intestine has been completely occluded, and one of my own, which I will describe later on, making in all six cases.

The question of complete occlusion is a very interesting one, and one of some practical importance, as palliative operations for the relief of intestinal fistulæ and neoplasms are so frequently undertaken at present. I therefore feel justified in giving a short synopsis of these six cases:

Case I. (Baracz, 1893).—Youth, aged nineteen years; chronic invagination of the ileum into the cæcum, forming a tumor of the right ileo-cæcal region. An attempt was made to resect the same, on the supposition of malignancy, but this proved impossible, owing to adhesions. The ileum and ascending colon were divided transversely, and the four open ends of the small and large intestine invaginated and closed by sutures. A lateral anastomosis was then made between the proximal end of the ileum and the distal end of the ascending colon. The excluded portion was twelve inches in length. For the first three days after operation the patient had symptoms of peritoneal irritation (vomiting, meteorism), but later on made an uneventful recovery, and is to-day perfectly well.

Case II. (Obalinski, 1894).—Girl, aged twenty-four years; fecal fistula in the right iliac region, for which a resection of the cæcum was made in April, 1894, the ileum and ascending colon being cut through, when it was found impossible to approximate the ileum to the colon. A cross section was then made through the beginning of the transverse colon. The distal end of the transverse colon was united to the cut surface of the ileum by an end-to-end suture, and the open ends of the ascending and the transverse colon were tightly sealed by sutures, entirely shutting off this portion of the large intestine (practically the ascending colon). The resected portion was found to be the seat of tuberculous infection. Fourteen months later a second laparotomy was done, and the excluded portion of the intestine was found collapsed or at least not markedly distended. In December, 1895, a second tumor formed in the right half of the abdomen, which opened spontaneously in July, 1896. In April, 1897, the abdomen was again opened, about three years after complete occlusion had been done. The occluded portion was entirely removed, and found to be eight inches long and three and a half inches in circumference. It contained dark brown fluid of an offensive odor. Its walls were of abnormal thickness, and at its lowest point was found an opening leading to the external fistula, which had formed almost a year ago. Several smaller ulcers within the intestine were present at the lower end, and two polypoid excrescences on the posterior wall; microscopical examination revealed a tuberculous condition of the ulcers, otherwise the mucous membrane was normal.

Case III. (Friele, 1895).—Man, aged sixty-four years; tumor at the junction of the transverse and descending colon; laparotomy; removal impossible; therefore, right inguinal colostomy, two weeks later second laparotomy, division of transverse and descending colon at suitable distance from tumor; end-to-end anastomosis of proximal end of transverse and distal end of descending colon. The distal end of the transverse and the proximal end of the descending colon were closed with sutures. Three weeks later, resection of the ascending colon for cure of inguinal anus was done. Although the patient made a perfect recovery from this last operation, and was discharged from the hospital, he succumbed to acute intestinal obstruction about eleven weeks after occlusion had been done. The autopsy showed adhesions of the small intestines and kinking at one point. The occluded portion was contracted, about seventeen inches long, and contained about 50 gm. of feculent material. The mucous membrane was normal, except at the site of the tumor, where it was ulcerated.

Case IV. (Wiesinger, 1895).—In a woman, aged thirty-one years, an artificial anus was established near the hepatic flexure of the colon, for ulcerative conditions of the upper part of the descending colon. After local treatment had been instituted through the artificial anus for some time without benefit, complete exclusion was practised upon the transverse and descending colon and part of the sigmoid flexure, by dividing the latter, closing its proximal end, and uniting its distal end with the proximal end of the ascending colon, which had been severed at the site of the artificial anus. The proximal end of the excluded portion was implanted into the abdominal wall, to allow the escape of secretions. For some time after exclusion was done a considerable amount of pus and mucus passed from the opening, but this finally ceased, and seven weeks later the fistula was closed by operation. We may assume that no untoward symptoms followed complete occlusion in this case, as the author has made no further report.

Case V. (Parkhill, 1894).—Man, aged twenty years; fecal fistula after operation for appendicitis. For its relief a section of the ileum was made, about three-quarters of an inch from what appeared to be the valve. The distal end of the ileum was closed and the proximal end implanted into the hepatic flexure of the colon by the aid of Murphy's button. Recovery was uneventful. The button passed on the thirteenth day. One and one-half months later a fecal fistula still persisted, and, although contracted, still allowed some regurgitation. A second operation was done, which consisted in dissecting the large bowel loose from its attachments, and cutting it across somewhat above the junction of the cæcum with the ascending colon. The distal opening in the colon was sutured. The cæcum was then dissected down to the ileo-cæcal valve, when it was found, on passing the finger through the latter, that the ileum had not been cut at its junction with the cæcum at the first operation, as the end of the intestine could not be reached. The cæcum was now excised and the open end of the ileum closed, thus completely occluding a segment of the small intestine of unknown length. Before the last operation, the anastomosis between the ileum and colon, previously established, was examined by passing the index finger into the fistula, and it was found that the tip of the finger could barely enter the same, although the largest Murphy button had been used, and only forty-two days had intervened between the time of the passing of the button and the second operation. The patient was well one and a half months after operation. The author concludes that "while on first thought it seemed rather a rash procedure, its results show that it is not only justifiable, but also to be commended."

Case VI. (Kammerer,[1] 1896).—A man, aged forty-eight years, was operated on three times for appendicitis by a prominent surgeon; there was a large fecal fistula in the right iliac region. In February, 1896, an attempt was made to close the same by dissecting the large bowel and making a partial resection. The attempt failed. In March, 1896, the ileum was divided six inches before the ileo-cæcal valve, and its proximal

[1] Friele: Medicinsk Revue Bergen, December, 1895.
[2] Wiesinger: Münch. med Wochenschrift, 1895, No. 51.
[3] Parkhill: Med. News, lxvii., p. 402, Philadelphia.

[1] For part of history, see Medical Record, February 20, 1897.

end implanted into the transverse colon (Murphy button), its distal end being closed by sutures. In November, 1896, a small amount of fecal matter still escaped from the fistula, and another attempt was made to close the latter by extended dissection, but it again proved ineffectual. In December, 1896, the abdomen was reopened and the transverse colon divided immediately before the implantation, and both its ends were closed with sutures. Thus six inches, ileum, the ascending and half of the transverse colon, had been completely excluded from the fecal circulation, but a large fistula, from which the mucous membrane protruded, still remained in the right iliac region. During the following six months the patient suffered much annoyance, not so much from the small amount of mucous discharge, as from the increasing prolapse of the posterior intestinal wall, which no apparatus could effectively reduce and retain. In August, 1897, I therefore dissected the opening in the intestine from its surroundings, and closed it by sutures in several layers. Primary union resulted. Thus about two and a half feet of small and large intestine were completely occluded, and have remained so, for a year and eight months, without causing the slightest inconvenience to the patient, who follows his profession as a barber. An examination in April, 1899, revealed nothing that might be construed in the light of an accumulation of secretions within the occluded loop.

In four of the above cases it seems that no untoward symptoms followed complete occlusion. The case of Friele cannot be considered in the discussion of the subject, as the unfortunate issue from causes which were not connected with the occlusion followed within seventy-six days of the operation. That so short a period of physical well-being is of no weight in the consideration of this question, is amply demonstrated by the results of experiments on animals. Baracz, the latest investigator in this line, who experimented on large dogs, found the occluded loops distended and filled with a large amount of semifluid, offensive matter, resembling meconium, as late as four hundred and twenty-five and four hundred and fifty-two days after operation. It is perhaps interesting to mention, in this connection, some other results of his experiments. One-third of his animals died of strangulation of the intestine within the opening made in the mesocolon. Another third, after a time, ranging from fifty-five to one hundred and seventy-eight days, of ulceration in the walls of the occluded intestine and consecutive peritonitis, or as the result of a bursting of one of the sutured ends of the occluded loop; others, of peritoneal infection during operation. And only two out of seventeen dogs lived, as above stated, for over a year, and were then killed. These experiments, it seems, certainly prove, beyond protest, that after a long period conditions may be present, or may develop within the occluded loop, that are a distinct menace to life itself. Such was the case with Obalinski's patient, in whom a second tumor began to form in the right half of the abdominal cavity twenty months after occlusion was done, finally necessitating removal of the loop three years after occlusion. I do not think, however, that Baracz's criticism of Obalinski's conclusions is quite fair. The latter distinctly states that the lesion was tuberculous, and, even if we may accept that an occluded loop is a "locus minoris resistentiæ" in a tuberculous individual, the late development of specific changes in the occluded portion in Obalinski's case cannot be adduced as proof of the dangers of occlusion of a normal segment of intestine. I am therefore inclined, with Obalinski, to regard his case as showing that occlusion can be practised with impunity on the living human being. We have, therefore, five cases in which no disturbances followed complete occlusion (Baracz, Obalinski, Wiesinger, Parkhill, Kammerer). In two of these (Obalinski, Wiesinger) complete occlusion was done upon the large intestine only; in one (Parkhill) on the small intestine; and in the remaining two (Baracz, Kammerer) the occluded portion was made up of small and large intestine. The operation of complete occlusion was done in two cases (Baracz and Obalinski) upon an intestine which, up to that time, had functionated normally. In the remaining three cases (Wiesinger, Parkhill, and Kammerer) other operations (colostomy, complete exclusion with open ends, unilateral exclusion) had been previously done. The intestine had thus been relieved of its function during a varying length of time before it was entirely shut off. The length of the occluded portion is another point of interest. Baracz operated for an ileo-cæcal invagination, shutting off the cæcum and that part of the ileum which was invaginated into it; Obalinski occluded the greater part of the ascending colon; Wiesinger, part of the transverse, the descending colon, and the sigmoid flexure. In Parkhill's case the length of the occluded portion remained unknown; and in my own, six inches of ileum, the ascending, and half of the transverse colon were occluded.

It seems to me that immediate complete occlusion at the first operation is not advisable. In one of the two cases in which this was done (Baracz), severe symptoms of peritoneal irritation, lasting three days, were noted, which finally subsided and gave no further trouble. In a third case, in which complete occlusion was attempted,[1] the symptoms which developed on the third day were so severe that the fistula had to be reopened, and remained so thereafter. In the three cases (Wiesinger, Parkhill, and Kammerer) in which the segment of bowel had been withdrawn from the intestinal circulation for some time before complete occlusion, no alarming symptoms followed the latter. I certainly think this plan should always be adopted. Sufficient clinical and experimental proof has been given that portions of the intestine through which the intestinal current does not pass, provided they are supplied with an outlet, will undergo atrophy. The secretion in them will become gradually less, and no doubt the nature of their contents will change from a very infectious material to one of much less virulence. Baracz, in his experiments on dogs, always thoroughly cleansed the loop before occluding it, and he believes that the amount of secretion and the number of pathogenic bacteria (coli communis) within the loop are in relation to the degree of disinfection which we have been able to obtain. As irrigation of the loop is accompanied by much risk of peritoneal infection, it would be wiser, in the human being, to rely upon a certain degree of disinfection, by following the plan suggested above, and not completely occluding at the first operation.

It is generally assumed that the mucous membrane of the small intestine secretes a larger amount than that of the larger intestine; in fact, that absorption is rather the rule in the latter. Clinical experience with intestinal exclusion does not seem to bear out this opinion, as a greater amount of secretion was observed to issue from the fistulous opening when the large intestine was involved. In my own case of complete exclusion mentioned at the beginning of this article, in which more than four feet of the small intestine and about two feet of the large intestine were involved, there has been very little secretion from the fistula. Indeed, I should say the quantity has been no greater than in my other case, where the ascending and part of the transverse colon were also excluded, but only six inches of the small intestine. Other cases of complete exclusion are reported, without occlusion of equal portions of the large and small gut, in some of which the secretion from the fistulæ was abun-

[1] Funke: Prag. med. Wochenschrift, 1895, No 32.

dant, in others almost *nil*. The amount of irritation that the mucous membrane is subjected to will determine the quantity secreted, rather than the fact that in one case the large intestine, and in another the small intestine, is excluded.

My own experience with fecal fistula in the ileocæcal region is limited to four cases. In all of them I have implanted the ileum into the transverse colon with Murphy's button. I have in the last two operations adopted the suggestion of Carle and Fantino,[1] of making an incision into the colon just large enough to force into its lumen one-half of the button, and then closing the incision with one or two sutures on each side of the cylinder. If these sutures are symmetrically placed on both sides, *i.e.*, if the cylinder of the button occupies the central portion of the original incision, it will be seen that on relaxing the intestine the entire line of suture will lie within the compressing edge. Naturally, in end-to-side anastomosis, this method of applying the button cannot be employed at the cut end of the ileum, where a purse-string suture must be used. But I have also resorted to it in three cases of posterior gastro-enterostomy, in one case of colo-colostomy (lateral approximation), in one case of cholecystenterostomy, and have been very much pleased with the modification. All these patients did well, with the exception of the last, who died on the fourth day, and here the button was found *in situ* and the approximation perfect. The method has some advantages over the original one of Murphy. There is no puckering of the intestinal walls, as when the purse-string suture is used, and, in consequence, when the button is closed the peritoneal surfaces are everywhere in perfect contact. There is, therefore, no need of reinforcing sutures, and I have not employed them in any of the above-mentioned cases. Care should, however, be taken to have no tension on the viscera when approximating the two halves, as in this way the incisions will always lie within the constricting edges of the button, and a larger portion of the intestinal walls will be included, thus perhaps insuring a larger opening after the button has passed.

I am somewhat surprised at the amount of contraction of the anastomotic opening in Parkhill's case, in which implantation of the ileum into the colon was done with the button, exactly as in my cases, although only one and a half months had intervened betweeen the passing of the button and the examination of the opening. In two of my cases, in which, after a lapse of nine and fifteen months, I thoroughly inspected the site of the former implantation, the most ideal union had, as I have already stated, taken place. There were no contraction and no formation of cicatricial tissue, not even a line to indicate that artificial union had been here established. I have also lately heard from my first case of fecal fistula, that of a lad, aged eighteen years,[2] whom I succeeded in relieving by unilateral exclusion, the ileum being implanted into the transverse colon. This operation was done four years ago, but no symptoms have developed which could be construed in the sense of a contraction at the site of the implantation. He has written me, only a short time ago, that he feels as strong as he ever did, and that the fistula has never again opened after it was closed three and a half years ago. I desire to make this statement here, to show that unilateral exclusion may effect a cure of fecal fistula, and, if it is successful, it is certainly the simplest and best plan of treatment.

It is interesting to note that the exclusion of more than six feet of intestine was not detrimental to the general condition of my patient. I believe this is the longest segment of bowel that has ever been completely excluded. This patient gained fifty to sixty pounds in the first year after unilateral exclusion, and after complete exclusion added another six pounds to his weight. Although he had considerable difficulty in regulating his bowels at first, they being very loose, after a time a certain accommodation to changed conditions seemed to occur, and his evacuations became normal.

It is difficult, even with the considerable number of clinical and experimental publications at our disposal, to formulate definite rules for surgical interference in these cases. Some points, however, can be well taken. We may state at the outset that a diseased portion of intestine should never be completely occluded. An escape for secretions must always be established here. This can be accomplished either by a simple lateral anastomosis (preferably without Murphy's button), or by a complete exclusion, followed by implantation of one or both open ends into the abdominal walls. Which of these methods should be employed must rest, in individual cases, with the surgeon. When it seems desirable to avoid all irritation from the passage of intestinal contents over a diseased area, complete exclusion is preferable; but when this seems unnecessary, a lateral anastomosis, as the simpler operation, deserves consideration. It is well to recall, in this connection, that now and then apparently inoperable tumors of inflammatory origin can later on be removed, when complete exclusion has been previously done. This is due to a decrease in size of the tumor after removal of the source of irritation. Is complete occlusion justifiable on the normal healthy intestine primarily? I would say, "No." The dangers which are likely to attend this procedure are too great, and the necessity for doing this operation primarily does not exist. It is regrettable that all experimental work should have taken this direction, and that the question of secondary complete occlusion, after primary exclusion, should not have received some attention. That the latter is a much safer procedure, we may, I think, assume without prejudice, in view of the degenerative changes that occur in those portions of the intestinal canal that have ceased to functionate for some time. The risks entailed in final complete occlusion, when some point of the loop is adherent to the abdominal wall, are small under the conditions just stated, and are certainly outweighed by the advantages to the patient, who has been rid of his fistula, a continual source of bodily and mental irritation.

667 Madison Avenue

[1] Carle and Fantino Archiv fur klin. Chir vol lvi , p 55

[2] Medical Record February 20 1897

## A GROOVED PERINEAL CANNULA TO BE USED AS A GUIDE IN PERFORMING PERINEAL SECTIONS IN CASES OF URETHRAL OBSTRUCTION.[1]

BY RAMON GUITÉRAS M D.

NEW YORK

Two years ago I presented before the section of genito-urinary surgery of the New York Academy of Medicine an instrument called a perineal guide, to be used in cases of complete urethral obstruction due to whatsoever cause, for the purpose of establishing a direct communication with the posterior urethra and neck of the bladder by the way of the perineum when it is necessary to perform a perineal section, thus avoiding the necessity of stabbing about in the dark as in Cock's operation.

The first instrument was rather primitive, as is usually the case when one is trying to originate a new operative procedure. It showed me, however, that such an instrument had a place in genito-urinary surgery, and was an important one in a certain variety of

[1] Presented before the Society of the Alumni of the Charity Hospital at the December meeting 1898

difficult cases. It was constructed on the lines of an ordinary cannula and stylet, excepting that there was a groove running along the upper surface of the cannula and that there was a handle attached to the end of the stylet. The cannula was two and three-quarters inches long, and corresponded in size to a No. 6 sound, French scale. The stylet was No. 3 of the same scale, which measurement also represented the size of the lumen of the cannula through which it passed. The handle attached to the proximal end of the stylet was one and one-half inches long and flattened laterally.

With this instrument I punctured a number of bladders through the perineum on the cadavers used in teaching the genito-urinary operations at the Post-Graduate Medical School, and I also had an opportunity to try it in a difficult case on the living subject, in which one of my colleagues had begun to despair of entering the bladder by the perineal route. This experience proved to me that, although it was an instrument of decided value, there was still room for improvement.

The faults apparent were: First, the groove was not deep enough to allow the knife to be under good control. Second, the lumen of the cannula was too small to allow the urine to escape freely. Third, the handle of the instrument should be attached to the cannula rather than to the stylet, and should be flattened antero-posteriorly in order to be under good control after the stylet has been withdrawn and while the knife is being pushed along it.

I therefore modified the instrument, correcting the faults above mentioned, and exhibited it before the New York Genito-Urinary and Dermatological Society, and an illustrated description of it was published in the May, 1897, number of the New York *Journal of Cutaneous and Genito-Urinary Diseases.*

The modification proved to be a great improvement on the former instrument, but it was not quite long enough to tap the posterior urethra and bladder in cases in which there was an unusual amount of thickening in the perineum. This led me to increase its length until at present it has the following dimensions (see cut): Cannula, four and one-quarter inches long; handle, two and one-half inches long; trocar, four and three-quarters inches. This will, I think, prove to be sufficiently long to penetrate any perineum in spite of extreme thickening, whether due to fat, inflammatory exudate, or extravasation of blood or urine.

A number of my colleagues who work in the same line of surgery seemed to think at the time that such

Fig. 1.

an instrument was not necessary, and that it was a comparatively easy matter to perform a perineal section without a guide. I have been exceedingly gratified, however, to learn that since then many of them have procured the instrument and have been very much aided by it in difficult cases. Personally I have on several occasions had extreme difficulty in cutting into the posterior urethra by the perineal route on account of excessive hemorrhage, extensive perineal infiltration, or in cases of collapsed bladders, and I have also at times cut the perineum more than I cared to, besides spending more time over the operation than I thought the condition of the patient's kidneys warranted.

I know that other surgeons are at times puzzled when working in a dark and bleeding perineum in which the landmarks are obscured, and I was at one time

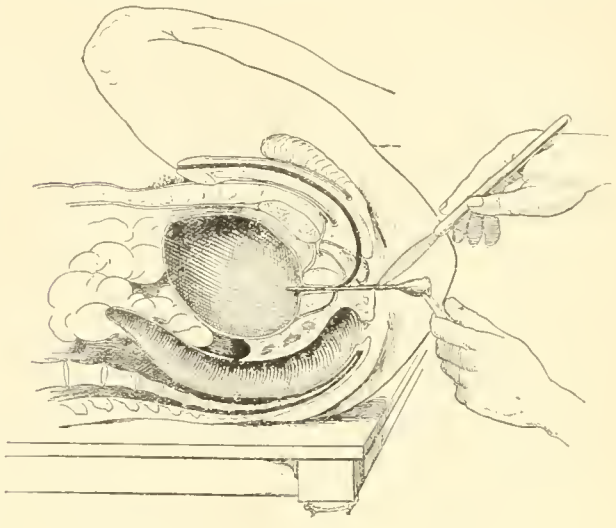

Fig. 2.

present at an operation where Europe's greatest surgeon found himself hopelessly lost in doing a perineal section, and was obliged to quit the perineum and enter by the suprapubic route in order to pass a guide from the bladder through the internal meatus into the urethra, upon which he could cut. If, then, it is difficult for experienced surgeons with well-trained assistants and perfect hospital equipment to perform a perineal section without a guide, it is easy to see how much harder it is for a country practitioner in an out-of-the-way place, aided only by local assistants from the laity. It is therefore to those men that an instrument of this kind is most important. They need it and will be aided by it.

I will accordingly proceed to enumerate some of the cases in which such an operation is indicated, and to explain the technique that should be employed in performing it. (1) Cases of impermeable stricture with retention, in which an immediate radical operation is demanded. (2) Cases of ruptured urethra. (3) Cases of extravasation of urine. (4) Cases of extensive urinary abscess. (5) Cases of perineal cellulitis. (6) Fracture of the pelvic bones with pressure upon the urethra.

Of course, it is understood that in all these cases no guide can be passed through the urethra into the bladder.

The technique of the operation is as follows: The patient must be in the lithotomy position. As, when this operation is indicated, a guide cannot be passed through the entire urethra, a filiform should be inserted as far as it will go, which is generally into the perineal urethra, and then a tunnelled sound should be passed down over it. After this an incision is to be made in the median line from just behind the scrotum to within three-quarters of an inch of the anus, in the direction of the membranous urethra, care being taken to avoid wounding the bulb. If the end of the urethral guide is in the perineal portion of the urethra, the surgeon should cut down upon it and catch the walls of the canal on either side by artery forceps or by ligatures,

so as to hold it open on the stretch. If a stricture is present, he engages the point of the knife in it and then cuts down through the obstruction by a rapid stroke.

If not successful in cutting through the stricture in this way then the instrument that I have described, must be used as follows: After inserting the forefinger of the left hand into the rectum until its tip rests upon the apex of the prostate, the surgeon should introduce the perineal cannula held in the right hand, with the thumb pressing down upon the proximal end of the stylet, through the incision in the perineum, and push it steadily inward and downward in the median line until it is felt to have passed the tip of the forefinger in the rectum. It is then probably in the prostatic urethra. One of the assistants should then grasp the end of the stylet and withdraw it. If urine escapes through the cannula, we know that we have entered the prostatic urethra or the neck of the bladder, and are therefore in the desired locality. If no urine escapes, the instrument is to be pushed in a little farther until it has been introduced to the point where urine escapes through the cannula on the withdrawal of the stylet. The finger should then be withdrawn from the rectum and the handle grasped firmly in the left hand; the blade of a knife held in the right hand, with the cutting edge upward, should be pushed along the groove on the top of the instrument into the bladder. When the knife blade is withdrawn, a grooved director is to be passed along the cannula in the same way, after which the instrument can be withdrawn. The assistants must be instructed to hold the urethra open by means of the forceps or traction sutures placed on either side of it while the operator cuts through the entire stricture from its distal to its proximal end, and the urethra is free to the prostatic portion.

In case there is a urinary abscess, or an extravasation in the perineum, which compresses the urethra, the incision through this inflammatory tissue may reduce the obstruction sufficiently to allow sounds to pass readily through the urethra.

The important point in the operation is that in inserting this instrument it must be remembered that it should not always be pushed in horizontally, as in this case there is often danger of its going into Retzius' space in front of the neck of the bladder. It should generally be pushed backward and somewhat downward. When the end of the instrument passes the tip of the finger on the apex of the prostate, it may then be in the prostatic urethra. If this is the case, the blunt end can be easily pushed through into the bladder. In some cases, however, the instrument when it passes the tip of the finger does not enter and remain in the free lumen of the prostatic urethra, but passes through it and then through the anterior wall of the prostate into the bladder. It is therefore wise, after passing the apex of the prostate, to slip the finger along over the base of the gland, and then to push the instrument toward the finger tip in this new position until one is conscious that the tip of the instrument is in close proximity to the end of the finger, in which case he can be pretty sure that it is in the bladder, and can consequently draw out the stylet and allow the urine to escape. The blunt point of the cannula can then be pushed against the end of the finger, thus showing the operator exactly where he is before the incision is made. At times the wall of the prostate gland or the sphincter vesicæ muscle is cut, but this is liable to happen in the case of any operation, even when a guide has been passed through the urethra into the bladder from the meatus.

The after-treatment is the same as in any case of perineal section, *i.e.*, a perineal tube should be inserted into the bladder and siphon drainage maintained for from four to fourteen days, during which period sounds should be passed at intervals of forty-eight hours.

This instrument may be also used for a number of other purposes, as for exploring a suspected prostatic abscess; or for the puncture of an abscess in the vault of the vagina, in which case if pus escapes, a knife could be inserted into the abscess cavity along the groove on its upper surface, with an exactness which we could not obtain by any other means. It can be used for tapping a hydrocele, for abdominal paracentesis, or for tapping the bladder suprapubically, in which latter case it could be tied in if so desired, or an incision could be rapidly made along it of sufficient size to allow a good-sized catheter to be pushed through into the bladder. There are many other operative procedures in which this instrument would prove of inestimable value, and I feel in presenting it to you that it is one which can be of use both to the surgeon and to the general practitioner.

23 West Fifty-third Street.

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## THE ILL EFFECTS OF THE ROENTGEN RAYS AS DEMONSTRATED IN A CASE HEREWITH REPORTED.[1]

By DAISY M. ORLEMAN, M.S., M.D.,

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Having just recovered from a severe injury of ten months' duration resulting from the application of the Roentgen rays, I desire to place the case on record. It is important to bring such cases to the knowledge of the medical profession, because an aggregation of the observed appearances in each case can thus be made, a mode of treatment adopted, and further accidents may possibly be prevented. A limited knowledge only is apparently possessed by the average surgeon and physician regarding the successful treatment of such a wound, in consideration of the fact that so large a number of patients are daily exposed to the use of the *x*-rays.

I had just recovered from an oblique fracture of the left femur, about six inches above the knee. At the request of one of the attending surgeons, the *x*-rays were applied. The first exposure was made in January, 1898. It was unsuccessful, and a second one was made in March with a similar result. A third exposure was made on May 14th. No discomfort during the previous exposures was felt, but on this occasion a slight tingling sensation was experienced. This exposure, too, was unsuccessful.

If a necessity had existed for the application of the *x*-rays, I might have borne the unfavorable result with greater resignation, but as no impaired function existed, and by ordinary methods of examination the limb seemed in perfect condition, it was reasonable to conclude that there was a normal approximation of the fragments.

The Edison apparatus was employed. Spark length, eight inches; voltage, 110; egg-shaped tube, about six inches from terminal to terminal. Distance of the tube from limb, ten inches; interval between first and second exposures, six weeks; between second and third exposures, eight weeks; duration of each exposure, seven minutes; position of tube, directly above and parallel to limb; anode, nearest knee.

From the reported cases which I have read, I find that the period of incubation between exposure and appearance of symptoms is usually ten to twelve days. In my case I did not observe anything until twenty-one days later, when the first appearance of inflammation occurred, covering an area of about an inch, which caused some itching. Day after day this itching continued and the area increased in size. The redness

[1] Read before the Medical Faculty of the County of Westchester, N. Y., May 17, 1899.

partly disappeared on pressure. Alcohol was applied for the itching, which rendered immediate relief, but the symptom returned soon after. The area covered four inches in the form of a dermatitis, when an ointment of boracic acid was applied, and it was not until then that I realized I was the victim of an x-ray injury.

Numerous small infiltrations differing in size appeared, which were separated by portions of reddish infiltrated skin, that within a few days became confluent and formed several large blisters, such as appear after scalds. Upon opening these, serum exuded from each one. The outpour of serum, which was quite annoying, continued for several days, and was followed by the denudation of the superficial layer of skin, leaving an exposed surface very painful to the touch. The boracic-acid ointment was continued, followed by balsam of Peru and castor oil, ten per cent.

After repeated attempts to endure the latter application, owing to the severity of the pain that it caused I discontinued its use. The surface was bathed daily with a solution of bichloride (1 : 1,000), and a dressing of boracic-acid ointment was applied. Early in July—several weeks later—pain commenced to be felt at occasional intervals, which continued to increase in severity. Lead and opium wash followed by an ointment of zinc and lanolin was applied daily for several weeks. The entire denuded surface became covered with a false membrane, which gradually increased in thickness, and soon the central portion of the lesion presented an open ulcer. Ichthyol ointment was applied, and balsam of Peru in castor oil was again tried with no success. The area was bathed in an antiseptic solution daily and a soft dressing applied.

During the early part of August, the paroxysms of pain became more frequent, and often interrupted sleep at night. At such times, compresses dipped in a cold solution of bichloride afforded temporary relief. The use of the hot bath was suggested to me, and, as the limb could easily be submerged in hot water, several repeated trials were given it with no apparent lessening of the pain. Occasionally, the burning pain at such times became almost unbearable. A tough yellowish membrane formed in the centre of the ulcer that extended to some depth, the superficial surface of which appeared soft. The peculiar excruciating pain increased, rendering sleep at night almost impossible. This, combined with the fact that the lesion showed no prospect of healing, regardless of the applications thus far applied, led me, on August 24th, to consult a dermatologist of Boston, as I was at this time visiting at North Cohasset. The affected area was washed in peroxide of hydrogen, and nitrate of silver was applied At night an ointment of resinol was used, and in the morning the area was bathed in hydrogen peroxide, and aristol was then applied. This treatment was continued for several weeks, nitrate of silver being used about once in five days. Owing to a defective state of my general health, a tonic of iron, quinine, and strychnine was ordered. It was advised that I remain in bed for several weeks, which injunction I did not then obey. The pain did not subside, and in order to obtain several hours of uninterrupted sleep I was obliged to resort to the use of morphine at least once in three days.

Upon my return to New York, I consulted Dr. W. T. Bull, who examined the wound and recommended a system of poulticing in order to remove the slough. This was continued for several weeks, but on account of the intense pain which the application of each poultice produced, the use of the poultice was discontinued. Having practically exhausted the list of possible applications, it was deemed advisable to remove the sloughing area by operation. This was accordingly performed by Dr. Bull early in October. An elliptical incision of about three inches in length extending in depth to the fascia was made; the affected tissue was removed and the parts were approximated by stitches. This was done under a local anæsthetic (cocaine). I remained in bed two weeks, at the end of which time the tissues were not thoroughly united, but the application of an aristol dressing was recommended, and the wound to be bathed in a solution of bichloride of mercury daily. Instead of the wound healing, it grew worse, and, in spite of daily dressings, gradually commenced to assume an appearance of sloughing. The pain increased to such an extent that it seemed almost unendurable. Heat was applied, also boracic-acid ointment, and as no relief to the continued pain was afforded, cocaine, four-per-cent. solution, was tried, which gave but temporary relief. A solution of cocaine and carbolic acid, when the pain was severe also red wash (sulphate of zinc and compound spirits of lavender water), was recommended, and was used for two weeks with no apparent success. Cocaine soon lost its soothing effect and eucaine was used, and in order to obtain relief from the incessant pain I found it necessary to increase the strength of the cocaine and carbolic solution to such an extent that there was danger of destroying the vitality of the tissues. These local anæsthetics modified the pain and diminished the frequency of the paroxysms more than anything thus far used. The surface of the wound was not, however, particularly sensitive, hence the effect of the anæsthetics was lessened. Orthoform ointment (one drachm to one ounce) was also applied without effect.

About this time—Thanksgiving Day—I visited in Boston, and was, therefore, advised by Dr. Bull to consult a surgeon there. Accordingly I consulted Dr. H. L. Burrell, who examined the ulcer carefully and said he believed he could effect a cure within three months, provided I would consent to remain in bed during the greater part of that time. I remained in Boston and placed myself under the treatment of Dr. Burrell at the Boston City Hospital. The ulcer was then three and one-quarter by two and three-quarters inches, covered by a thin, grayish slough one-thirty-second to one-sixteenth of an inch in depth. The ulceration was excavated, the edges of the wound were purple, and the cyanosis extended out a considerable distance, around which were numerous blebs. It was clear that no separation was taking place, and that further tissue necrosis, even to the point of gangrene, was imminent. An area of anæsthesia surrounded the wound and extended almost to the knee.

Dr. W. N. Bullard, a neurologist of Boston, was called to examine the wound, and stated that the underlying condition was a destruction of the terminal nerve fibres—a state of atrophic neurosis. The pain, of an intense, burning character, was excruciating, and a liberal quantity of cocaine combined with a strong solution of carbolic acid failed to give relief.

Dr. Burrell's treatment, beginning December 3d was as follows: Absolute rest in bed, with the adjustment of a splint under the leg; application of flaxseed poultices every three hours day and night, when they were varied with compresses of chlorinated-soda wash (1 : 16). Sufficient opium combined with calomel was given to control the pain; at first one grain of opium and one-sixth to one-fourth grain of calomel every three or four hours as occasion demanded. As the rest in bed, in conjunction with this form of treatment, continued, the congestion and hyperæmia diminished. Strychnine, one-sixtieth grain three times a day, was taken from this time until my recovery.

Within ten days the sloughing was removed to a considerable extent—a slough of only about one-half

an inch in width, at this time, remaining about the edges. New granulation tissue was beginning to form. Compresses of chlorinated-soda wash were then applied during the day, and flaxseed poultices at night. Twenty days later (December 2d) tincture of myrrh (1 : 20) was tried, but it did not appear to clean the surface as well as chlorinated soda. On December 25th, the first skin graft, a small piece of skin, was made, and a one-fourth of one per cent. solution of boracic acid was applied; the wound was kept constantly moistened with this solution. On January 1st, a second skin grafting, of several small pieces of skin, was made. On January 9th, the boracic-acid solution was changed, and a dry dressing of aristol was applied, which remained until January 15th, when the wound was thoroughly irrigated with a saturated solution of boracic acid; compresses and irrigation with tincture of myrrh (1 : 8) were used at regular intervals for several days. On January 22d, the fourth and last skin grafting of eight small portions of skin was made, and compresses of boracic acid were constantly applied. The grafting was interesting in that the grafts took in the midst of sloughing tissue.

I was allowed to sit up during the latter part of January, but was not permitted to lower the affected limb, and kept it in a horizontal position until the skin entirely covered the wound. The mildest lotions were used, of which the least harmful was boracic acid At one time, a wash of nitric acid (1 . 128) was used in order to hasten the process of the separation of the slough, but within eight hours pain was experienced and the granulations grew fainter. If the wash had been continued, the granulation tissue would no doubt have been destroyed. I first attempted to walk on February 15th, when skin entirely covered the wound. A dressing of aristol was continued one week longer. A heavy scab formed which disappeared six weeks later.

A microscopic examination of a section of the tissue removed by the operation in October indicates a chronic inflammation characterized by the development of dense fibrous tissue in abundance. Infiltration of leucocytes in small numbers is seen throughout the fibrous tissue and in the subcutaneous adipose tissue. The blood-vessel walls generally thicken and the lumina is narrowed as a result of the thickening of the intima. The base of the ulcer is lined by a thin layer of necrotic tissue which joins rather abruptly the underlying fibrous tissue.

The following is taken from Monell's "Manual of Static Electricity": "None of the alleged injurious effects of *x*-rays reported hastily and with more or less sensation are caused by the static current. It seems wellnigh impossible that alopecia and dermatitis should be attributed to *x*-rays by practical medical observers, but as they have been so attributed, the simple fact may here be stated, that these electrical or heat effects, which resemble sunburn, result from the action of heavy currents operating large coils, and are not due to *x*-rays. Roentgen's classical report contained the statement 'the rays have no calorific effects'; and I am not aware that any one has yet shown Roentgen to be mistaken, and the static current is not electrolytic."

Dr. F. H. Williams, of Boston, was asked by Dr. Burrell to examine my wound. He states that the following precautions should be taken to avoid any harmful effects from the *x*-rays from either a static machine or a coil as an exciter: First, never have the tube near the patient; it should be two or three feet away when using the fluorescent screen, and should be three feet or more from the plate when taking *x*-ray photographs: Second, between the patient and the Crookes tube there should always be interposed, as suggested by Tesla, a thin screen of aluminum, which should be grounded by connecting it to the gas-pipe with a proper wire. He said that during the past three years he has made between two and three thousand examinations and no burn has occurred, and that his experience in treating *x*-ray burns, so called, have been limited to patients who have burned themselves as an experiment or to patients seen in consultation. In treating these burns he says it is of the first importance to realize that the local treatment is entirely secondary to a general treatment devoted to promoting the nutrition of the affected part.

Numerous cases of Roentgen-ray dermatitis are on record, all of which differ in severity and duration. Several cases are reported in the Transactions of the Medical Society of the District of Columbia for 1897, one of which describes a severe case that at the end of six months had not healed and had then passed from the observation of the physician. One case is on record in which the false membrane which had formed was curetted and resulted in the formation of an indolent ulcer. Another case has been reported in which skin grafting was tried with no benefit. I believe that in these cases skin grafting will prove effectual if performed at the time when the wound has been brought to a proper condition to receive the new skin.

In the treatment of such an injury it is essential strictly to observe the therapeutic value of local rest. Had I given this precedence in the beginning, when I found that the case was not proceeding satisfactorily after the due application of poultices and stimulating washes, under which there was no local evidence of repair and the wound remained stationary, I might have had a more speedy recovery. There were obviously two requisites in the treatment which effected the cure in addition to the local applications: viz., to overcome the pain and to maintain the limb in a perfect state of rest. I found massage of the limb during the latter part of the treatment, twice daily, to be of inestimable value in maintaining good circulation.

## CYSTOSCOPY AND URETERAL CATHETERIZATION IN WOMEN.[1]

By EDWARD NICHOLAS LIELL, M.D.,

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Cystoscopy is a subject that has but recently come in for a fair share of deserved attention, its relation to bladder and ureteral, as also to renal, conditions, being of importance alike to the general practitioner and the surgeon. The researches of Pawlik, Bozeman, Kelly, Reynolds, and others have shed new light and added greatly to our knowledge as to diagnosis and treatment of diseases involving the bladder, ureter, and pelvis of the kidney. In addition to direct inspection, it offers at the same time a ready means of direct medication, thus opening up a new field in the treatment of bladder disease. To Howard Kelly, of Baltimore, we are indebted for this procedure.

It is perhaps needless to state that exploration of both bladder and ureter should be attended with due care and caution, thorough asepsis being observed, as in any surgical procedure. Before and subsequent to using the cystoscope I always irrigate the bladder with a mild antiseptic solution, preferring either boric acid or Thiersch's solution. Regarding an anæsthetic, when the urethra is tolerant and of large calibre, cocaine anæsthesia serves an excellent purpose In the

[1] Read at the twenty-sixth annual meeting of the Florida State Medical Association, held at Jacksonville, Fla., April 19 and 20, 1899.

majority of cases, however, general anæsthesia will be necessary. Under favorable conditions, though infrequently, exploration of the bladder may be undertaken in one's consulting-room, allowing, however, several hours for rest subsequent thereto. The patient may be made to assume either the knee-chest or the Trendelenburg position, the former being preferable, as in consequence of diminished abdominal pressure the bladder becomes partly distended with air upon withdrawal of the obturator from the cystoscope. Illumination is derived from an electric light, with head reflector, and inspection of the bladder can be made at one's will and every accessible portion shown, the position of the speculum being changed from place to place.

The cystoscope readily demonstrates the condition of the interior of and the walls of the bladder, the ureteral orifices being recognized by the characteristic appearance of the slit or the slight eminence usually in the mucous membrane at either side. The ureters are elastic and have loose connections, the catheter determining their calibre and the existence of obstruction and kinking. With preliminary training and personal skill as prerequisites, little difficulty will be encountered in arriving at positive visual diagnosis.

By catheterization of the ureters much obscurity in surgical renal disease may be cleared up, the character of the urine obtained affording one an opportunity of making a more or less positive diagnosis as to the condition of the renal pelvis. The ureteral orifice may be displaced, or in a measure occluded when there exists a thickening of the wall of the bladder, some difficulty then being met with in locating or entering it. To obviate this, staining the urine, as suggested by Fenwick, of London, is of great service. One and one-half grains of fuchsin given to the patient an hour or two before the examination will color the urine a delicate pink, which may be seen to issue from the orifices of the ureters.

Garceau, of Boston, has recently brought out a simple device in the nature of a vaginal depressor, fastened by a screw to a Kelly cystoscope, by which means the ureters may be readily catheterized in the knee-chest position, the cystoscope being held in a horizontal plane and the ureteral orifices presenting opposite the vesical end of the cystoscope when turned about forty-five degrees to one side or the other.

In the case of the bladder, the cystoscope affords information as to the presence of diffuse redness or hyperæmia, with consequent catarrhal conditions; hypertrophied walls, with corrugated mucous membrane and thus diminished calibre; pathological growths, as tuberculous, papillomatous, cancerous, etc.; pyelitis, calculi, foreign bodies, etc. In ureteritis, there is usually shown an alteration in the appearance of the ureteral orifice and in the mucous membrane of the bladder adjacent thereto, the tissues being inflamed and of an angry red. In this connection I would say that uric-acid crystals and free oxalates, the result of imperfect metabolism, act as irritants in its etiology. Acute ureteritis may be mistaken for renal or intestinal colic, appendicitis, and salpingitis, it being differentiated from these in that, beginning in the region of the kidney, the pain steadily takes a direction downward and inward toward the bladder, tenderness along the line of pain being also evident. The chronic form takes upon itself a frequency of micturition, associated with a bearing-down pain, both aggravated by standing or exercise and markedly relieved by the recumbent position.

A differential diagnosis as to pyonephrosis and pyelocystitis can also, in many instances, be made, a case of pyonephrosis and catheter drainage, recently recorded by Reynolds, of Boston, furnishing an example of the value and limitations of the ureteral catheter, the kidney being irrigated with decinormal salt solution, and the catheter being fastened in position and retained for a period of seventeen days. Reynolds, who has done considerable work in the line of cystoscopy and catheterization of the ureters in women, states that in the surgery of the kidneys, the study of the separated urines of the two kidneys takes the chief place, furnishing a method of physical examination of the kidney which is both accurate and safe, enabling one to isolate the disease and to determine with certainty which kidney is affected and the condition of each. In a similar manner, a diagnosis of tuberculosis of the kidney may be arrived at through examination of the urine for tubercle bacilli. Regarding the question of possible ligation or injury of the ureters in the course of surgical operations on the abdominal or pelvic viscera, cystoscopy and ureteral catheterization offer a ready means of diagnosis.

In the case of a calculus situated in the lower third of the ureter, in females, its position being located either through cystoscopic, vaginal, or rectal examination, it can frequently be removed by incision through the vaginal vault, as witnessed by a case lately reported by Mundé, of New York, the calculus impacted in the left ureter being of interest in itself, in that it showed a groove on one side, which had evidently allowed the passage of urine and had prevented in great measure the kidney from becoming distended. The removal of the calculus, however, was followed by a gush of purulent urine.

Upon the diagnostic acumen of the physician or surgeon depends the ability to recognize symptoms, which demand careful consideration. An observer who has improved his opportunities but rarely falls by the wayside.

An experience of several years in the study of cystoscopy of the female bladder and ureters, impels me to state that it offers a large and increasing sphere of usefulness, opening up a ready means of differential diagnosis, consequent enlightened treatment, and positive results.

## HOW TO RETAIN YOUR GRIP ON THE PRACTICE OF MEDICINE.[1]

BY SIDNEY DAVIS M.D.

MILTON, PA.

SOME years ago, while riding with a physician in one of the cities of this State, he spoke of a certain doctor who at one time held a large practice in that city and gave it up. As his work was among fine families, and he himself was a refined, cultivated physician, I asked why he left the field. My friend replied that "from some strange cause he began losing his grip on his practice." After I separated from this friend his words came back to me, "From some strange cause he began losing his grip"; and then I wondered how a man could lose a grip after once securing it, particularly if he was not overtaken by old age or ill health. And the thought occurred, what a terrible thing it was after the long struggle of securing a grip to lose it "from some strange cause." My mind is perfectly satisfied now that it is a very easy matter for a physician to lose his grip on the practice of medicine. Whether you will agree with my views on this subject is another affair. One proposition you will all approve, and that is, to retain a grip it is highly necessary first to secure the grip. To start with a right foundation, a sound moral character should come foremost above everything else. I do not

[1] Address of the retiring president at the fiftieth anniversary of the Lycoming County Medical Society, at Williamsport, Pa., April 14, 1899.

care if a doctor has the brains of a Webster, if he is deficient morally he will positively fail to secure or retain a grip.

The prime mistake often made by young physicians is in locating. Men who are calculated for a village practice aspire to large towns, and those who would succeed well in a good-sized town enter the field of a city where they are brought into competition with numbers of eminent men, besides being handicapped with the dispensary service, the curse of the young city practitioner to-day. There is no place like a village for the recent graduate to settle. Here he will have time to sit down and examine himself, a very important point; then after some years he will have enough experience to decide whether he has ability to enter into a larger competition. And while he is doing this he might make the little arithmetical calculation that $6,000 in the city is not so much as $3,000 in a country town. I will grant him the privilege of making the second move on two conditions: the first is, that he must have a snug bank account; the next is, that he must make this change before he has too many gray hairs. The second one should be his last; if he makes a third, he is almost certainly a failure.

I will now give in one sentence why physicians fail to secure a grip, and why they are not able to retain a grip; and mark well the words. It is just this: they are not truly interested, and they are not willing to invest money in their profession. To prove this statement I will take up in order what Emerson would style the externals of a man, and then the internals. The first of the externals is the general appearance of a physician as regards his being neatly dressed, and, above all, clean. I once asked a lady of another town why she did not employ a certain physician of her home, whom I knew to be mentally superior to every other one in the place. She replied, "I cannot stand his black finger-nails." That settled the question. A medical man is supposed to be an antiseptic gentleman at all times, with faultless linen, and everything else to correspond. The next external that I regard as exceedingly important are his offices If a young physician were to ask what advice I would give to aid him on entering a town, I would say, have the finest offices your means will permit, and go on improving and freshening them up occasionally with a new picture and very often with a modern book, bearing in mind that there is nothing furnishes a house or office like books and pictures. I have entered the offices of specialists in the cities and have been surprised at the barren condition of their reception-rooms. Why they could not have their victims comfortable while waiting for their turn in an attractive room, I could not understand The next external I would touch upon is the physician's stable outfit. Now, some doctors may go to extremes in this direction and show a degree of extravagance in horses and conveyances that is unwarrantable. Still, where you find one of this kind, you will see twenty who move the other way, men who are satisfied to ride in any old tumble-down turn-out, only so they manage to get there.

Please bear in mind you are travelling before the public; and while there are numbers who do not care anything for these so-called externals, there are certain observers who do object and who attach importance to these matters, and make up their minds that it is just possible this or that physician is careless in everything. You are living in a fast age and a fast country, and in this race we are all running there is a possibility of your getting the flag before you are aware of it.

I will now pass to what would be termed the internals, and by these I mean just what trouble and expense you are willing to undertake in order to advance yourself and make your grip all the more secure by mental improvement. Every young man on leaving the halls of his university should resolve to come back to the city for instruction at least ten years after graduating. Ten years, and what it means! The tale is told whether you are going to be successful. The very fact of your seeking additional information proves that you are interested to the extent that you are willing to make the investment.

Ten years has brought about such a maturity in your mind that facts will be absorbed from an entirely different standpoint in comparison with early medical education. Young physicians are almost compelled to do this when it is known that there have been more rapid strides in the last twenty-five years than in the one hundred years preceding. Indeed, these advances are so rapid that he must be very wide awake to keep pace with them. He should lose no opportunity when it is possible to be thrown with other physicians, and this brings me to the important point of the medical society, and right here is shown how much true interest a man has in his profession. Show me leaders in medical societies and I will show you men who have large practices as a rule. One of the strangest things about the Lycoming County Medical Society is that at the regular monthly meetings the largest percentage of attendance is from the members outside the city of Williamsport with its sixty-odd physicians, one of the most inexcusable occurrences with their telephones at command to protect them, while the country physician has to take his chances Of course the explanation for this may be, that the poor country doctor probably needs the medical society more than the physicians of Williamsport do. I want to give you one note of warning: Remember, when you fail to respond to your name, as recorded on the yearly roster of the society, for a paper or discussion, you are simply retrograding and your grip is slackening.

If young men would pay attention to their medical society, with more painstaking work at the bedside instead of grasping at a lot of catch-straws, there would be more lasting results. I have spoken to you of freshening up your office with a new work, I now say, freshen your brain with new ideas. Remember there is magic in the words, being "up to date." Ridicule these things, laugh at them, but defy them if you dare, and I will tell you what will happen. You may possibly wake up some morning (if you ever do wake up) to the fact that a certain colleague of yours has gone up two rungs on the medical ladder and you have slipped two rungs; and this slipping was done imperceptibly to you, but very perceptibly to the public. Do not flatter yourself that it is possible to pull together suddenly. You have been allowing certain things and opportunities to go by default, which should be regarded as your fortifications. You have been neglectful of them and yourself to such an extent that your colleague has caught you napping. The practice of medicine is beset with dangers like everything else. You may any day be brought to face such a combination in your town as a young man with brains, ambition, and a certain amount of money thrown together in the same person, or you might have a young doctor drop down on you with another combination—brains and lots of genuine American get-up. The last qualification is something to be dreaded, as all the world knows by this time it stops at nothing. Therefore it behooves you to have yourself and everything else in trim. If you should be blessed with four qualifications which I regard as very essential, you can simply defy all young doctors and their combinations. They are these: fine nerve, excellent judgment, abundant resources, and the whole surrounded with a large supply of good nature.

Avoid allowing yourself to become old, remembering that there are old-young physicians and young-old

physicians. If you think some additions will improve your appearance as age advances, be sure to get them. Remember that "a few bricks to a broken chimney and a coat of paint on an old house improve its appearance wonderfully." There is one man to whom I want to say a word, and then I am through. It is to the man who has the grip, to the doctor who is on the flood tide of success, to the man who has apparently no grounds for fear. To that man I say, nothing is secure; riches have flown, and so has the practice of medicine. To make this clear I want to tell you what happened to one of the prominent physicians and surgeons of this State. This man, whose name I will not mention, had everything to insure him success—a large practice, family prestige, for he was descended from a line of physicians who had distinguished themselves in science so that the name is known to-day on both continents. This surgeon was called upon to perform an operation in an adjoining town, where he was constantly being summoned for consultations and operations. In this case he had the misfortune to have his patient die on the operating-table from the effects of the anæsthetic. The case created a great sensation at the time. After that he was seldom called to this town. In talking over this case with a friend of mine, a physician, he made this remark: "I made a reputation in forty years, and lost it in a day."

## FOREIGN BODIES IN THE THROAT.[1]

By HERBERT J. HOPKINS, M.D., C.M.

SEVERAL months ago Dr. Fulton presented a clinical case—a child with a foreign body in the lower air passages. I believe he said it was in one of the bronchi; that it had been there twenty-four hours. He had not operated, and the child was not suffering much. It was recommended that an expectant plan of treatment be followed. This was done, and three weeks later the foreign body was coughed up. Statistics show a mortality in these cases of about twenty-five per cent.; the remaining seventy-five per cent. recover. The different methods of treatment, operative or non-operative, do not seem to differ much as to the final aggregate results, thus showing that there are some cases best treated on the expectant plan, and others in which an operation is imperative. Cases arise, of course, in which an immediate operation, laryngotomy or tracheotomy, is absolutely necessary to save life. Summoned to a case of foreign body in the throat, there is very little time for meditation or preparation; it behooves us to know what to do and how to do it. While instant death may occur, in the vast majority of cases the alarming symptoms of spasmodic asphyxiation have subsided long before the arrival of the physician; and if the foreign body has not already been expelled, its deleterious influence is spent in causing a comparatively mild degree of discomfort; and plenty of time is allowed to ascertain from the history of the case the probable character of the foreign body, and the institution of a thorough and systematic examination to discover its exact location, after the discovery of which its removal is ordinarily a very easy matter.

Though the character of the foreign body, whether round, smooth, angular, pointed, small, or large, is a determining influence as to its place of lodgment, it is wise to explore systematically the whole tract till its discovery; and for this purpose it is most desirable to have the aid of a good illuminating apparatus, head mirror, tongue depressor, laryngoscope, etc., special attention being paid to certain irregular spaces most apt to harbor foreign bodies, viz., those about the anterior and posterior pillars of the fauces, the follicles of the tonsils, the lingual fossæ, the pyriform sinuses, the orifice of the œsophagus, and the interior of the larynx and trachea as far as its bifurcation. If it is lodged in the length of the œsophagus or bronchi, it will not be discovered by the above means; but other localities being excluded, it is an easy matter to determine from the obvious symptoms alone in which of these it is. If in the larynx or trachea, the symptoms nearly always present are slight pain and soreness at the point of location, a tickling sensation, and a sharp spasmodic violent cough, occurring irregularly with intervals of complete repose. The voice may or may not be affected at first, but nearly always is so later from the extension of the inflammatory reaction; for a foreign body long retained will usually set up inflammation in the tissues about it; isolated instances being recorded, however, of such bodies being retained for years and then being expelled, no symptoms developing to cause the patient uneasiness.

In cases of impaction in the lower pharynx or œsophagus immediate death may ensue from asphyxia caused by pressure on the larynx or trachea, or by reflex spasm of the glottis, there are apt to be coughing and dyspnœa in every case, especially if the body is high up in the gullet, and swallowing is difficult or impossible.

Having located the foreign body in the fauces, pharynx, or orifice of the œsophagus, it is usually a simple matter to remove it. In older persons, this can be done with a suitable pair of forceps, using cocaine, if necessary, to secure greater toleration; in small children the best work can be done under an anæsthetic, with the finger, which serves at once to discover the foreign body and to dislodge it. If it is lower down in the œsophagus proper, its passage onward to the stomach can often be hastened by taking a few swallows of water or other substance; or it may be ejected by causing the patient to vomit, and this is best done by tickling the fauces with a feather, or even the finger.

Should these proceedings fail or be deemed inexpedient owing to the nature of the foreign body, the horse-hair probang is often invaluable, serving either to extract or force it onward. All else failing, œsophagotomy is in order.

If the body is in the larynx or trachea and the symptoms are urgent, the operation should be performed at once—laryngotomy or low tracheotomy; if not, one must wait and try to effect its expulsion through the natural passages, as can sometimes be done with the patient in the supine and partly inverted position, by a deep inspiration followed by a forcible expiration, accompanied by sharp blows on the back or chest; or one may use cocaine and remove the body with the forceps, guided by the laryngoscope or finger. During these simpler manœuvres the constant danger of asphyxiation from reflex spasm of the glottis must ever be borne in mind.

It is very important that the foreign body be removed as soon as possible, for, while it remains, the patient's life is always in danger. However, if there is a doubt as to the diagnosis, which implies of course that the symptoms are very slight, the expectant plan of treatment may be tried, awaiting developments; otherwise, it is best to open the trachea at once, and if the foreign body is not immediately expelled by the vigorous coughing which follows the introduction of a free supply of cold air into the trachea, resort is again to be had to inversion; or if the foreign body is too firmly fixed to be moved by this method, probes or forceps are to be employed to loosen and extract it. If this is not possible, the foreign body can sometimes be forced upward into the mouth and then expelled. All methods failing, especially if there be much swelling

[1] Read before the Austin Flint Medical Club, March, 1899.

and consequent impaction, the wound in the trachea is to be kept open, either by sewing the edge of the mucous membrane and cartilages to the skin, or by bent wire retractors tied back of the neck with tapes. A piece of gauze should be fixed over the opening, and the atmosphere of the room kept warm and moist, awaiting the spontaneous loosening of the foreign body, when a repetition of former efforts will likely prove successful. If not, after a reasonable interval, the wound may be allowed to heal, no harm having been done.

## Clinical Department.

### A CASE OF ACROMEGALY.[1]

By A. HYMANSON, M.D.,

ATTENDING PHYSICIAN TO THE UNIVERSITY COLLEGE DISPENSARY, AND PHYSICIAN TO THE OLD MARION STREET MATERNITY HOSPITAL, OUT-DOOR DEPARTMENT.

Mrs. K. C——, thirty-nine years of age, was born in Russian Poland. She was married at the age of nineteen years, and menstruated first at the age of twenty-one, two years after her marriage. Her youngest child is five and one-half years old. Four children are living, and one died in infancy. She has always led a regular life and has never had any illness that she can remember. Her family history is good, there being no hereditary complaint and no specific trouble. Her parents died at the age of fifty-eight and always enjoyed good health. She has two younger sisters and one brother in perfect health. No one in her family has ever been afflicted as she is.

The beginning of the sickness was so gradual and insidious that neither she nor her relations can state accurately as to when the trouble set in, but she claims that she began to suffer intense pains in the head, eyes, and extremities about five years ago or more. The headache was continuous and most marked in the frontal and occipital regions. The pains in the back and extremities were intermittent. Her hands, feet, and face began to swell gradually, and her attention was particularly drawn at first to the disfigurement of the hands and face. The swelling of the extremities was accompanied by lancinating pains suggestive of rheumatism. She was suffering from cardiac palpitation, general debility, anorexia, and constipation, and had been taking medicine off and on without the slightest relief. Her present condition is as follows: The head is large; the face is elongated, oval in form, measuring from the frontal hair to the symphysis menti seven and one-half inches; the forehead is depressed and the superciliary ridges are prominent. The nose is much increased in size, in length as well as in width; it measures three inches in length and has an œdematous appearance. There is some exophthalmia; the eyelids are thickened, but can be moved readily in all directions, and the pupils react to light. There is some œdema under the eyelids. The ears are hypertrophied. The lower jaw takes part in the general enlargement of the bones of the face, and measures from condyle to condyle fifteen inches. The alveolar processes are widened; the tongue is thickened, broad and flat, and the lips are somewhat hypertrophied. The skin of the face is coarse, and exhibits a tendency to perspire. Articulation is slow, clumsy, and thick. The neck is greatly enlarged, measuring fourteen and one-half inches. The thyroid body is not enlarged. There is no evidence of enlarged thymus, and no dulness can be detected at the manubrium sterni. The scapulæ and the bones of the shoulder are somewhat enlarged; the sternum is broad. The ribs are prominent and thickened; the breasts are atrophied, the spine is bowed, and the heart and lungs are normal.

The abdomen is pendulous, and measures thirty-nine inches. The splenic dulness is normal. The pelvic bones are somewhat enlarged. The uterus is greatly hypertrophied, and there is an enormous prolapse of the genital organs. A few months ago she suffered from menorrhagia. The hands are greatly enlarged, mostly in breadth and thickness, and have a spade-like appearance, while the fingers and nails are broad. The thenar and hypothenar eminences take part in the general enlargement. The wrist and forearm are thickened. The circumference at the wrist is eight and one-half inches, and at the middle third of the forearm ten and one-half inches. The enlargement of the feet is not very marked, as the patient wears only one size larger shoe than she did some time ago. The lower extremities are œdematous, pit on pressure, and are tender to the touch. The skin, though coarse, is not thickened, dry, and harsh as in myxœdema. The patellar reflexes are delayed. The cutaneous sensibility is normal. The gait is clumsy. The senses of sight, smell, and hearing are not disturbed. She has mental dulness, answering questions rationally, but with some hesitation. The memory is defective. She has severe headaches, a sense of fatigue, and tinnitus aurium. She complains of severe rheumatic and neuralgic pains all over the body and extremities. Sweats are frequent on the slightest exertion. She complains of shortness of breath, cardiac palpitation, and occasionally has an asthmatic attack.

Examination of the urine does not show anything abnormal. The temperature is normal, and the pulse varies between 80 and 108 per minute. Of late, the patient has complained of paresis of the hands, and the fingers seem to her to be benumbed, but she moves them freely. She is always peevish, excitable, and irritable.

The patient was under my treatment for more than two years. I kept her on tonics, syrup of the hypophosphites, iron, arsenic, and the iodides, but without the slightest improvement: bromides, codeine, and antipyrin gave her some temporary relief for a few months. The nervous excitability rapidly subsided, the headache disappeared, and the patient slept well, but later on she became so accustomed to these drugs that even large doses did not affect her. From the 12th of March to the middle of September, 1897, a period of about six months, I fed her, by suggestion of Dr E. D. Fisher, on thyroid extract, one half a grain three times a day. One-half a grain of this extract represents five grains of the fresh gland.

After being under this treatment for two weeks, there was a striking improvement in her nervous condition, but later on I had to diminish the dose from time to time, because she occasionally showed symptoms of intoxication, due to the gland itself, a condition known as thyroidism. She had a very frequent pulse of 125 per minute, had fainting-spells, and a peculiar weakness of the lower extremities, paresis, and some alteration in her mental condition. She despised her family, and considered her husband as her enemy. For the last four months I administered to her extract of pituitary body, gr. i. three times a day, but without any improvement whatsoever.

Comparing the careful measurements I made two years ago of the hands, lower jaw, and feet, and those I have taken recently, it seems that all the medications we have at our command, even the modern ones, the animal extracts, have very little influence on this strange malady; in fact, my patient is much worse than before. Her rings which she wore two years ago are much too small for her, and her clothes are too tight. The circumference of her wrist two years ago was six inches, now it is eight and one-half; circum-

[1] Case presented before the Eastern Medical Society of the City of New York, January 14, 1898.

ference at the knuckles two years ago was nine and one-half inches, at present it is eleven and one-half, etc. Recently her face has changed much, a photograph which was taken more than a year ago does not show much deformity, but at present the head is much elongated, the lower maxillary bone is increased in size, the chin is projecting forward, and there is marked prognathism. Her friends can hardly recognize her; they say she had years ago a nice round face, now she is entirely disfigured. Her subjective symptoms are also going from bad to worse.

An *x*-ray photograph taken of her hands four months ago shows that the great increase in the size of the hands was due to over-growth of the soft tissues also, and not only to an alteration in the bones themselves. It is probable that we have to deal here with a case of acromegaly and some myxœdema combined, or there was some nutritional disturbance in the pituitary gland, and perhaps at the same time some sclerotic changes of the thyroid gland as well.

In view of the fact that in almost all cases of acromegaly the soft parts increase in size, and in some cases there are changes in the thyroid and thymus glands, and from the striking resemblance of the symptomatology of acromegaly and myxœdema, it is probable that many patients who were supposed to be purely acromegalic are suffering at the same time from myxœdema. Sir W. H Broadbent (*Lancet*, March 28, 1896) has described a patient with acromegaly under his care, in St. Mary's Hospital, the skiagraphs of whose hands and feet showed that the great increase in bulk was due to an overgrowth in the soft tissues only, and not to an alteration in the bones It is highly probable that some cases which did not show any appreciable result by the treatment of either pituitary or thyroid extract alone, but rapidly improved under a treatment of both extracts combined, were really cases in which some changes had taken place in both the pituitary body and thyroid gland.

## A UNIQUE CASE OF PITYRIASIS VERSICOLOR.

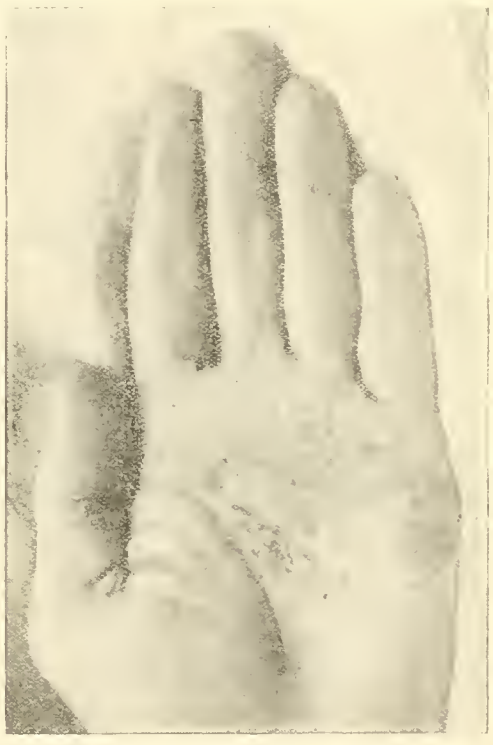
BY WILLIAM S GOTTHEIL, M D

NEW YORK

THE location and distribution of dermal efflorescences are important elements in the diagnosis of the diseases of which they are manifestations. An unusual localization therefore attracts attention, and a unique one, the very possibility of which is denied in the standard text-books, is worthy of record

Pityriasis versicolor, tinea versicolor, or chromophytosis, is said never to occur on the hands or feet, certainly never upon the palms or soles, even the possibility of its appearance on the extremities below the elbows and knees is denied I shall mention only a few authorities. Weyl and Geber, in Ziemssen's work, say that the comparatively rare occurrence of pityriasis versicolor on the neck and face is probably due to the fact that these parts are most frequently and thoroughly cleansed of the superficial epidermis in which the parasite proliferates It has never yet been observed, they say, upon the palms and soles, for the same reason Hyde says that it is rarely seen upon the lower extremities, still more rarely upon the face, and never on the hands and feet. It tends to avoid surfaces exposed to the light. Lesser says that it is extremely rare upon the face, and has never been found on the hands. Kaposi, Crocker, Wolff, Duhring, Robinson, and all the others agree that the malady is confined to the trunk and never occurs on the hands and feet. That this is not the fact, the following case will show

Dr. de V——, a Cuban physician, consulted me, on October 22d of last year, for some black spots which had been present upon his left palm for fifteen years. A single one had appeared first, and had spread very slowly, and similar new ones had appeared from time to time in its vicinity, and enlarged gradually. For some years past it had been stationary. It looked bad, but caused him no discomfort or subjective sensations. He had used various applications, without much effect. Dr. de V—— was of opinion that the affection was parasitic, for on several occasions he had removed it apparently entirely by scraping the skin with a knife-blade, but it had always returned quickly within twenty-four hours. Examination showed that the centre of the left palm was occupied by the efflorescence, which extended well on to the inner border of the hand. The fingers, wrists, and dorsum were free; and I may mention here at once



that there was no trace of the eruption upon any other part of the body The eruption itself consisted of discrete rounded macules, fusing in a few places into larger patches. The color of the efflorescence was a dark brownish black. There was slight scaling, and with a penknife the superficial scales could be removed, carrying with them the entire eruption, and leaving an apparently normal, uncolored epidermis behind Examination of these scales under the microscope immediately revealed the nature of the eruption. The epithelium cells were comparatively few, the entire field being covered with mycelium and spores. The former was in threads of about 0.005 mm. diameter, generally short, and rarely branching. The spores were mostly in heaps, and consisted of highly refracting circular and oval bodies a little larger in diameter The entire microscopic appearance of the fungus was characteristic, the microsporon furfur, the cause of pityriasis versicolor, being in appearance the most definite and readily recognized of the dermatophyta.

The color of the eruption was peculiar, I have never seen it so dark, so nearly approaching black. The hue does vary, however, within wide limits in pityriasis versicolor It may be reddish, yellowish, or brownish, for the microsporon takes up extraneous coloring matter with ease, and can be readily stained

with many of our ordinary reagents. I have in my possession a water-color sketch of a case in which the eruption was a vivid brick-red in color, due undoubtedly to staining with the coloring matter carried by the abundant sweat from a new red flannel undershirt that the patient wore. The coloring matter in this present case was probably atmospheric dust, and matter derived from the clothing and other articles with which the hand came in contact.

It is evident, therefore, that in rare instances the microsporon furfur will grow on parts exposed to the light, and that ordinary ablutions, and even the specially thorough ones that a medical practitioner of necessity performs, are not sufficient in all cases to prevent the development of the fungus.

144 West Forty-eighth Street.

## Progress of Medical Science.

**Some Therapeutic Applications of Cold.** — Ewart (*Lancet*, April 8, 1899, p. 955) relates two cases of rheumatoid arthritis and one of pemphigus with acute and painful joint lesions in which, other measures failing, relief was afforded by massage of the affected parts with blocks of ice. Encouraging results were obtained also in the relief of the severe pleuritic pain accompanying acute pneumonia of the base.

**Alcoholism Simulating Meningitis in Children.**—Drs. Ausset and Combernale report (Société de Médecine du Nord, February 24th) two cases of this affection, one in a nursling, the other in an infant two and one-half years old, simulating meningitis. In both cases alcoholism was recognized as the cause; in the first case produced by the milk of an alcohol imbibing wetnurse, in the other by the direct administration of alcoholics to the infant. In both cases the symptoms disappeared upon the removal of the cause.

**Gastric Crises.**—Dr. Seymour Basch (*Archiv fur Verdauungs-Krankheiten*, Bd. v., 1899) says, that naturally in the early stages of locomotor ataxia, when the gastric crisis forms the only symptom of the disease, the diagnosis cannot be made with positiveness. In addition to this, the presence of at least two characteristic symptoms is necessary. Still, the typical gastric crises of tabes are also valuable for the diagnosis of this disease, since they are characterized by the following points. (1) Entire absence of all symptoms of any organic disease of the gastro intestinal tract. (2) Suddenness of the onset of the attacks. (3) Absence of initial chill. (4) Great intensity of the symptoms, which sometimes increase rapidly at other times gradually, in severity. (5) Absence of fever, rapid pulse. (6) Absence of any local condition in the gastric region or of other factors which could explain the severity of the existing symptoms. (7) Absence of characteristic qualities in the vomit. (8) Absence of every influence upon the course of the affection by external circumstances. (9) Spontaneous abatement of the attacks. (10) Speedy convalescence.

**The Transplantation of Nerves.**—Dr. Reuben Peterson (*American Journal of the Medical Sciences*, April) concludes as follows: (1) Transplantation of a peripheral nerve segment to bridge over a gap between the two ends of a resected nerve is a legitimate surgical procedure. (2) Under favorable conditions at least partial, and at times complete, restoration of sensation and motion may be expected to follow the operation. (3) Regeneration of the degenerated peripheral end is due to down-growths from the axis-cylinders of the central end. (4) Because of the slowness of the process the longer the time after operation the more favorable will be the results. (5) Sensation may return very early after operation, and, as a rule, precedes return of motion. (6) This rapid return of sensation is not due to down-growth of axis-cylinders or to conductivity of the transplanted fragment, but must be explained by collateral nerve supply. (7) In many cases very early return of motion after transplantation may be due to vicarious movements of other muscles than those formerly paralyzed, and not to a regeneration of the latter's nerve supply.

**Cerebral Tumor: Differential Diagnosis.**—E. S. Reynolds (*British Medical Journal*, February 11th) divides the subject as follows:

(A) Brain tumor may be simulated by: (1) Chlorosis. Very rarely optic neuritis, generally of rapid onset, is present. If it is associated with headache and hysterical motor or sensory symptoms, a mistake is easily made. (2) Uræmia, with intense headache, optic neuritis, convulsions, and coma, especially if the convulsions are unilateral. The character of the optic neuritis and the history and symptoms of Bright's disease should make the diagnosis clear. (3) Chronic plumbism, with encephalopathy, convulsions, delirium, acute mania, coma, optic neuritis, and headache, esecially if there is hemianæsthesia and paralysis of cranial nerves. Buzzard has described paralysis of the third nerve, and the writer has seen paralysis of both sixth nerves. (4) Hysteria when there are headache, vomiting, and strabismus. (5) So called reflex epilepsy. (6) Syphilis of the cranial nerves with headache. (7) Meningitis, or brain abscess. (8) Polioencephalitis may simulate pontine tumor.

(B) Brain tumor may simulate other diseases: (1) Hysteria if there are no optic neuritis and no paralysis of nerves. (2) Reflex epilepsy may be assigned as the cause of unilateral convulsions if there has been an injury to or if there is a tumor on a nerve. (3) Hydrophobia, if there is history of a dog-bite. (4) Senile dementia. (5) Circulatory changes, if the symptoms are of sudden onset.

**Chronic Appendicitis and Movable Kidney.**—G. M. Edebohls (*Post-Graduate*, February) concludes as follows: Chronic appendicitis is present in from eighty to ninety per cent. of women with a symptom producing movable right kidney. This frequency constitutes chronic appendicitis one of the chief, if not the chief, symptom of movable kidney. Chronic appendicitis, by reason of its frequency, the protracted suffering, and serious impairment of health which it entails, and the dangerous possibilities of implanted acute attacks of appendicitis, may be considered the most important complication of movable right kidney. The writer's statistics show that twenty per cent. of all women have movable kidney or kidneys, that four per cent. of all women have symptom producing movable kidneys or kidneys; that four per cent. of all women have appendicitis, that while three-and one-half per cent. of all women have both symptom producing movable kidney and appendicitis, only one-half of all women have appendicitis and well anchored kidneys. The startling nature and importance of the conclusions to be drawn from these statistics do not invalidate the latter. Satisfactory investigation of the relations of movable kidney and appendicitis became possible only after the discovery and elaboration of the writer's method of palpation of the vermiform appendix. It remains impossible to those not practically familiar with the method. Chronic appendicitis may be the only symptom of movable right kidney. Some of the symptoms commonly ascribed to movable kidney are often in reality due to the concomitant appendicitis.

MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 51 Fifth Avenue

New York, July 1, 1899.

## NEOPLASM OF THE LEFT THIRD FRONTAL CONVOLUTION IN A RIGHT-HANDED INDIVIDUAL, WITHOUT APHASIA.

EXPERIENCE is constantly teaching the medical man to be surprised at nothing and always to be prepared for the unexpected. Didactically we recognize types of disease, but clinically we encounter the greatest diversity of symptom-groupings. In connection with no condition perhaps is this statement better illustrated than with tumor of the brain. It is not an uncommon experience for such a lesion to be diagnosticated during life and not be found after death, and *vice versa*, and even when the presence of a growth has been recognized, its situation and histological constitution may baffle the highest diagnostic skill and acumen. A slowly growing tumor may give rise to few or no symptoms, while a large neoplasm may, by reason of the physical conditions present within the cranium, occasion symptoms by disturbance of the function of parts remote from the seat of actual disease. Further, there may be aberrations not only in structure but also in function. For instance, the motor tracts may in large part fail in their usual decussation, then it is surmised that certain parts of the brain acquire special functions in accordance with the uses to which the peripheral organs they govern are put. Thus it is agreed that the nervous motor mechanism controlling speech is located in the left third frontal convolution in right-handed persons, although it is believed to have also a latent or undeveloped representation on the right side of the brain. In the same way the mind-auditory centre is located in the left first temporal convolution, and the mind-visual centre in or about the angular gyrus.

Of the uncertainty of diagnosis of brain tumor and of cerebral localization additional evidence is afforded by the report by Collier (*The Lancet*, March 25, 1899) of a case in which complete destruction of the third frontal convolution on the left side of the brain by a neoplasm in a right-handed person was unattended with aphasia. The patient was an unmarried woman, twenty-three years old, whose mother had died from carcinoma, and who, a year and a half before death, while walking with her sister, suddenly, and without warning, fell and became unconscious for a few minutes. The face was pale, but there was no convulsion or biting of the tongue or involuntary passage of urine. In the following fortnight two attacks of similar character took place, although in the second the teeth were clenched, and slight convulsive movements, with foaming at the mouth, occurred. Subsequently there were frequent sudden attacks of giddiness, pallor, and faintness, which were not followed by any noticeable speech defect. Examination at this time failed to disclose evidence of organic disease, and under treatment with bromides the attacks of giddiness became much less frequent.

After some seventeen months the patient was thought to be a little dull mentally, and she complained sometimes of slight headache. On one occasion she was noticed to mumble in her speech and to use wrong words for a period of half an hour. A little later she became heavy and somnolent and finally comatose. Ophthalmoscopic examination now revealed recent optic neuritis. There were also complete palsy of the right sixth nerve and almost complete palsy of the left sixth nerve; and the lower portion of the left side of the face did not move quite so well as the right. There was neither hemianopsia nor word-blindness. The patient was right-handed, and there was no history of left-handedness in the family. Motility and sensibility in the trunk and limbs were natural. There was no headache or tenderness. The knee jerks were not exaggerated, although the left was rather the more readily elicited. The wrist-jerks and the elbow jerks were active and equal. The plantar reflexes exhibited a flexor response on either side. The stupor gradually deepened, the breathing became stertorous, the temperature ranged between 100° and 102° F., and death resulted from respiratory failure.

Upon post-mortem examination the dura was found adherent to the anterior part of the left temporo-sphenoidal lobe over a small area. The pia-arachnoid at the base exhibited considerable old patchy thickening. There was slight recent meningitis over the posterior extremities of the second and third left frontal convolutions and over the anterior part of the left temporo-sphenoidal lobe. The cortex of the posterior end of the third frontal convolution, including that part between the ascending and posterior limbs of the Sylvian fissure and the contiguous part of the left temporo-sphenoidal lobe, presented a gray, jelly-like aspect, suggesting the presence of a glioma. On the inferior aspect of the brain was a growth, arising from the posterior part of the orbital lobule and filling the left Sylvian fissure.

After the brain was hardened in formalin the neoplasm was found to involve the inferior margin of the left second frontal convolution at about its middle, the whole posterior part of the left third frontal convolution, the posterior part of the orbital lobule, and to a small extent the anterior gyrus of the island of Reil. For some distance around the growth the white matter of the centrum ovale was softer than elsewhere. The ascending frontal convolution was uninvolved and the whole of the right hemisphere appeared healthy. On microscopic examination the growth was found to consist of small round-celled tissue, the cells being densely aggregated around the blood-vessels, which were greatly thickened.

This case shows among other things that the nervous motor mechanism governing the function of speech may be primarily developed in the right hemisphere, even in right-handed persons. Such development takes place in varying degree after aphasia due to destructive lesions of the left third frontal convolution, but there was no evidence, clinical or pathological, congenital or acquired, in the case reported of such structural disturbance.

## DE LUNATICO INQUIRENDO.

Mr. Purrington, of the New York bar, has recently put himself to the trouble of trying to get something rational out of the unchristian and unscientific "Christian Scientists." He has recently, in a communication to *The Sun*, given us part of the correspondence between himself and a person named Norton, as to what the latter would do in certain surgical contingencies which are mentioned. The questioner showed remarkable forbearance and pertinacity, but was utterly unable to get a straightforward answer. He put a perfectly plain question to Norton on the subject of stopping arterial hemorrhage by "mental" therapeutics, with inferentially the repair of the artery, but could get no answer in spite of a specific promise, although Norton was quite ready to declare that it was certainly possible to stop such bleeding and to relieve several other surgical conditions by what he was pleased to call mental therapeutics. He would not tell how it was done, however. He tried to obscure the subject with verbiage, among other collections of words emitting the following: "I make no diagnosis except along the lines of consistent mental therapeutics. An expert in mental therapeutics will naturally know the character of this diagnosis. Discord is discord. Pain is pain. Disease is disease," etc. Instead of answering a series of questions submitted to him, the poor man delivers himself thus: "I have but to repeat—that I prefer to shelve them, because to answer them would bring about wholly indifferent results." Ordinarily rational individuals have in many cases a hesitation about curbing these people for fear that there should seem to be any interference with religious liberty. However, there is a sharp line between religious liberty and license to commit felony in the name of religion. One of this same brand of "healer" was convicted in Brooklyn recently, and the result may be salutary, but it would probably be beter if one of the leading lights could be caught red-handed and sent to prison or an asylum. They certainly are suffering from systematized delusions in many cases, and the logical outcome of their reasoning is too frequently homicide. If these people did not commit acts so demonstrably contrary to knowledge, experience, and scientific experiment, we should perhaps not be justified in active interference. But they have committed such acts repeatedly, and there ought to be a legal hold upon them without waiting for the immolation of more foolish or helpless victims. A commission in lunacy might be desirable in some cases.

## THE SMOKE NUISANCE IN LONDON.

American cities have their troubles. In New York, the street noises are distracting, the paving of many of the principal thoroughfares leaves much to be desired, the cleaning of the streets generally is conducted on a system by no means perfect, buildings are in a large number of instances too lofty, and lastly the elevated railway is hardly a thing of beauty. In Philadelphia the water supply is lacking in most of those features that tend to conduce to the well-being of the community at large. Chicago—despite the fact that its inhabitants proudly proclaim it the ideal city of the universe—according to the views of unprejudiced sanitarians, does not quite reach this high position. And thus with all the large centres of population faults may be descried in their matters hygienic.

Now London—with the possible exception of street noises, which, however, at their worst do not possess the peculiarly excruciating, nerve-disturbing qualities of those of New York—is in respect of paving and sanitary arrangements generally perhaps in advance of many American cities. But unfortunately London has one drawback of so serious a character as almost to outweigh all its advantages. It need scarcely be said that the oft-recurring fog is referred to. Staunch and patriotic cockneys will stoutly aver that the murky atmosphere of the British metropolis is healthy, exhilarating, and refreshing. Nevertheless, with this view of the situation medical men are not in accord. On the contrary, it is claimed by those concerned with the question of public hygiene that the dirt-laden air of London is a fruitful means of ill-health and death. Statistics show that London enjoys just about half the sunshine of British inland towns, and one-third of those on the south coast of the island.

Many theories have been put forward to account for the prevalence of London fogs, but it is now agreed on all hands that the use of soft coal is the principal cause of the evil. It is pointed out that in cities where wood or anthracite coal is consumed fogs are comparatively rare. From an æsthetic and artistic as well as from a sanitary standpoint this condition of affairs is lamentable. The very buildings themselves take on a gloomy, dusky, funereal aspect, and architecture suffers in an equal degree. A change, however, is in sight, for the Smoke Abatement Society has come to the rescue. While many are fighting Sir William Richmond, the artist, on the question of his decorations in St. Paul's Cathedral, Sir William is himself pursuing a campaign against the smoke of London. He is the president of the Smoke Abatement Society, which is attracting leaders of the artistic and scientific circles of the metropolis. The remedy suggested is that the consumption of bituminous coal should be restricted or wholly prohibited, and it is contended that if this were done the atmosphere of London would be as pure and clear as that of any other town. The crusade has our good wishes, and we trust it will not end in smoke, but rather put an end to it. New York is not so free from the soft-coal nuisance that we can view with indifference efforts to abate it elsewhere.

## News of the Week.

**Mount Sinai Hospital.** — Dr. Joseph Wiener, Jr., has been appointed adjunct attending surgeon to the Mount Sinai Hospital.

**Prof. A. Jacobi, M.D.**—Foreign membership was conferred on Dr. A. Jacobi, of this city, by the "Société d'Obstétrique, de Gynécologie, et de Pédiatrie" of Paris, on June 2d.

**A Fair in Aid of the Charing Cross Hospital.**—The receipts of the bazaar in aid of the Charing Cross Hospital, London, which was opened by the Princess Louise on Wednesday of last week, were £13,300.

**Burning of a Leper Lazaretto.**—News was received recently at Victoria, B. C., of the destruction of the D'Arcy Island leper station by fire. One leper was killed, and another, it is feared, will die from injuries received.

**The Chicago Medical Society.**—At the annual meeting of this society, held June 21st, the following officers were elected: *President*, Dr. Junius C. Hoag; *Vice-Presidents*, Drs. Henry B. Favill and Hugh T. Patrick; *Secretary*, Dr. Arthur R. Edwards; *Treasurer*, Dr. S. C. Plummer, Jr.; *Trustees*, Drs. John M. Dodson, A. D. Bevan, and Sanger Brown.

**The Tri-State Medical Association of Maryland, West Virginia, and Western Pennsylvania,** in session recently at Markleton Sanitarium, Pa., elected the following officers: *President*, Dr. J. M. Spear, Cumberland, Md.; *Vice-Presidents*, Drs. Americus Enfield, Bedford, Pa., Robert Gerstelle, Elk Garden, W. Va., and W. J. Craigen, Cumberland, Md.; *Recording Secretary*, Dr. Percival W. Lantz, Alaska, W. Va.; *Corresponding Secretary*, Dr. F. W. Fochtman, Cumberland, Md.; *Treasurer*, Dr. H. W. Hodgson, Cumberland, Md.

**The New York County Medico-Pharmaceutical League** was incorporated recently at Albany. The objects of the league are stated to be to encourage operations at the patient's home, where practicable; to regulate lodge-contracting, dispensaries, hospitals, and other medical charities, and to discuss and regulate other matters of mutual interest to the medical and pharmaceutical professions. The directors for the first year are Samuel F. Brothers, Ph.G., M.D., Julius Kalish, Lazarus W. Zwisohn, Victor Lowenberg, Maurice Fishberg, M.D., Louis Lurie, Ph.G., Hirsch Beck, M.D., Lazarus Dillon, Henry Goldberg, M.D., and Samuel Epstein.

**New York State Medical Examinations.**—The following were the results of the medical licensing examinations held in this State in May: Total number of candidates, 131; successful number of candidates, 111; rejected, 20; percentage of rejections, 15.27; percentage successful, 84.73; total number of honor candidates, 10; highest general average, 95.3 per cent.; rejections in anatomy, 12; rejections in chemistry, 7; rejections in surgery, 3; rejections in pathology and diagnosis, 9; rejections in physiology and hygiene, 3; rejections in obstetrics, 3; rejections in therapeutics, practice, and materia medica, 9. Rejections in one topic, 10, rejections in two topics, 3; rejections in three topics, 1; rejections in four topics, 3; rejections in five topics, 3; rejections in six and rejections in seven, none.

**Trial of Yellow-Fever Antitoxin.**—Health Officer A. H. Doty has perfected arrangements with Dr. Eduardo Licéaga, of the Mexican national board of health, to use the yellow-fever serum, described in another column by Dr. Fitzgerald, in Vera Cruz, where there is now an epidemic of the disease.

**Yellow Fever at Santiago.**—Two new cases of yellow fever and four deaths from the disease were officially reported in Santiago on June 26th. This makes a total since the outbreak of the disease of thirty-five cases and eleven deaths. The army surgeons now think they have the fever under control.

**Removal of the Blind Asylum.**—The managers of the New York Institution for the Blind, in Ninth Avenue, between Thirty-third and Thirty-fourth streets, have decided to remove the seat of the institution from its present ground to a tract of thirty acres between One Hundred and Sixty-fifth Street, One Hundred and Sixty-eighth Street, Eleventh Avenue and the Hudson River.

**For a Department of Public Health.**—At the recent meeting of the American Institute of Homœopathy Dr. M. O. Terry, of Utica, ex-surgeon-general of the National Guard of New York, offered a resolution to the effect that in the opinion of the society the condition of the country and its standing among the progressive nations of the world demand for its medical department a position in the cabinet equal in all respects to the other departments of the government.

**The International Congress of Women** was opened in London on Monday of this week. The Countess of Aberdeen, the president of the International Council, delivered a speech of welcome to the delegates, in the course of which she gave a history of the women's movement for the past fifty years, which, she said, had produced a revolution in the position, responsibilities, and opportunities of women.

**Italian Society of Laryngology, Otology, and Rhinology.**—The fourth annual meeting of this society will be held in Rome, in October, under the presidency of Dr. Guiseppe Gradenigo, of Turin. The subjects for set discussion are: "The Channels and Modes of Diffusion of Tympano-Mastoidean Infection," opened by Dr. Camillo Poli, of Genoa; "The Physio-Pathology of the Olfactory Nerves," opened by Dr. Vittorio Grazzi, of Pisa; and "The Parasyphilitic or Postsyphilitic Lesions of the Larynx," by Dr. A. Trifiletti, of Naples. The question of the proper designation of a specialist in oto-rhino-laryngology will also be discussed.

**The American Surgical Association.**—At the recent meeting of this association in Chicago, the following officers were elected for the ensuing year:

*President*, Dr. Robert F. Weir, New York City; *First Vice-President*, Dr. Charles B. Nancrede, Ann Arbor, Mich.; *Second Vice-President*, Dr. Edmond Souchon, New Orleans, La.; *Secretary*, Dr. Herbert L. Burrell, Boston; *Treasurer*, Dr. George R. Fowler, Brooklyn, N. Y.; *Recorder*, Dr. De Forest Willard, Philadelphia; *Member of the Council*, Dr. W. W. Keen, Philadelphia.

**The Army Board on the Spread of Typhoid Fever.**—Forecasts of the report of the board appointed by the War Department to study the distribution of typhoid fever in army camps, to be made about the end of July, indicate that the water supply had practically little to do with the spread of the disease. The infection, the report will say, was transmitted through the atmosphere in dust carried by the wind and by the agency of flies.

**The Study of Practical Philanthropy.**—A class in philanthropic work has been organized by officers of the Charity Organization Society of New York. Among the pupils are agents of several of the State boards of charities, who wish to familiarize themselves with the methods for the relief of the poor. The students come from Harvard, Yale, and Columbia Universities, the University of Chicago, from Denver, and from San Francisco. They listen to lectures, visit institutions, and do office work for the Charity Organization Society.

**A New Homœopathic Society.**—During the recent session of the American Institute of Homœopathy at Atlantic City a new surgical society was organized which will be known as the Surgical and Gynæcological Association of the American Institute of Homœopathy. Dr. W. B. Van Lennep, of Philadelphia, was elected *President*; Dr. George W. Roberts, of New York, *Secretary*, and Dr. Hartman, of Syracuse, *Treasurer*. The association will meet annually at the same time and place as the institute.

**A New Disease among Miners.**—Drs. Rogers, Brodie, and Hamilton, of Johannesburg, have lately published the results of some researches upon what they consider a new disease prevalent among mine Kafirs in the Golden City, and very fatal. They call it "acute specific rhinitis," and consider it due to a diplococcus, which they think is identical with Fraenkel's pneumococcus, only more virulent. The morbid appearances, as shown in twenty-six cases, are a purulent rhinitis leading to meningitis, suppuration of the sinuses, middle-ear suppuration, and parotitis. Croupous pneumonia was present in most of the cases, and there was generally peritoneal effusion. The cases with no pneumonia or very little were as fatal as the others. Dysenteric diarrhœa generally occurred at the last.—*The Medical Press.*

**The Medical Society of North Carolina** held its forty-sixth annual meeting at Asheville on May 30th and June 1st and 2d. The election of officers resulted in the choice of the following: *President*, Dr. George W. Long, of Alamance; *Vice-Presidents*, Drs. Chalmers M. Poole, of Craven, John Hay Williams, of Asheville, J. M. Parrot, of Kinston, and W. D. Hilliard, of Asheville; *Secretary*, Dr. George W. Pressly, of Charlotte; *Treasurer*, Dr. G. T. Sikes, of Grisson. The next place of meeting will be Tarboro.

**The Chigger,** so well known and of such ill-repute in the West Indies and West Africa, has recently invaded East Africa. The Indian coolies working on the Uganda railroad have been found to be infected with the parasite, and the Indian authorities are now wondering how they can prevent its spread throughout India when these coolie laborers return to their homes.

**"Mens Conscia Recti"** is the motto which has been proposed for the newly organized Proctological Society. An English contemporary suggests that the members of this association of rectal specialists be called proctitioners in contradistinction to their *confrères* whose practice is not confined within such narrow limits.

**The Connecticut State Medical Society.**—At the one hundred and seventh annual meeting of this society, held in Hartford on May 24th, the following officers were elected: *President*, Dr. C. S. Rodman, of Waterbury; *Vice-President*, Dr. L. B. Almy, of Norwich; *Treasurer*, Dr. W. W. Knight, of Hartford; *Committee on Matters of Professional Interest in the State*, Drs. T. T. Simpson, of Putnam, J. G. Stanton, of New London, and L. W. Bacon, of New Haven.

**The Illinois State Medical Society.**—At the annual meeting of this society, held in Cairo, May 16th, 17th, and 18th, the following officers were elected: *President*, Dr. Harold N. Moyer, of Chicago; *Vice-President*, Dr. John T. McNally, of Carbondale; *Secretary*, Dr. E. W. Weir, of Ottawa; *Treasurer*, Dr. George N. Kreider, of Springfield. The next annual meeting, which will be the semi-centennial, will be held in Springfield.

**The Queen's Eyesight.**—Commenting upon the recent reports that Queen Victoria was about to undergo an operation at the hands of a German oculist for cataract, *The British Medical Journal* says: "We have the best authority for stating that the alarming paragraphs regarding the queen's eyesight which have appeared lately are erroneous and misleading. For a considerable time Her Majesty's eyesight has been to some extent impaired owing to changes incidental to advanced years, but we are glad to be in a position to say that the deterioration has ceased to be progressive, and that the queen's eyesight has in no respect become worse during the last few years. All reports to the contrary, as well as the rumor of any impending or even contemplated operation, are therefore pure inventions."

**The British Association for the Advancement of Science** will meet this year at Dover in September. The president will be Prof. Michael Foster, and the presidents of the various sections are as follows: mathematical and physical science, Prof. J. H. Poynting; chemistry, Mr. Horace T. Brown; geology, Sir Archibald Geikie; zoology, Mr. Adam Sedgwick; geography, Sir John Murray; economical science,

Mr. Henry Higgs; mechanical science, Sir William White, anthropology, Mr. C. H Read. physiology, Mr. J. N. Langley; botany, Sir George King.

The Hospital Ship "Relief" sailed from Manila on June 22d for San Francisco with two hundred and fifty invalided soldiers on board.

Orrhotherapy of Cancer.—It is reported that Drs. Roquette and Lebro, of the Belgian Royal Academy of Medicine, have perfected a serum for the cure of carcinoma. The claim for efficacy of the remedy is said to rest upon the results of experiments upon some twenty horses.

An Investigation of Christian Science.—At the June meeting of the Medico-Legal Society, held in this city a few days ago, the president was authorized to appoint a committee to investigate the methods of Christian Science healers and to determine as to the necessity of a law to put a stop to their practices.

Sunstrokes in New York.—For the week ending June 10th, with the temperature at 95 F. at its highest point and a mean of 78 F. night and day, there were eighty-five cases of death from sunstroke. In the corresponding period of last year there were then only three cases of death from the same cause. Through the month of June, 1896, there were thirty deaths from sunstroke. A mortality from sunstroke during the early part of June, such as the city lately experienced, is of rare occurrence.

The Proof of Immortality.—Professor Hyslop, of Columbia College, is said to have become convinced of a future life through the revelations of a medium, but an English contemporary announces a much more convincing demonstration. We read in *The Scalpel* for May, 1899, that the address on surgery at the approaching meeting of the British Medical Association will be delivered by Mr. Greig Smith. As the gentleman mentioned died in June, 1897, his appearance at this time as an orator before the assembled physicians of Great Britain and Ireland should be sufficient to convince the most materialistic of sceptics

Missouri State Medical Association.—At the annual meeting of this association, held at Sedalia May 16th and 17th, the following officers were elected to serve for the ensuing year *President*, Dr. W B. Dorsett, of St. Louis, *First Vice-President*, Dr B. F. Binnie, of Kansas City, *Second Vice-President*, Dr. G. M. Nichols, of Higbee, *Third Vice President*, Dr. C. W. Overstreet, of Sedalia, *Fourth Vice-President*, Dr. C. R. Day, of Mayview, *Fifth Vice-President*, Dr E. L. Priest, of Nevada: *Recording Secretary*, Dr. B. C. Hyde, of Kansas City, *Assistant Recording Secretary*, Dr. J. S. Myer, of St. Louis, *Corresponding Secretary*, Dr. E. S Cave, of Mexico; *Treasurer*, Dr. J. F. Welch, of Salisbury. The next meeting will be held in the town of Mexico, Mo.

The End of the Case against Dr. Cleaveland.—The case against Dr. Trumbull W. Cleaveland, who was arrested again some time ago after the failure of two indictments against him on the charge of causing the death of an infant in April, 1897, by prescribing for her excessive doses of salol and resorcin, was dismissed last week by Magistrate Wentworth. No two of the medical experts called as witnesses for the prosecution at the preliminary examination agreed as to the cause of the child's death. One said the death of the baby was caused by the salol and resorcin; another said he did not think it was; another said the cause of death was croupous pneumonia, and still another thought it was heart failure. After such a mass of conflicting testimony, Dr. Cleaveland's counsel did not put in any evidence for the defence, simply moving that his client be discharged. The magistrate granted the motion. Of course there could be no other termination to the case, and Dr. Cleaveland is to be congratulated upon the end of his persecution.

Dr. Frederick A. Cook, of Brooklyn, has returned from the Antarctic region, where he has been for over a year, having gone as surgeon and anthropologist to the Belgian Antarctic expedition.

Yellow Fever at Panama.—Over forty cases and twenty deaths from yellow fever were reported at Panama during the months of May and June. Colon, on this side of the isthmus, has remained entirely free from the disease.

American Physicians in Cuba.—A petition has been presented to General Brooke from a number of physicians in Havana, praying that Americans be not allowed to practise medicine in Cuba without passing a licensing examination.

The Plague on a Pacific Steamship.—The steamer *Nippon Maru*, which reached Honolulu on June 17th, was held in quarantine on the report that a death had occurred three days before of bubonic plague. The steamer was quarantined for a week at Nagasaki because of a suspicious death. A second death occurred three days before the vessel reached Honolulu. The ship surgeon displayed the yellow flag on arriving, and Drs. Day and Carmichael found, after an exhaustive examination, evidences of bubonic plague bacilli The body was cremated and the steamer ordered into quarantine for a week.

The Society for the Prevention of Cruelty to Children.—The supreme court of this State has decided that the State board of charities has the right to inspect and to assume a general supervision over the Society for the Prevention of Cruelty to Children. The lower courts some time ago decided that the board had the right to inspect the books, papers, grounds, and buildings of the Society for the Prevention of Cruelty to Children in so far as they appertained to the care of abused or neglected children. The society appealed against this decision, and has come out worse than before, for now it has been decided that the State board should have control over all the workings of the institution.

The Lapses of a Contemporary.—In the issues for June 10th and 17th of a Quaker City "medic journal, whose stone man was recently convicted of lifting items from our columns, is a report of the annual meeting of the American Surgical Association at Chicago. This was prepared by the official reporter of the

association and sent in duplicate to several of the weekly medical journals, but was asserted by our veracious contemporary to be "from our special correspondent." The same paper for June 17th contained four items, purporting to be original editorial articles, which were absolutely literal reproductions, without credit of course, of portions of a letter previously published under the head of "special correspondence" in the *Boston Medical and Surgical Journal*. Some time ago the now backslidden editor of this same immoral weekly confessed—we doubt not with all the sincerity at the time of a Salvation Army convert—"It is an appropriate time to quit lying in medical journalism."

**Navy Department,** Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending June 24, 1899. June 16th.—Surgeon L. W. Atlee detached from the *Boston* and ordered to the *Bennington*. Passed Assistant Surgeon B. R. Ward detached from the *Bennington* and ordered to the *Boston*. Assistant Surgeon F. M. Furlong detached from the *Independence*, June 30th, and ordered to the *Solace* temporarily, for passage to the Asiatic station. June 20th.—Surgeon C. G. Herndon on completion of temporary duty at recruiting rendezvous at Chicago, Ill., Cleveland, Ohio, etc., ordered home to wait orders. June 22d.—Medical Inspector R. A. Marmion detached from the Washington navy yard, July 1st, and ordered home to wait orders. Surgeon S. H Dickson ordered to the Washington navy yard, July 1st.

**Gladstone's Bird Eye.**—An English journal of the icteric type recently published a notice of Mr. Gladstone, in which it mentioned, as a partial explanation of his power in debate, that he had nictitating membranes in each of his eyes, and that he could by winking them during argument so startle his opponent as to leave him speechless.

**Cancer and the Water Supply.**—Mr. Alfred Palmer, a civil engineer, writes as follows to the editor of *The Practitioner*. "Referring to your articles upon the 'Cancer Scourge' which have been so freely commented upon in the various newspapers, I happened to work on the survey of the proposed railway from Athens in Greece to the Turkish frontier, and while stationed at Thebes I understood from several Greek medical men educated at Paris that the city was practically free from cancer on account of its pure water supply, as well as the geological formation of the surrounding country, which I should say is largely 'silurian.' At any rate, it would not take very long for a few English medical experts to make an investigation."

**Isolation of Lepers in Cuba.**—The sanitary authorities of Havana have ordered the sequestration of all lepers in the city, and up to the end of April ten or twelve, some of them of well-to-do families, have been apprehended and confined in the San Lázaro Hospital. This hospital, we learn from the *Archives de la Policlinica*, as well as others in Santa Clara and Puerto Principe, are asylums for lepers who voluntarily seek their protection. But confinement there has not hitherto been obligatory, nor was the isolation complete, as the patients were always allowed to go out during certain hours without any restriction on their movements.

**The Late Dr. Henry E. Crampton.**—The following resolutions were adopted at a meeting of the Harlem Medical Association, held June 12th:

"The members of Harlem Medical Association, having heard with deep regret of the death of their late associate, Dr. Henry E. Crampton, desire hereby to express their appreciation of his upright, kindly, and cheerful character, and of the great loss which the profession has suffered in the untimely removal of one of its members, who was more than ordinarily prominent in many fields of usefulness to his fellowman outside of the purely professional round of duties.

"The association desires further to express the deepest sympathy with the near relatives of the doctor, upon whom the loss of husband and father falls most heavily, and who could appreciate the beauty and sweetness of his character.

"*Committee*, Richard Van Santvoord (*Chairman*), J. C. Joseph Bird, Joseph E. Lumbard."

**Obituary Notes.**—Dr. Walter M. Wright, of Orange, Mass., died on June 24th, at the age of fifty-three years. He was medical examiner for the Eastern District of Franklin County, and also a member of the board of Franklin County pension commissioners. He was an alternate to the St. Louis convention three years ago. He was graduated from Dartmouth Medical College in 1874, and had practised medicine in Orange for twenty years.—Dr. Ira De Witt Brown, of Weedsport, N. Y., died on June 23d, at the age of sixty-eight years. He was born in Vernon, N. Y., and was graduated from the Albany Medical College in 1865. Most of his life-work was in journalism. He was city editor of the Utica *Herald* for several years, and was afterward editor of the Oswego *Times*. He was for some time Albany correspondent of the New York *Tribune*, and also legislative reporter of the Albany *Journal*. At the time of his death he was editor of the *Cayuga Chief*.—Dr. William J. Scott died on June 18th, at Philadelphia, at the age of thirty-two years. He was born at Bloomsburg, Pa., and was a graduate of the medical department of the University of Pennsylvania in the class of 1892, and also of the Philadelphia College of Pharmacy. He had been a member of the Common Council.—Dr. Lulu C. Fleming died at Philadelphia on June 20th, of sleeping-sickness acquired in medical missionary work in Africa. She was graduated from the Woman's Medical College in 1894.—Dr. Henry G. P. Spencer, of Watertown, N. Y., died on June 27th, in Minneapolis. He was seventy-eight years old, and was graduated from the Jefferson Medical College in 1846.—Dr. James O'Reilly, of this city, died on June 26th. He was born in Ireland in 1828. He first studied for the priesthood but later took up medicine in Dublin. He came to this country about fifty years ago.—Dr. Frederick W. Fabricius, acting assistant surgeon United States army, died at Santiago on June 25th, of yellow fever.

# Reviews and Notices.

TWENTIETH CENTURY PRACTICE. An International Encyclopædia of Modern Medical Science. By Leading Authorities of Europe and America. Edited by THOMAS L. STEDMAN, M.D., New York City. In twenty volumes. Volume XVII., Infectious Diseases and Malignant New Growths. New York. William Wood & Co. 1898.

THE "unforeseen difficulties" in the preparation of Volume XVI., which rendered it necessary to issue the present number in advance, have been the means of giving us thus early what in many respects is the most interesting number so far published. The questions brought up in the various articles are all practical and alive, and they have been discussed from a most practical and at the same time strictly scientific standpoint. An enumeration of the subjects will indicate at a glance how very timely the volume containing them seems to be, since they all might be classed under what have been called "burning questions of the day".

1. "Diphtheria—General Pathology and Bacteriology," by William Hallock Park, of New York; "Symptomatology and Treatment," by A. Jacobi, of New York. 2. "Tetanus," by Victor Babes, of Bucharest. 3. "Cancer—General Pathology," by W. Roger Williams, of Bristol, England; "Symptomatology and Treatment," by William B. Coley, of New York. 4. "Sarcoma—General Pathology," by W. Roger Williams; "Symptomatology and Treatment," by William B. Coley. 5. "Malignant New Growths of the Skin," by John T. Bowen, of Boston. 6. "Malignant Diseases of the Female Organs of Generation," by Edward McGuire, of Richmond, Va. Each contributor has done his work not only well, but has presented his subject in an interesting style, the pages being replete with personal experiences which are well calculated to hold the reader's attention. Unlike some works of first magnitude which have burst upon the literary horizon of medicine during the last few decades, this one does not appear to be falling off as the end draws near.

The work of both contributors and editor is deserving of favorable notice, and the latter is worthy of felicitation upon the fact that, if he cannot give us the volume whose number fits into the serial, he at least is usually ready to issue as good a number as the one looked for.

INTERNATIONAL CLINICS. Vol. IV., Eighth Series, January, 1899. Philadelphia: J. B. Lippincott & Co. 1899.

THIS latest volume of the well-known serial to which we have frequently directed attention, holds its own with its predecessors in practical medical and surgical value. Glonoinism is discussed in the first lecture, and those that follow, including the treatment of chancre, corneal ulceration, ulceration of rectum and colon, constipation, cerebral hemorrhage, hæmoptysis, hydrocele, tuberculosis, and many interesting articles on the special branches of medicine, neurology, surgery, gynæcology, ophthalmology, dermatology etc., are of the usual grade of excellence, and give a large amount of useful information in a pleasing, readable form.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia, Physician to the Jefferson Medical College Hospital. Laureate of the Royal Academy of Medicine in Belgium, of the Medical Society of London, Corresponding Fellow of the Sociedad Española de Hygiene of Madrid, Member of the Association of American Physicians, etc. Volume I., March, 1899. Surgery of the Head, Neck, and Chest—Diseases of Children—Pathology—Infectious Diseases, including Croupous Pneumonia—Laryngology and Rhinology—Otology. Philadelphia and New York: Lea Brothers. 1899.

THE scope of this work, of which the first volume is now issued has been set forth in the announcement published during the last few months in all the medical journals. The aim has been to make each editor tell his story of advance in the particular branch entrusted to him, in "a pleasing, easy style, stamped as much as possible by his own personality and modified by his own experience. The staff includes some very well-known names. The advances pertaining to the surgery of the heart, neck, and chest are cared for by J. Chalmers Da Costa, M.D., of Philadelphia, the diseases of children, by Alexander D. Blackader, M.D. of McGill University of Montreal; pathology, by Ludvig Hektoen, M.D., of Rush Medical College, Chicago, infectious diseases, including croupous pneumonia, by William Sydney Thayer, M.D., of Johns Hopkins University, laryngology and rhinology, by A. Logan Turner, M.D., F.S.C.S., Edinburgh, and otology, by Robert L. Randolph, M.D., of Johns Hopkins University, of Baltimore.

The chief objection to the editor's scheme is that one must wait a whole year for the completion of what is in reality a year-book. The subject one wishes to look up will usually be in one of the volumes to come out later. As to the quality of the book, that in the first volume leaves nothing to be desired.

SEXUAL IMPOTENCE: Its Pathology and Treatment. By VICTOR G. NECKI, M.D. From the author's second German edition. Revised and rewritten. Philadelphia: W. B. Saunders. 1899.

THIS work does not follow unswervingly in the footprints of those previously written upon the same subject. The author has preferred his own ideas, drawn from observation, experience, and experimentation, to those views of others which he might have copied from already published sources. To be sure, all the author's theories have not been universally accepted, but the work was read, and a second edition was necessary, and the present English version will undoubtedly receive the attention it deserves.

ESSAYS FOR STUDENTS. By STEVEN PAGET, F.R.C.S., etc. New York: William Wood & Co. 1899.

THIS volume consists of a series of interesting clinical talks, rather than essays, primarily designed for instructing students, but containing matter useful to the more experienced. The first half of the book is devoted to descriptions of cases of various surgical conditions, especially such as are seen in an active hospital practice, and the remainder to an epitome of the methods of examination in aural surgery, with instruction in the pathology and treatment of the conditions most often met with in that branch. The book is entertainingly written, and ought to be useful to the advanced student.

LE TETANOS. Par J. COURMONT ET M. DOYON. Avec quatre figures dans le texte. Paris: J. B. Baillière et Fils. 1899. Les Actualités médicales.

THIS is an interesting little review of the etiology, symptoms, and treatment of tetanus in man and animals, and it contains much up-to-date information. The part which will attract most attention is that devoted to the preparation and use of the antitoxic serum. The instructions are detailed enough to make the book useful in the laboratory, and the author's conclusions are such as will encourage us. We note that it is stated that the serum retains its antitoxic properties for a long time. There is a satisfactory bibliographical index.

ON FRACTURES AND DISLOCATIONS. By DR. H. HELFERICH, of Greifswald. Illustrated with 68 plates and 126 figures in the text, drawn by B. KEILITZ. Translated from the third edition by J. HUTCHINSON, JR., F.R.C.S., Surgeon to London Hospital. New York: William Wood & Co. 1899.

THIS translation of Helferich's work into English certainly adds a very useful handbook to those in our language. The book depends largely for its instructing qualities upon illustrations which are good, and colored plates which are excellent, and upon text descriptions, remarkably concise, considering the Teutonic source. The book is much stronger from the pathological point of view than from the therapeutic, though at least one satisfactory method of treatment is given for each condition. This is, however, not necessarily an objection to such a work and in some ways is distinctly a desirable quality. Many of the plates show more than many pages of text possibly could, and for the student this is a great attraction. On the whole, it forms a very excellent handbook upon the subject of fractures and dislocations, and also a good work of reference although the bibliography of the subject is not gone into to any great extent. The translator's work is, as a rule, well done.

# Society Reports.

## AMERICAN MEDICAL ASSOCIATION

*Fiftieth Annual Meeting, Held at Columbus, Ohio, June 6, 7, 8, 9 and 10, 1899.*

### SECTION ON DISEASES OF CHILDREN.

*First Day—Tuesday, June 6th.*

THE meeting was called to order by the chairman, DR. HENRY E. TULEY, of Louisville, who then delivered the annual address.

**Progress in Pædiatrics.**—Under this caption Dr. Tuley discussed a number of subjects of interest to pædiatricians. He stated that Dr. William Shippen in 1762 had been the first to deliver lectures on the diseases of children. In connection with the advances made in teaching this branch of medicine, reference was made to the recent establishment and endowment of the "Jacobi ward" in the Roosevelt Hospital, New York City, for the clinical study of pædiatrics under that great pioneer teacher, Abraham Jacobi. The "O'Dwyer Memorial," he said, was to take the form of a fund sufficient to stimulate original research in the department of pædiatrics, thus patterning after the life-work of the man whose memory it was desired to perpetuate. In reviewing the subject of infant feeding, it was interesting to note with what unanimity cow's milk had been recognized and advocated as the best substitute for mother's milk. The milk laboratory had come to stay, but there was a useful field for the home modification of milk. For this purpose the method of Dr. W. L. Baner would be found at once simple and satisfactory. Touching upon pneumonia in children the speaker said that lobar pneumonia was now regarded as a self-limited disease, and we had learned that cold was preferable to the use of antipyretic drugs in controlling the hyperpyrexia. He had seen some excellent results from the use of ice in cases of pneumonia. The pulse should be the guide in the use of stimulants. Regarding the diagnosis of pertussis Wagner was quoted as claiming that the diagnosis could be made quite early by bacteriological examination of the nasal secretions. In this disease these secretions contained a natural pure culture of "polbacteria." Some doubt had been thrown recently on the harmlessness of the well-known method of Credé for preventing ophthalmia neonatorum. A number of authors had reported cases in which the two-per-cent. solution of nitrate of silver, instilled into the eyes, had been the cause of a severe conjunctivitis, or had produced a haziness of the cornea. It was possible that protargol and argol might be found efficient and safe substitutes for silver nitrate. The work of various physicians, and notably of Dr. William Cheatham, of Louisville, had raised the question as to the advisability of isolating children suffering from inflammatory conditions of the middle ear, in view of the frequent demonstration, by bacteriological examination, of pneumococci and other cocci in the discharges. In closing, reference was made to the very gratifying statistics, both here and abroad, from the antitoxin treatment of diphtheria, to certain American modifications of O'Dwyer's tubes, and to the interesting observations of Dr. Christopher, of Chicago, with his ergograph, relative to vitality and fatigue in individuals, and their bearing on education.

**The Death-Dealing Long-Tube Nursing-Bottle.**—DR. ERNEST WENDE, of Buffalo, presented a paper on this subject embodying the results of his investigation, by bacteriological, chemical, and microscopical examinations, into the structure of the tubes and the opportunities they afforded for the propagation of germs. He found that the tubes were manufactured from a porous variety of rubber, and that these pores, as well as the seams in the tubes, allowed of the accumulation of coagulated casein, and thereby became the breeding-grounds for bacteria. It was impossible to sterilize such tubes efficiently, and hence the long-tube nursing-bottle should be unreservedly condemned, and its sale prevented as far as possible.

DR. NORBERRY, of Jacksonville, Ind., remarked that there was good reason to believe that the same objections applied to the use of the ordinary rubber nipple.

DR. WENDE replied that of course this was true, but the nipples could be kept reasonably clean, which was not the case with the long tubes. Inquiry had shown that about one in ten of the infants dying in Buffalo of cholera infantum had been fed from the long-tube nursing-bottle. It was significant, therefore, that since the ordinance had been passed prohibiting the use of this form of bottle, the death rate from cholera infantum had been reduced one-half in that city.

**Constipation in Infants.**—DR. H. M. MCCLANAHAN, of Omaha, read this paper. He stated that the real causes of infantile constipation might be conveniently grouped under two heads, viz.: (1) The quantity, quality, and method of feeding, and (2) the anatomical condition of the colon. Under the first group could be classed nine out of the twelve cases forming the basis of his study of this subject. Of this number, seven had been bottle-fed, and all of these children had received food which was deficient in fat. In the two breast-fed babies the mother's milk was about normal in quantity, but there was an excess of casein. Of the three remaining cases the constipation began at birth, and had persisted in spite of treatment continued for months, and in none of these had the constipation been at all influenced by any modification of the food. These latter were apparently cases of anatomical constipation—that variety long ago pointed out by Professor Jacobi. The diagnosis in these cases must be made by exclusion. In the first group the question of regulating the diet was of the greatest importance. The character of the stools should be carefully noted, and when they were light colored and dry the casein should be decreased. In two of the cases the addition of a teaspoonful of malt extract to each feeding was of decided benefit. The general rule was to decrease the casein and increase the fat. When the discharges were coated with mucus, it was advantageous to prescribe the resin of podophyllin in doses of one-fortieth to one-twenty-fifth grain. Another excellent remedy was a saturated solution of phosphate of sodium flavored with lemon juice. In these cases massage of the abdomen and of the entire body was very useful. In the cases of the second class neither food nor medicine was of avail—indeed cathartics were often distinctly harmful. The speaker said that he had no doubt that by gentle manipulation with the finger in the rectum the folds of the rectum could be opened out, thus affording some relief to the constipation in addition to helping in the establishment of the diagnosis. Injections were useful in these cases, and they were best given by passing a lisle-thread catheter through a cork into the bowel for about two inches, the cork being pressed against the anus while the injection was being given. This treatment must be continued for many months.

DR. C. G SLAGLE, of Minneapolis, said that it was particularly difficult to treat constipation occurring in breast-fed infants because of the necessary limitations to modification of the food. With bottle-fed infants the addition of a little sweetened oatmeal water would be sufficient. An important element in the production of infantile constipation he had found to be the com-

mon practice of dosing these little ones with paregoric or various carminative teas, or with castoria.

Dr. Lawrence, of Washington, D. C., said that when there were alternately diarrhœa and constipation the cause was usually to be found in an excess of proteids. Here it was useful to give essence of pepsin, ten or fifteen drops, after nursing, and also to resort to abdominal massage. An excellent plan to secure an action of the bowel at a regular time was by the insertion of an oil-paper suppository. The constipation of bottle-fed infants was very commonly the result of a deficiency of fat in their food, and hence the rational treatment embraced the addition of cream or butter. All forms of teas should be strictly prohibited, and in older children too much potato should not be allowed.

Dr. J. A. Work, of Elkhart, Ind., said that the regular and free evacuation of the bowel presupposed active peristalsis, yet, in his opinion, this free action of the circular muscular fibres of the gut was often materially interfered with by swathing the infant in a tight bandage.

Dr. E. D. Cheseboro, of Providence, R. I., emphasized the part played by fat in securing a regular action of the bowel. Undoubtedly the percentage of proteids exerted a strong influence, but the proportion of fat was equally important. Dr. Holt had pointed out that it was necessary to have a certain excess of fat in the fæces to prevent constipation. Acting upon this hint, he had made it a practice to increase the proportion of fat in the food, and usually with good results.

Dr. Edwin Rosenthal, of Philadelphia, said that it was Dr. Jacobi's custom when lecturing on infantile constipation to exhibit the sigmoid flexure of a child which was eight or ten inches longer than the normal, and to use this as an illustration of what he meant by anatomical constipation. In cases of this kind Dr. Jacobi advised the use of clysters, and stated that it might be three to five years before this part of the bowel came sufficiently near to the normal to put an end to the constipation.

Dr. Harriet E. Garrison, of Dickson, Ill., said that while water was a useful addition to the diet of a constipated infant, it should be remembered that pure water would be chiefly eliminated by the kidney. To obviate this, and to secure its elimination by the bowel, she advised adding a little carbonate of sodium.

Dr. R. C. Moore, of Omaha, also emphasized the importance of increasing the proportion of fat in the food, and instanced as an example of the efficiency of this method the great popularity of the artificial food made according to the old formula of Meigs, of Philadelphia, in which cream was added. If constipated babies having white, lumpy discharges were given orange juice, they would be wonderfully benefited. The orange juice stimulated the natural secretions, thus rendering the stools of proper consistency and of a more nearly natural color. Cod-liver oil was also another very useful remedy in the treatment of infantile constipation. Cathartics were useless, and often injurious.

Dr. Leonard, of Massachusetts, said that under no circumstances did he find it necessary to resort to drugs or to mechanical treatment for the relief of infantile constipation. The food should be of proper quantity and quality, and the interval between the feedings should be at least three hours—longer would be better.

**So-Called Congenital Obliteration of the Bile Ducts.**—Dr. Frank X. Walls, of Chicago, read a paper with this title. He stated that Thompson had analyzed forty-nine cases of this kind, all terminating fatally, and had concluded that in the great majority there was at first a congenital malformation of the bile ducts, the result of defective development. This, the speaker said, had been assumed rather than demonstrated. The unequivocal evidence of biliary obstruction, *i.e.*, jaundice, had not been observed in a large proportion of the cases until at least a week after birth. This fact seemed to indicate pretty conclusively that the ducts at birth were patent. He was inclined to look upon these cases as examples of catarrhal gastro-duodenitis. In the adult, probably as a result of irritation of the intestinal canal and bile passages, a homogeneous plug became attached to the basement membrane, and completed the occlusion of the ducts. After the removal of the irritant the biliary flow might be re-established. In the case of the infant this plug did not seem to be dissolved, probably because of the absence of a proteolytic ferment. If this last theory should be adopted, all of the other phenomena observed would be easily explained. The aim of treatment should be to prevent irritation of the gastro-intestinal canal after birth, and surgical exploration was indicated as soon as the diagnosis had been established, followed by dilatation of the ducts or the establishment of an anastomosis between the intestinal and biliary tracts. Congenital biliary occlusion, the speaker said, was a misnomer; in the majority of cases there was an inflammatory condition followed by an obliterating angiocholitis.

Dr. Slagle said that he had many times met with cases in which there had apparently been obliteration of the ducts. By alkaline baths, massage, and the administration of phosphate of soda a great deal of good could be done.

**Some Thoughts on Physiological Elimination in all Pathological Conditions.**—Dr. J. A. Work, of Elkhart, Ind., read this paper, which was a philosophical essay designed to show the bearing of physiological elimination on the course and treatment of acute zymotic diseases, and on surgical operations. He asserted that the typhoid-fever patient often had to contend with three foes, viz.: sepsis, the specific germ infection, and the effect of needless and unwise medication.

Dr. E. E. Mayer, of Pittsburg, said that, while the general statement was true that physiological elimination was the basis of treatment, if this line of reasoning was to be pushed very far one would be in great danger of wandering from true science and disregarding the advances that had been made during the last quarter of a century in bacteriology, chemistry, and pathology. If one desired to treat disease strictly by physiological elimination, then it would be well to follow the advice of Oliver Wendell Holmes, and begin to treat the child by treating its grandmother. A proper appreciation of physiological psychology and physiological chemistry, in the way of treating the antecedents of the child, would do more than physiological elimination in the child itself.

Dr. Work said that chemical force was ever ready to take advantage of vital force. As an initiative procedure in all cases he would employ physiological—not pathological—elimination, just to arouse nature to her sense of duty.

**Infantile Diseases from the Standpoint of Biology.**—Dr. Joseph Clements, of Kansas City, in this paper discussed vitality, and the relation of the nutrition of the cells to the processes going on in the system, both in health and in disease.

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*Second Day—Wednesday, June 7th.*

**Hysteria in Children.**—Dr. E. E. Mayer, of Pittsburg, read this paper. He said that hysteria in children had been first described in 1748. This affection might be described as a discharge of morbid influences along the various motor and sensory paths. Improper home influences and training certainly promoted such

abnormal motor states. The brain was a passageway as well as a storehouse. The volitional centres were but little developed in children, while the imaginative ones ran riot. The well-known hysterical stigmata—the anæsthesiæ and the hysterical zones present in hysterical adults—were usually absent in children. Hysterical children were generally precocious, egotistic, emotional, and moody. Hysterical palsies were characterized by rapid and marked variations in character, and by frequent relapses. Hysterical stuttering was also often observed. Camp-meetings and spiritualistic séances were potent etiological factors. In beginning the treatment of such a case the patient should be placed in a hospital and an effort made so to occupy the child's time that there would be no time to be sick. If paralyses were present the child should be placed in a suspension apparatus, and made to walk, and while doing so should be suddenly dropped upon the feet.

Dr. Slagle expressed doubt about idiopathic hysteria being so common in children of seven or eight years as it had been represented to be. As a symptomatic affection, however, it was not uncommon. A practical point to which he directed attention was the liability of inducing hysteria in certain debilitated subjects by the administration of strychnine. In one instance in which he had been giving this drug to a young girl because of a weak heart associated with convalescence from typhoid fever, it had been a long time before he had discovered the cause of the hysteria.

Dr. Rosa Engelman, of Chicago, cited two or three interesting cases of hysteria occurring in children, including a case of hysterical joint disease associated with marked and persistent polyuria.

Dr. Gustav Blech, of Chicago, spoke of a case of hysterical aphasia that he had seen in a boy of four years.

Dr. Harriet Garrison said that, judging from an experience in a small town, she would say that hysteria was quite common among children. She had under her care at present a severe and obstinate case of hysteria that was dependent upon the administration of strychnine. It had been a long time before she had discovered the true cause, and then she had learned that every time the woman took a dose of strychnine she had a convulsion. On stopping the strychnine the convulsions ceased.

Dr. Slagle remarked that the best of all treatment for hysteria was hypnotism.

Dr. Garrison replied to this that, in her opinion, the best of all treatment was preventive, and consisted in teaching the parents to discipline their children properly.

Dr. Mayer, in closing the discussion, declared it to be his opinion that hypnotism was the worst of all methods of treating hysteria, and that, although formerly much in vogue in Paris, it was even there being quite generally discarded.

**Infantile Convulsions; Their Cause, Nature, and Management.**—Dr. C. G. Slagle, of Minneapolis, in this paper classified the various kinds of eclampsia occurring in children. He said that the transition from eclampsia to epilepsy seemed, in some cases, very easy. In some instances, convulsions indicated nothing more than a mode of dying, as in such diseases as cholera infantum, in which there were profuse watery discharges. A temperature much above 103° F, and lasting for several hours in a neurotic child, was very liable to induce convulsions. He was of the opinion that there existed in some children what might be very aptly termed "a convulsive tendency." One of the most severe cases of eclampsia that he had ever seen in a child had followed as a result of a bad scald. Opinions differed as to the influence of dentition on the production of eclampsia, but personally he could hardly recall a case in which it had seemed that the eclampsia had been fairly attributable to the eruption of the teeth. A safe rule to follow was, that dentition should not be considered as a possible cause until all others had been excluded. Probably one-half of all the cases occurring in young children could be traced to improper feeding.

Dr. A. C. Cotton, of Chicago, said that at the last annual meeting he had presented a paper entitled "Disturbed Lactation; Some Causes and Effects," in which he had directed attention to the not infrequent occurrence of convulsions, apparently as a result of the discontinuance of lactation. While the supposition was that in infants at the breast dietetic errors as a cause of convulsions could be eliminated, there were good grounds for the belief that this was an error, and that the breast milk was subject to sudden and violent fluctuations in quality. These might result from mental, hygienic, climatic, thermal, and many other influences. He had continued his observations during the past year along this line, and with the greatest care. He thought there was good evidence for believing that not infrequently undue, unusual, or excessive coitus in a nursing woman would so change the quality of the breast milk as to give rise to marked disturbance in the nursling, such as convulsions, or even, in exceptional instances, death.

Dr. Kimball, of Indiana, said that in the treatment of infantile convulsions he had derived special satisfaction from the administration of gelsemium. By its action on the cerebro-spinal centres it seemed to control the convulsion more quickly than anything else, and it was easily given.

Dr. Ewing, of Salt Lake City, said that in male children he had found an adherent prepuce a common cause of convulsions.

Dr. Foster, of Illinois, said that some physicians used stimulants and others depressants in the treatment of convulsions in infants, yet the profession did not seem to be agreed as to the pathology of the condition—as to whether the nerve cells of the brain were stimulated or depressed. Personally he believed that in the majority of cases the nerve cells were depressed, and his management of such cases was in accordance with this view.

Dr. Slagle, in closing, said that the spasm was best controlled by the inhalation of chloroform. It was always well to give an enema of salt water, both for its revulsive effect and evacuant action. It was also desirable in very many cases to give an emetic, particularly in those cases in which from the history it seemed probable that the undigested food had not yet passed beyond the stomach. He thought he got just as good results from enemas of salt water as from enemas containing bromide. Adherent prepuce was certainly a contributory cause, but he doubted if it was an exciting cause.

**Comparative Therapeutic Value of Recent Antiseptics in Pædiatric Practice.**—Dr. Gustavus M. Blech, of Chicago, read this paper. He said that the antiseptics of use in pædiatric practice could be divided into four classes, viz.: (1) Those which acted on the respiratory tract; (2) those acting on the gastro-intestinal tract; (3) those affecting the urinary apparatus; (4) those which influenced the whole organism. Urotropin was decomposed by the urine, and destroyed the bacteria in this fluid. Guaiacol carbonate was a comparatively tasteless and non-irritating antiseptic, very useful in the treatment of chronic bronchitis. Tuberculosis could be cured in its first and second stages by the antitoxic treatment, but drugs had but little curative effect in the later stages of this disease, and Murphy's nitrogen treatment had already proved a total failure. Nosophen had

been proved to be a harmless drug. Antinosin had been used in solution of 2.5 per cent. strength without producing irritation. He used it exclusively as a disinfectant and cleansing solution in the nasal passages. Eudoxin, the bismuth salt of nosin, was an excellent remedy in diarrhœa. Experiments had proved that by the action of the gastric juice stable salts of bismuth were formed. The nosophen contained in eudoxin passed on unaltered. In two cases of typhoid fever in which he had used eudoxin the stools had been rendered aseptic in about three days.

Dr. Edwin Rosenthal said that he had often prescribed for infants salol in doses of 1 gm. without observing any unpleasant effect.

Dr. Slagle said that of the many antiseptic remedies in use internally he did not consider more than three of much value. They were calomel, sulphur, and sulphite of soda.

Dr. Cotton said that he had not used the newer antiseptics very extensively, but his experience with eudoxin had been so encouraging that he proposed to employ it in the future still more frequently. He would probably not live long enough to outgrow his predilection for calomel as an intestinal antiseptic. He had used guaiacol with satisfaction both locally and constitutionally. Liquid guaiacol had served a good purpose in his hands when applied to the tonsil, and he still continued to use the guaiacol carbonate internally.

**Treatment of Septic Conditions in Children.**—Dr. Edwin Rosenthal, of Philadelphia, read a paper with this title. The paper was devoted chiefly to a consideration of the treatment of septic processes by the use of antistreptococcic serum. It was best given, he said, in a large initial dose when the temperature began to rise. It had been found to be a wholly harmless remedy in any quantity. The ordinary initial dose was 20 c.c. It had been proved that this serum could be given with advantage in immunizing doses before operations which were especially liable to be followed by sepsis. He advised using the serum in all suspected cases of septic infection, and as an immunizing agent in the class of cases just mentioned.

Dr. Dillon Brown, of New York, expressed surprise at Dr. Rosenthal's great confidence in the antistreptococcic serum, for it did not seem to him possible that any serum could be of benefit in this class of cases, as there was not a pure toxæmia.

Dr. Blech said that he had seen very favorable result from the use of a good antistreptococcic serum, and reliable authorities had reported many cases in which the temperature had rapidly fallen after the first or second injection of the serum.

Dr. Rosa Engelman said that her rather limited experience with this treatment had been, on the whole, favorable.

Dr. A. C. Cotton counselled patience in waiting for, and duly weighing, the reported results from this new treatment. He believed it was the duty of every physician in the present state of our knowledge to use the antistreptococcic serum in every case that seemed appropriate.

Dr. Rosenthal, in closing the discussion, said that before the use of antistreptococcic serum operations on the tongue and mouth were almost invariably followed by septic pneumonia, but now in cases receiving immunizing doses of the serum before operation this septic pneumonia was wholly unknown.

**Membranous Tonsillitis and Pharyngitis of Influenza.**—Dr. Rosa Engelman, of Chicago, read a paper with this title. She stated that she had succeeded in demonstrating the presence of the Pfeiffer germ in numerous cases among those on which the present communication was founded. The clinical appearance of the throat had often been like that of diphtheria, but had been differentiated therefrom by bacteriological examination. A case was cited illustrating the clinical features.

Dr. Rosenthal said that he had noted a similar appearance in the throat in cases of influenza, and Finkler claimed that it was present in 80 per cent. of the cases. On comparing the appearance of the throat in grippe and diphtheria it would be noticed that the grippe cases presented a granular appearance which was quite characteristic.

Dr. Stevens, of Detroit, spoke of some of the difficulties of making a correct differential diagnosis in cases presenting a membranous exudation in the throat, and the disagreements that often arose between the skilled clinician and the expert bacteriologist.

Dr. Davis, of Pittsburg, objected to this splitting of hairs in making the diagnosis of diphtheria, particularly as in those days it often entailed unnecessary hardships on the family by imposing upon them a rigorous and unnecessarily prolonged quarantine.

Dr. Cotton said that he had learned that von Jaksch had made nearly two hundred examinations on typical cases of influenza during the past winter, with the result that the Pfeiffer bacillus had been found in less than ten per cent. Clinical diphtheria was a thing of the past; there was no diphtheria except the pure and simple Klebs-Loeffler diphtheria, a rather rare disorder, and one that was certainly amenable to treatment. He was heartily in favor of the early use of diphtheria antitoxin, and if the symptoms did not promptly abate he would use the antistreptococcic serum.

Dr. Engelman, in closing, said that she had been unable to differentiate her cases of grippe from those of diphtheria by the appearance of the membranous exudate. Many cases of follicular tonsillitis during the past two years which had appeared clinically as tonsillitis had been proved by bacteriological examination to be Klebs-Loeffler diphtheria. Differences of opinion among bacteriologists regarding the diagnosis in a given case often arose from looking at the culture at different stages of its growth—at different hours. A few years ago it had been asserted very positively that there was no diphtheria but the Klebs-Loeffler diphtheria, yet at that time she had reported several cases in which intubation had been demanded, although it had been impossible to demonstrate the presence of the Klebs-Loeffler bacillus. We knew now that it was possible that these cases were examples of infection with the bacillus lanceolatus or pneumococcus.

**The Semeiology of the Attitude and Motor State in Children.**—Dr. S. W. Kelley, of Cleveland, presented a communication with this title. He said that disease in children was often manifested first by lessened vitality during the waking period, or by restlessness during sleep. The position in bed was also significant. The well-known apprehensiveness of the child just before a paroxysm of whooping-cough was not observed in that very similar state in which a spasmodic cough resulted from enlargement of the bronchial glands. An attitude upon the side, with the head retracted and the lower extremities drawn up, was often seen in the later stages of tuberculous meningitis. If the child lay with its head turned persistently toward the wall one would suspect inflammation of the eye, or some inflammation of the meninges. If it lay persistently on the side one would suspect pleurisy or pneumonia; but if, in a case of pleurisy, there was much effusion, the child might instead assume the dorsal decubitus. The dropping of the head forward on the breast was sometimes indicative of the paralysis which follows diphtheria. He had more than once seen rigidity of the muscles about the jaw from overdosing with nux vomica. The knee-jerks were diminished or absent in paralyses of spinal origin. It was

well to distinguish between true paralysis and the listlessness of marasmus.

Dr. Slagle said that there had been recently in his city an epidemic of typhoid fever in which the predominance of the brain symptoms had greatly puzzled the physicians in the early stages. These cases tallied exactly with what had been described as "meningitic typhoid fever." When these meningitic symptoms had passed away there had been no difficulty in recognizing the typhoid fever.

Dr. Kelley said that the great object in writing this paper had been to emphasize the fact that physicians should not forget how to use their hands and eyes, and to interpret what they discovered in this way, even though they had at their disposal many instruments of precision unknown to the skilled diagnosticians of old.

*Third Day—Thursday, June 8th.*

**Septic Conditions in Some Acute Disorders of Children.**—Dr. A. C. Cotton, of Chicago, read a paper with this title. This communication was essentially a clinical one, being largely a narration of cases selected from the author's case-books. He said that streptococcus pneumonias had been unusually prevalent during the past year in his city, and had been associated with otitis media in about seventy-five per cent. of the cases. The paper advocated advanced views regarding the zymotic disease, and especially a reform of the old and indefinite nomenclature. It elicited a general discussion on the advisability of making such changes in the terminology, and while the consensus of opinion seemed to be in favor of these changes, the more conservative thought the very object of such a reform would be frustrated if these advances were too sudden and sweeping.

**The Grippe Exanthemata.**—Dr. Harriet E. Garrison, of Dixon, Ill., read this paper. She said that during the past winter the people of her locality had been greatly interested in the decision of the question as to whether the cases of exanthemata which presented themselves were both scarlet fever and measles, or whether they were different forms of the same exanthem. A case was related in which the symptoms had been apparently those of rubella, or German measles. There was a profuse eruption like that of measles, without much constitutional disturbance, and convalescence had been well established by the following day. About this time an epidemic of grippe had developed. The second case, seen a few days later, had resembled scarlet fever very closely. There had been still another variety of the eruption, characterized by the presence of numerous papules, and its association with severe pruritus. Dr. Garrison said that she had attended two or three hundred cases of grippe and had seen otitis media in only about one-tenth of them. Apparently in the cases detailed the exanthem was simply a sequel of grippe. Sometimes the eruptions recurred after six or eight weeks, but the recurrence was always preceded by the symptoms of grippe.

Dr. Slagle was inclined to the opinion that there had been an epidemic of German measles prevailing along with the grippe, and that the diagnosis in some of the cases had been more or less obscured by the simultaneous use of acetanilid.

Dr. I. N. Love, of St. Louis, said that our knowledge of the infectious diseases seemed to justify the view that the majority of them were at times associated with rashes. Such eruptions were apparently only manifestations on the integument of some specific effect on the nerve centres produced by the toxin of the infectious disease. A similar epidemic to the one described had prevailed in St. Louis. He had seen an enormous number of cases of rubella. The bacteriological examination showed in the secretions from many of the cases of rubella the presence of the grippe bacillus. The fact had not been sufficiently recognized in the past, that grippe was an infectious disease which was peculiarly liable to attack children, and which was dangerous through its complications and a neglect to treat them properly.

Dr. Joseph Clements, of Kansas City, remarked that when the fact was appreciated that diseases consisted of vital phenomena equally with health, then a nomenclature could be adopted which would not be misleading either to physicians or to the laity.

Dr. Garrison, in closing, said with reference to the use of acetanilid that in the cases in which this drug had been given most freely no rash had appeared.

**Treatment of Scarlet Fever.**—This paper, by Dr. R. B. Gilbert, of Louisville, was read, in his absence, by Dr. Solomon. It stated that Dr. E. M. Landes, of Chicago, had recently reported a case of scarlet fever which he had successfully treated by two injections of antistreptococcic serum. The treatment should consist chiefly in guarding against infection, controlling against hyperpyrexia, attending to the consequent anæmia and to the complications. It should be remembered that the danger of infection was as great in the mild as in the severe cases. Not only should the patient be isolated, and the room be stripped of all unnecessary hangings and furniture, but dogs and cats should be carefully excluded. If the skin was kept thoroughly anointed with lard, vaseline, or lanolin the danger of infection during the stage of desquamation would be materially reduced. Moreover such applications were soothing, and tended to reduce the fever. Clothing and bedding could be best disinfected by subjecting them to the action of boiling water or live steam for a few hours. A temperature above 103° F. should be regarded as dangerous because of the disturbance of the nervous system and glandular organs. He had abandoned the use of the coal-tar antipyretics because he had found that they produced dangerous cardiac depression. The patient should drink cold water freely. The depression and shock which followed the use of the full bath were sometimes considerable, and hence it should not be employed except when there were very high fever and violent delirium. The nose and throat should be sprayed with a mixture of equal parts of hydrogen dioxide and lime water. For the control of restlessness at night chloral hydrate was useful. Opiates should be avoided because of the danger of exciting nephritis. Iron in some palatable form should be given from the outset in all cases of scarlet fever, to prevent the anæmia. He preferred to use the ammonio-citrate of iron, in doses of one grain. The patient should be nourished by the use of soup, milk, and similar foods.

Dr. Quayle, of Madison, Ohio, said that he preferred that the ointment used for anointing the body should be carbolized. It was his custom to prescribe lithia water as a mild stimulant to the kidneys, and to flush the bowel with warm water. He avoided such antipyretics as acetanilid, and was guided in the use of diaphoretics by the stage of the pulse. He prescribed the peptomanganate of iron for the anæmia.

Dr. Slagle objected very strongly to giving scarlet-fever patients antipyretic drugs, quinine, and iron. Cold water should be the chief therapeutic agent in this disease—just the opposite of the treatment for measles. The child should be given cold water, cold lemonade, cold enemata, and cold packs. The inunctions certainly reduced the temperature.

Dr. Ewing, of Salt Lake, said that his rule was to use eliminatives, such as acetate of potassium and liquor ammonii acetatis, in scarlet fever, with the object of washing the toxins out of the system. The free

ingestion of water was also important for the same reason.

Dr. Garrison said that for about eight years she had been using acetanilid freely in scarlet fever, and with the happiest results. The only unpleasant effect ever noticed had been a diminution of the quantity of urine, but even this had been entirely avoided by combining a little bicarbonate of soda with the acetanilid. Cold water was good, but the acetanilid was better, for it quieted the restlessness and made the patient feel a great deal better. Since adopting this treatment she had lost all fear of scarlet fever, had not seen otitis media, and did not expect to have any complications. Many of the cases had been severe.

Dr. Slagle remarked that he was afraid that she had not encountered any cases of scarlatina of the malignant type.

Dr. Bell, of Illinois, a health officer, inveighed against physicians as well as the laity for their great carelessness regarding the proper quarantine of scarlet fever, and for their lack of co-operation with the health authorities. In the mild cases acetanilid would do good; in the malignant ones nothing would do any good.

Dr. Solomon, of Louisville, said that for the severe headache and joint-pains the antipyretics, such an acetanilid, were beneficial, but for the muscular pains he preferred phenacetin. When the pulse was of high tension he preferred antipyrin, and never feared to give it to the youngest infant in doses of one-fourth of a grain. It favored elimination by inducing perspiration. Baths frightened many infants; moreover cold applications by contracting the cutaneous vessels tended to produce internal congestion—something which should be avoided because of the tendency in this disease toward congestion of the kidneys. He often prescribed scoparius to relieve the passive congestion of the kidneys, and in doses of one teaspoonful of the decoction it acted admirably. He also favored the use of cholagogues, such as phosphate of soda and cascara.

## NEW YORK ACADEMY OF MEDICINE.

*Stated Meeting, June 1, 1899.*

William H. Thomson, M.D., President.

**Treatment of Summer Diarrhœa in Infants.**—Dr. Henry D. Chapin read a paper on this subject. He divided its consideration into three parts, viz.: (1) The preventive treatment; (2) the dietetic, and (3) the medicinal. Too frequent feeding was asserted to be a common underlying cause of infantile indigestion, and the giving of too large a quantity of food in the bottle is another factor. In hot weather fermentation of the food, added to the depression of the infant's vitality resulting from the heat, gave rise to summer diarrhœa. In this locality July gave much the highest death rate. By the time that July arrived there had already been several weeks of continuous heat. Infants under two years were the greatest sufferers, but preventive treatment, if properly carried out, would do much to mitigate this veritable scourge. Cleanliness of the city streets and watchfulness of perishable food products were important sanitary measures. If the dairy could be properly supervised and the milk delivered to the city consumer within twelve hours after milking, there would be very little summer diarrhœa. Another way that the city could help in this work was by providing parks and planting many shade trees in the streets. It had been shown by Dr. Stephen Smith that the most healthful average temperature was 54° F. Extra cleanliness in the domicile was equally important. The milk should be pasteurized or sterilized, and then placed on the ice. Diapers should be removed as soon as soiled and placed in a solution of chloride of lime. The rooms were often kept needlessly warm by a lack of attention to the exclusion of sun and letting in the fresh air. Babies were frequently too warmly clad. Day excursions to the seaside were useful, but in considering them due weight must be given to the possible harmfulness of fatigue and improper care of the food taken on such trips. As the maximum heat occurred between the hours of two and five o'clock in the afternoon, it was often well to direct that the little ones be allowed to play in a bath-tub in tepid water for two or three hours during this hottest part of the day. In his experience, pasteurization or sterilization of milk was largely unnecessary, unless perhaps for a short time in very hot weather. During an attack of acute summer diarrhœa, bearing in mind that the majority of these cases were really examples of milk poisoning, milk should be excluded, and very little nourishment given. It was folly to force milk upon a baby at a time when its digestive powers were weakened or arrested. When it was necessary to withhold milk for any length of time, egg water might be used. It could be made by stirring the white of a fresh egg in a glass of cold water, and to overcome the tastelessness it was well to add a few drops of aromatic spirits of ammonia. Thin gruels made from barley or wheat flour and cold whey were also useful substitutes for milk. When cow's milk had to be excluded for several days, mutton broth with the fat removed would be found a useful addition to the diet. The resumption of milk must be tentative, and the milk given at long intervals and diluted five or six times with sugar water. He had made a series of laboratory experiments recently upon a dog with a gastric fistula, using liquid rennet and various mixtures, such as milk and water and milk and barley water. Some physicians objected to the addition of cereals, on the ground that they were too prone to ferment, but this could be entirely overcome by using some good preparation of dextrin. Astringents, antiseptics, and opiates were now but little used in the treatment of summer diarrhœa. A prerequisite to success was a thorough cleaning out of the intestinal tract. If there was much vomiting, draughts of tepid water might be given; and when rejected they would sufficiently wash out the stomach without resort to the stomach tube. He was accustomed to clear out the bowel by the administration of tablet triturates of one-tenth of a grain of calomel, given every hour for six or eight doses. Castor oil was also useful. Irrigation of the lower bowel with decinormal salt solution would favor elimination, and would secure the removal of mucus and fermenting milk. The drug that he had found most useful was the subnitrate of bismuth in large doses. A baby of six to twelve months could take ten to twenty grains of subnitrate of bismuth every two or three hours. He had seen no advantage in using the other preparations of bismuth. Most of the so-called antiseptic remedies had irritating qualities, and on this account should not be used, or used only very sparingly. Small doses of aromatic spirits of ammonia would stimulate the mucous membrane and refresh the infant. He gave alcohol very sparingly now in these cases, as it seemed in most instances to diminish the digestive power. Of course, when there was great prostration free stimulation would be required. Opium should never be given combined with other drugs—indeed, diarrhœa mixtures of all kinds were to be deprecated. Opium should not be given until the alimentary tract had been cleared out. When there were rapid peristalsis and profuse glandular secretion a few doses of opium were most valuable, and would sometimes save life.

**Disseminate Information among the Ignorant.**—Dr. L. Emmett Holt said that he thought more stress might be laid upon one means of prophylaxis, *i.e.*, the dissemination of literature in the tenements. These people were grossly ignorant of all dietetic matters, and especially regarding infant feeding. The experiments described by Dr. Chapin did not seem very conclusive. In his opinion, the clinical fact was well established that dilution of the proteids of milk with some kind of carbohydrates did have a very advantageous effect on digestion. The best and most careful work on this subject had been done by Arthur Keller. The carbohydrates, merely by their presence, seemed to prevent largely the putrefactive decomposition of the proteids of milk. The most common mistake made in private practice was to temporize during the first few hours with a case of summer diarrhœa, the child not appearing to be very ill. The rule should be to stop food at once and completely. The condition was primarily one of acute intoxication; hence the stomach and intestine should be evacuated as soon as possible.

**Irrigate the Bowel Often.**—He would lay stress on the value of irrigation of the bowel in bad cases four or five times daily. The presence of fluid in the colon would cause a contraction of the ileum, and within a short time the colon would be again filled with material from above. The water should be at first at a temperature of 100° F. or a little higher. Before finishing the irrigation it might be well to allow the temperature to sink as low as 75° F. Instead of giving these children food they should be given small quantities of sterile tepid water at short intervals. The later treatment of these cases was always unsatisfactory. One fact often overlooked was, that sterilized milk did not long remain sterile when put into an intestine that was already infected; hence sterilized milk must be excluded also in these cases.

Dr. A. Jacobi said that it was a great satisfaction to him to hear the previous speakers bring forward and indorse certain truths that he had been teaching for the past thirty years. The admixture of milk and barley water certainly did improve the flocculency of the curd. This teaching was gradually gaining ground, as was shown by the literature from abroad. Twenty-seven years ago the board of health of New York City had printed in different languages and distributed leaflets giving much needed information to the poor regarding the care and feeding of infants, particularly during the heated term. He had been responsible for the information contained in these leaflets, which had been distributed up to a very few years ago. He had originally advised that the milk should be boiled with a little bicarbonate of sodium, but he now considered this a mistake, because this alkaline fluid afforded a better culture medium for the bacteria. The statement had been made that a German observer had recently discovered that the cereals, by their presence, prevented putrefaction of milk, but this was not new, as he had seen it mentioned in books many years ago. The acids of the cereals accomplished in the lower part of the intestine what the hydrochloric acid did in the upper part.

**Starch and Infantile Digestion.**—The old objection to these cereals that they contained starch, and that the starch could not possibly be digested by a young infant, was now known to be untenable. Even granting, for the sake of argument, that it was so, it was of no importance, for even if a little starch was left undigested in the intestine it would do no harm; there were many other things in the intestine which were not digested. For instance, the normal fæces of a healthy breast-fed baby contained from eight to twelve per cent. of undigested fat. But it had been known for twenty-five years that starch could be digested by a very young infant; many experiments had demonstrated that the saliva of such an infant could digest the starch, and particularly the starch of oats and barley. The parotid gland of the healthy fœtus contained a material for dextrinizing starch. The pancreas, it was true, did not begin this function until the child was one month old, and it was not fully developed for two months more.

**Rapid Cooling after Sterilization.**—Dr. H. Koplik laid still greater stress on the preventive treatment, and asserted that the dietetic management alone was often sufficient to check a summer diarrhœa in its incipiency. He was surprised that the reader of the paper had brushed aside so lightly the sterilization of milk. If the milk could be brought quickly to the consumer it would be all very well to pasteurize it and keep it on the ice, but these conditions could rarely be fulfilled, and hence in the summer the milk should not only be sterilized, but it should be rapidly cooled, as he had recently learned that this rapid cooling largely prevented the separation of the fat. He agreed with the other speakers as to the value of cereals, but stated that they were not tolerated by many infants. The great point was to give the nourishment highly diluted. He had been surprised at the popularity of calomel for the preliminary emptying of the gut, as he had been afraid that its action on the kidneys might be prejudicial. Castor oil was good enough for him. He would never advise the use of opium in summer diarrhœa.

**Supply Water to the System.**—Bathing was a useful prophylactic, but the principal thing in the actual treatment of the condition was irrigation of the bowel, for it not only stimulated peristalsis and cleansed the gut, but supplied to the system the water so rapidly lost. The stiff rectal tube would be found the most convenient for this purpose, and the reservoir of fluid should not be more than one or two feet above the patient's body. It was well to leave a pint or more of decinormal salt solution in the bowel.

**Pasteurization Not Sufficient in Summer.**—Dr. Walter Lester Carr said that in the preventive treatment nothing was so important as the complete withdrawal of milk. If this were done, the return to diluted milk could be made much more quickly than if diluted milk had been allowed for a time at the beginning. Perhaps the next measure in importance was the irrigation of the bowel with decinormal saline solution. In a certain number of instances pasteurized milk did not do so well as sterilized milk in summer.

**Nutritive Value of Dextrose.**—Dr. Graham Lusk said that about five years ago he had done some experimental work in his laboratory in conjunction with Dr. Sanford. One young pig had been fed on skimmed milk alone; another on milk containing two per cent. of sugar, and a third pig had been fed on a similar quantity of milk containing dextrose. The first pig had remained thin and poorly nourished. The second pig had increased in weight, while the third pig had done very much better than the other two. Dextrose itself, which was the normal blood sugar, was useful in the young animal. This dextrose could be obtained from the dextrins themselves, as illustrated in the experiments referred to by Dr. Chapin.

Dr. Chapin closed the discussion. He stated that in his experience the majority of infants tolerated milk diluted with the cereals much better than when it was diluted with water alone. The digestion of babies fed for many weeks on sterilized milk was not so good as when they were fed on pasteurized milk, but after all the great advance of the future would be in securing fresh and clean milk.

SECTION ON OBSTETRICS AND GYNECOLOGY.

*Stated Meeting, May 25, 1899.*

BROOKS H. WELLS, M.D., CHAIRMAN.

**Removal of a Kidney and the Whole Ureter for Tuberculosis.**—DR. E. J. ILL, of Newark, presented a kidney which he had just removed by operation from a woman who one year ago had begun to suffer from pain in the left groin, radiating into the left iliac fossa. Last February she had begun to be troubled with painful and frequent micturition, but it had not been until three weeks ago that the urine had been examined for tubercle bacilli, and these organisms had been found. Two weeks ago she had come under his care, and examination had shown a few tuberculous ulcerations in the bladder, and a swelling and thickening about the left ureter. To-day he had removed the diseased left kidney through a horizontal incision, about four inches in length, located in the flank. By a supplementary incision the ureter had been followed as far down as the ovarian artery, and then it had been severed with a cautery after having been ligated on either side of the point of section. The application of the ligatures had been facilitated by an incision through the vagina. The insertion of the ureter in the bladder had been reached by dragging on the lower ligature. It had then been ligated and sewed into the vagina, so that practically all of the ureter had been removed down to the bladder. Through these two small incisions he had followed the whole course of the ureter with ease.

DR. BALLERAY presented several tumors. The first one had been removed from the clitoris and nymphæ by ligation and excision. The tumor was cystic, but its exact nature had not yet been determined. The second tumor was a lipoma removed from the thigh. The third was a blood cyst of the ovary that had formed quite rapidly. The patient had stated that she had flowed more profusely than common at her last menstruation, and that there had been an irregular flow once or twice since that time. When first removed the tumor had been a translucent cyst filled with bloody fluid. The next specimen consisted of the tubes and ovaries from a case in which the adhesions had been extensive, and after separating them there had been so much trouble in controlling the bleeding that he had been on the point of removing the uterus. The ovary contained a small abscess. The next specimen was a small fibroid tumor. The speaker said that he had seen eleven cases of fibroids within the past three months. In several of these, although the growth had been quite small, the hemorrhage had been remarkably profuse. Another specimen was a pyosalpinx which he used as a text for a plea that these cases should be operated upon before there had been one or more attacks of peritonitis. The patient from whom this specimen had been taken had been using large quantities of morphine at the time of the operation, but within two weeks this habit had been entirely stopped. The last specimen was a large fibromatous uterus removed from a woman who until recently had not been aware that she was carrying any abdominal growth. She was a large woman, weighing about two hundred pounds. She had always menstruated freely, but had been in good health up to an attack of acute peritonitis, at which time he had first seen her. As soon as the inflammation had subsided, the mass had been removed by a supravaginal amputation.

DR. ILL said that he understood that the last specimen—the large fibroid tumor—had been removed simply because it was a tumor, although it had given rise to no symptoms. He had himself always carefully avoided this, and proposed to continue this practice, although he was quite well aware that certain good authorities had declared that they had observed that benign tumors subsequently became malignant. He had never observed this himself, and was very sceptical about its occurrence.

DR. BROOKS H. WELLS said that years ago, when the mortality from operations on fibroids was very high, surgeons had abstained from operating unless the symptoms were urgent; but now, when the mortality was reduced to about two per cent., it was justifiable to remove these growths for much slighter indications than formerly. Some authorities went so far as to claim that every fibroid should be removed as soon as discovered. This he would not subscribe to, although it could not be denied that the course of a fibroid was very uncertain. If the patient was intelligent and could be kept under observation it seemed to him preferable to avoid operation unless the tumor began to grow rapidly or gave rise to profuse hemorrhage or marked pressure symptoms. He had recently seen three cases in which death had resulted because the patients had been told years ago that their fibroids did not require operation, and had been advised not to allow any one to operate on them. On the other hand, he had in mind three cases that he had observed for some time. These women had passed the menopause, and the slight hemorrhage and pain that had previously existed had now ceased. If, therefore, a tumor gave rise to hemorrhage or began to grow rapidly, his opinion was that the sooner it was removed the better.

**Dangers of Vaginal Operation for Fibroids.**—Dr. Wells then exhibited a small submucous fibroid which had been removed from the uterus of a woman who had been troubled for some time with severe and persistent hemorrhages. When he had first seen her she had been forty-three years of age. Menstruation had recurred every two weeks, so that there had been scarcely any cessation in the bleeding. She had refused operation for two years, and by that time she had become exceedingly anæmic. The tumor had then been removed from the fundus of the uterus through an anterior vaginal incision, aided by morcellation. When it had been taken out the shell had been exceedingly thin and friable. The risk of removing these tumors by morcellation lay in the liability to tear through this wall and open into the peritoneal cavity. If this accident should occur, the safest plan was to remove the uterus. The second danger was from hemorrhage. In the case referred to, careful search had been made, in a good light, for bleeding vessels, but none of importance had been found. However, after she had been taken back to bed, and had been there for two or three hours, she had suddenly begun to bleed and had gone into collapse. Examination had then shown a large vessel at the internal os, which had probably been closed temporarily by twisting. Before the hemorrhage could be controlled the patient had become pulseless and unconscious. Under saline infusion and other methods of stimulation she had been resuscitated, and was now nearly well.

DR. A. ERNEST GALLANT said that he had seen recently two cases of subperitoneal fibroids in which he had advocated postponing the operation as the growths did not give rise to any symptoms. Many women with fibroids suffered from pressure on the bifurcation of the aorta, as indicated by intense local tenderness in addition to pain. The amount of hemorrhage was determined, not by the size of the tumor, but by its situation, hemorrhage with subperitoneal fibroids being slight as compared with that observed in connection with the submucous variety. The general rule was, that a woman who began to menstruate late in life would cease to menstruate early, and *vice versa*. Observation of cases of fibroids showed that

the fibroids lengthened out the menstrual life, often as much as six years.

Dr. Balleray said that up to a few years ago he had been ultra-conservative in his work, and on that account had seen many cases in which the fibroids had atrophied after the menopause. He felt sure that he must have seen as many as fifty or sixty such cases. He had seen two or three in which death had resulted from suppurative disease of the kidney as a result of pressure on the renal vessels. He believed in operating on these now, if the tumor was growing rapidly, or if there were severe pressure symptoms or much hemorrhage, and also if there had been an attack of acute peritonitis.

Dr. Louis J. Ladinski presented a specimen of fibroma that had been removed from a woman forty-six years old, who although married eighteen years had never been pregnant. When seen a few months ago she had stated that she had noticed an increase in the size of her abdomen for the past eight months, and that this had been associated with such severe pain that her health had greatly deteriorated. The tumor had been removed by abdominal section according to the method of Kelly, viz., tying off the vessels and cutting down on the broad ligament. A ligature was then placed around the ovarian artery, and then the broad ligament was cut down until the uterine artery was exposed, when it was tied. By this method the tumor had been removed in the present instance without the slightest difficulty, and with almost no hemorrhage.

**Cyst with Twisted Pedicle Simulating Ectopic Pregnancy.**—Dr. Ladinski also presented a specimen of cyst with a twisted pedicle. The case had closely simulated extra-uterine pregnancy. The patient at the age of thirty-six years had been admitted to the Beth Israel Hospital on March 23, 1899. She had had ten children. About one week previous to admission she had been suddenly seized with severe pain in the left iliac region, followed by attacks of faintness. These fainting spells had recurred the following day. Examination had revealed an enlarged uterus, but there were no hemorrhages from this organ. About four days later there had been evidence of internal hemorrhage, and the tumor had increased in size. On opening the abdomen free blood had been found in the general peritoneal cavity, and a dark gangrenous cyst. The pedicle showed four complete twists, and at one portion a spontaneous partial amputation. From this point the hemorrhage had taken place.

Dr. Balleray referred to a case of twisted pedicle occurring in a woman three months pregnant. She had suddenly collapsed one day, and on the day following there had been a slight discharge of blood from the vagina. This had been repeated two or three days later. Examination had revealed a rather large mass in the pelvis, and this could be displaced slightly from the uterus. The abdomen had been opened the following day, and the diagnosis of pregnancy complicated by a cyst with a twisted pedicle had been confirmed.

**The Differential Diagnosis.**—Dr. Wells said that an ovarian cyst with a twisted pedicle was not very rare, and the differential diagnosis from ectopic pregnancy was important. The pain and the collapse were somewhat different from those found in ectopic pregnancy, the pulse rate not being so much increased. In a few days there would usually be some evidence of peritoneal irritation. In ectopic gestation it was very rare for the pregnancy to last more than two or three months, so that the history was a valuable aid. Ovarian cysts with twisted pedicles were usually decidedly larger than the average ectopic gestation.

Dr. Gallant presented a simple multilocular ovarian cyst removed from a woman, sixty-four years of age, by operation on March 1, 1899. The case had pursued a normal course up to the ninth day, at which time the temperature had suddenly risen to 102° F. without obvious cause. After two days the temperature had fallen, and then she had begun to secrete an excessive quantity of pale urine. The patient had then made an excellent recovery, but he had been puzzled to explain the polyuria. By actual measure four gallons of urine of low specific gravity had been voided daily.

Dr. Brown, of Montclair, was inclined to attribute it to nervous influence, and the rise of temperature to some slight indisposition such as a tonsillitis. A few years ago, he said, a patient some days after confinement had had an exceedingly severe convulsion in which she had bitten her tongue. She had then begun passing two gallons of urine daily, and had kept this up for some time. Microscopical examination had revealed a few hyaline casts, and the urine had been of low specific gravity. Dr. Janeway had seen the case in consultation, and had expressed the opinion that this large quantity of urine had been secreted as a result of a fright about herself. Since then the patient had been entirely well, and he had never seen any other evidence of hysteria about her.

Dr. Gallant said that the excessive flow of urine in his case had continued for four days, and had then gradually declined.

**A Portable Operating-Table.**—Dr. Brown, of Montclair, presented a portable operating-table, for which he claimed no originality except for the special method of constructing the hinge connecting the table with its stand. The table complete weighed less than thirty pounds, and could be made for $10. It could be folded up to a convenient size and transported in a canvas case. It was made of wood varnished with shellac.

Dr. Ill said that for several years past he had used, with much satisfaction, an outer and an inner frame which could be adapted to any ordinary table and used in conjunction with a Kelly pad and an Edebohls support.

Dr. Gallant thought it was an advantage to have the part of the table on which the shoulders of the patient rested remain level while the rest could be tilted. This arrangement gave excellent relaxation, and allowed of a shorter incision.

---

**The Dread of Death.**—Among the cultivated men and women of the later Roman empire, suicide became a sort of moral epidemic. The fashionable Stoic doctrines, acting on a race which had begun to degenerate and decline and lose its grip on life, killed the dread of death. Men left the world for a whim, "only on the thought to do the same thing over and over again." The Christian doctrine that self-slaughter is a sin did not affect them, and the notion that there was something base in quitting one's post was not yet born. Dryden, in one of his dramas, contrasts finely the feeling about suicide of the ancient and modern world. The Romans, he says, might "discharge their souls" and give them leave to enter the other world. But we, like sentries, are compelled to stand "'neath starless skies and wait the appointed hour." Dr. Goodhart, speaking of the dread of death, says: "I am never tired of saying, because I am sure it is as true as it is comforting, although in opposition to the general belief, that death has no terrors for the sick man. To the living and healthy man it is quite otherwise, but the sick man upon whom death lays his hand pales gently and imperceptibly out of life."—*London Spectator.*

# Correspondence.

## OUR LONDON LETTER.

(From our Special Correspondent.)

HOSPITAL SUNDAY—ROYAL INSTITUTION—BIRTHDAY HONORS—CLINICAL SOCIETY—GENERAL MEDICAL COUNCIL—SIR G. PILKINGTON, M.P.—NATIONAL HOSPITAL—THE F.R.S.—SIR F. LAKING—DEATH OF DR. SINCLAIR COGHILL.

LONDON, June 9, 1899.

HOSPITAL Sunday this year is fixed for the 11th, and here we are already at the 9th! The Lord Mayor's appeal has gone forth, *The Lancet's* annual supplement was issued with the last number, and if Sunday produces £50,000, that will make up a million sterling collected since the fund was started in 1873. Toward this sum one gentleman, Mr. George Herring, has already promised £10,000. The electrophone company will fit up instruments to enable the patients in some of the chief hospitals to hear the services in the churches on Sunday.

The Royal Institution has just reached its centenary, and a banquet in celebration of the event was held on Monday. The Prince of Wales and a number of distinguished persons were present. The institution was founded by Count Rumford and has been the scene of Sir Humphry Davy's and Faraday's work, and more recently Professor Tyndall's, Lord Rayleigh's, and Professor Dewar's.

The Prince spoke of his early acquaintance with the institution, and told how his father sent him and his brother nearly fifty years ago to Faraday's Christmas lectures. "I have not forgotten," said he, "the interest we took in these lectures, nor the clear way in which the great professor explained to boys the scientific problems of the moment, nor the beautiful way in which he demonstrated the chemical experiments which were the order of the day." The celebration was continued on Tuesday at a commemoration lecture delivered in the institution by Lord Rayleigh, at which the Prince presided. Finding it impossible to give even a brief account of the famous scientific men who have been connected with the institution, the lecturer described some of the achievements of Thomas Young, a man whose genius he said "was not fully appreciated in his own generation and is even yet hardly fully appreciated." After the lecture twenty-six famous men of science were presented with the diploma of honorary member, among whom was Professor Ames, of Baltimore, U. S. A. Most of the European countries were represented among the recipients. The company then examined the collection of apparatus and the Davy and Faraday memorials.

In the evening the Lord Mayor gave a reception at the Mansion House in honor of this centenary.

The list of honors conferred on the Queen's birthday was more meagre than rumor had led us to expect, so there is much disappointment in various circles. Medicine has not been overlooked. There is a baronetcy for Burdon Sanderson and a K.C.B., for Michael Foster, so physiology takes the medical chief share. But Mitchell Banks gets a K.C.B., so surgery also scores. The same distinction is given to Dr. J. Sibbald, who is a commissioner in lunacy, and to other officials. Surgeon-General A. A. Gore received a C.B., Major Baptie a C.M.G., and Lt.-Col. W. G. King a C.I.E.

At the annual meeting of the Clinical Society the report showed the finances to be in a satisfactory state and the attendance of members during the year to have been very large. The usual votes of thanks were heartily passed to the retiring officers, and the council's list of their successors was elected. Sir R. Douglas Powell is the president for the ensuing year.

M. Betham Robinson described a case of acute intestinal obstruction caused by adherent appendix forming a band associated with fœtal arrangement of the peritoneum, in a girl aged seven years. She died soon after an operation. At the post-mortem not only were the ascending colon and cæcum freely movable, but the third part of the duodenum had a mesentery. There was no sign of the appendix having ever been inflamed.

Mr. Herbert Allingham showed a case of subclavian aneurism which he had ligatured in the first portion, and had removed thirty-eight days afterward. The whole length of the clavicle had to be exposed and the greater part removed. The patient rapidly recovered and can use his arm with comfort. Section of the aneurism showed that its cavity was largely occupied by a firm clot. The blood passed into it from the subclavian and out posteriorly by what appeared to be the profunda cervicis.

The General Medical Council continued its sittings until yesterday. Thursday and Friday were devoted to its judicial work, Saturday to dental matters, and this week to a number of important subjects.

The curious case of McKay, who was charged with perjury by the coroner, before whom he swore he had made a post-mortem, while it was shown that his examination had been incomplete, in fact a mere pretence, ended in his expulsion from the register. Dr. Stewart, a medical officer to a dispensary where the unqualified dispenser was alleged to have assisted him, got off a little easier, but was ordered to come up for further consideration at the next session. The name of S. B. Shekleton, who was accused of aiding and abetting Rowland in getting registered under the name of Nugent, was ordered to be removed from the register.

The propriety of recognizing grammar schools as places of study for some of the subjects of the first year of the curriculum was warmly debated. The English conjoint board was accused of an attempt to whittle down the requirement of the extra year. The representatives of the two royal colleges protested vigorously, and it was even said the conjoint board might insist on their students not registering with the council. The threat was unheeded, so it is useless to speculate whether in such case students would consent to run the risk of being refused admission to the practitioners' register when qualified.

The Dublin Apothecaries' Hall seems to have cost the council more than £300 for the inspection of its examination of about a dozen candidates, and came in for some sharp criticism. It was of course hotly defended, and we are likely to hear some further outcries as to its rights and the wrongs of Ireland.

Medical-aid associations came before the council, and a resolution was passed expressing disapproval of practitioners being connected with those associations in which touting and advertising for patients are practised.

A committee was appointed to draw up a scheme for preventing personation on the register.

There was a long discussion about the midwives bill, but as that measure has little chance of passing parliament this year it will probably not interest your readers.

Sir George Pilkington, the new M.P. for Southport, is a member of the profession, although long out of practice.

Four members of the profession have attained the coveted distinction of F.R.S., viz., Major D. Bruce, Drs. H. Head, Starling, and Windle.

The annual dinner of the National Hospital for the Paralyzed and Epileptic, on the 31st ult., resulted in a collection of £3,000.

Dr. Sinclair Coghill died suddenly on Monday. He returned home from the Berlin congress on tuberculosis only on the previous Friday. He was best known for his work at the Ventnor Consumption Hospital, but he had before that filled a number of important offices with great credit. He was in his fifty-sixth year. He took his degree at Edinburgh in 1857.

## AIR INFLATION OF THE BLADDER.

LETTER TO DR. BRANSFORD LEWIS ON INFLATING THE BLADDER WITH AIR PRELIMINARY TO THE BOTTINI OPERATION; BY DR. ALBERT FREUDENBERG, OF BERLIN.

BERLIN, GERMANY, May 8, 1899.

MY DEAR DOCTOR: Many thanks for your very interesting paper on "The Question of Inflating the Bladder with Air Preliminary to the Bottini Operation" (MEDICAL RECORD, March 25, 1899).

In January, 1898, directly after meeting with that unfortunate result after operating on an empty bladder, mentioned in your paper, I grasped the idea of inflating the bladder with air for the Bottini operation and discussed it with my assistants; but in consideration of the well-known experiments of Lewin and Goldschmidt, which you also mention, I lacked the courage to carry the idea into effect.

I have operated since then on a considerable number of cases, by filling the bladder with boric-acid solution, and the good results as well as the discharge of large pieces of eschar after the operation proved to me that one undoubtedly gains the desired caustic effects by it. When thus operating I, of course, used a stronger glow-intensity and operated with the blade almost white-hot. Any greater painfulness during these operations I did not notice; and I believe that observations to this effect are only casual. I at least have very often observed that, of two Bottini operations on the same patient, one has been more painful than the other, but cannot with any certainty account for it.

Although I have been much pleased with the results of my operations on a moderately filled bladder—which I mentioned in my paper read before the Deutsche medicinische Gesellschaft von New York, on May 2, 1898—I have been still better pleased when, by your favor of January, 1899, I received the reprint of your article in the *Philadelphia Medical Journal*, December 10, 1898, and thereby learned that you had not only conceived the idea of filling the bladder with air in the Bottini operation—quite independent of my own—but had even carried it out, for the first time, in one patient; on which accept my hearty congratulations!

The better is always the foe of the good.

After that I operated on my very next patient (on February 7, 1899) with an air-inflated bladder, and have since then operated eight times in the same manner; so that up to now I record nine cases of operations on air-inflated bladders (altogether I have operated fifty-eight times on forty-five patients).

As far as these figures allow of a judgment, I consider the air-filling of the bladder a further progress in the technique of the Bottini operation. I have never experienced anything unfavorable in connection with it, and I shall, if later experiences do not change my judgment, most likely continue to operate so.

I may here remark that I fill the bladder with air filtered through cotton, by which process the air is rendered free of bacteria. For this purpose I constructed a little apparatus consisting of a glass tube, conical at one end, with a small piece of rubber tubing attached to the other end. The glass tube is filled, to about three-fourths of its length, with cotton. The rubber tube is joined to the syringe filled with air, while the conical end is joined by rubber tubing to the catheter; so that the air in the syringe is pressed directly through the cotton filter into the bladder. The little apparatus, as well as the catheter, has to be sterilized by steam.

Yours truly,

DR. ALBERT FREUDENBERG.

## "ERUPTIONS OF THE FACE DUE TO NASAL PRESSURE."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your issue of May 6th I noticed a letter from Dr. Carl Seiler, of Scranton, Pa., in which he takes exception and claims priority to my article on "Eruptions of the Face Due to Nasal Pressure," published in the MEDICAL RECORD for March 25, 1899. Dr. Seiler says: "I merely want to point out that it is an error to attribute the facial eruptions to reflex only, as I have shown in a paper covering the whole subject, read before the Philadelphia County Medical Society, October 12, 1887, published in the Philadelphia *Medical Times*, prior to the publication of any others." It is quite evident that the doctor did not read my article carefully, or he would never have made his first objection, "that it is an error to attribute the facial eruptions to reflex only"; nor would he claim priority had he read his own paper of October 12, 1887, recently. This is a paper on "Chronic Rhinitis," and there is no mention in it of nasal pressure.

G. D. MURRAY, M.D.

SCRANTON, PA., June 12, 1899.

## COUNT OF BLOOD CELLS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In counting blood cells it will be found better to count ten or fifteen fields of sixteen squares each, for this reason: Should we count ten fields, we only have to divide the sum of their contents by two, after adding four ciphers; when we count fifteen fields we divide by three instead of two. The reason for this is simple, as we see by referring to the formula: "Find the contents of one square and multiply it by eight hundred thousand to get the contents of a cubic centimetre, as it takes eight hundred thousand of the Zeiss-Thoma counting-chamber squares to make one cubic centimetre." If we count five fields and add four ciphers, we have the desired result, as is easily seen; to divide by five would give us the contents of one field, and after further dividing by sixteen we would have the contents of one square, which, multiplied by eight hundred thousand, would give the contents of one cubic centimetre. Now, if we omit dividing by sixteen, and multiply by fifty thousand instead of eight hundred thousand the result will be the same; and further, instead of dividing by five we multiply by ten thousand, we yet obtain the same result—and multiplying by ten thousand is only the addition of four ciphers. Hence, we see if we count ten fields, we divide by two; and fifteen fields, we divide by three. We are considering dilution 1 to 200; but the idea is adaptable to any dilution for either red or white corpuscles. The amount of time thus saved is certainly an item to be considered.

EDGAR J. SPRATLING, M.D.

MASSACHUSETTS HOSPITAL FOR EPILEPTICS,
PALMER, MASS., May 22, 1899.

# New Instruments.

## HEATED ETHER VAPOR—ITS EFFECTS.

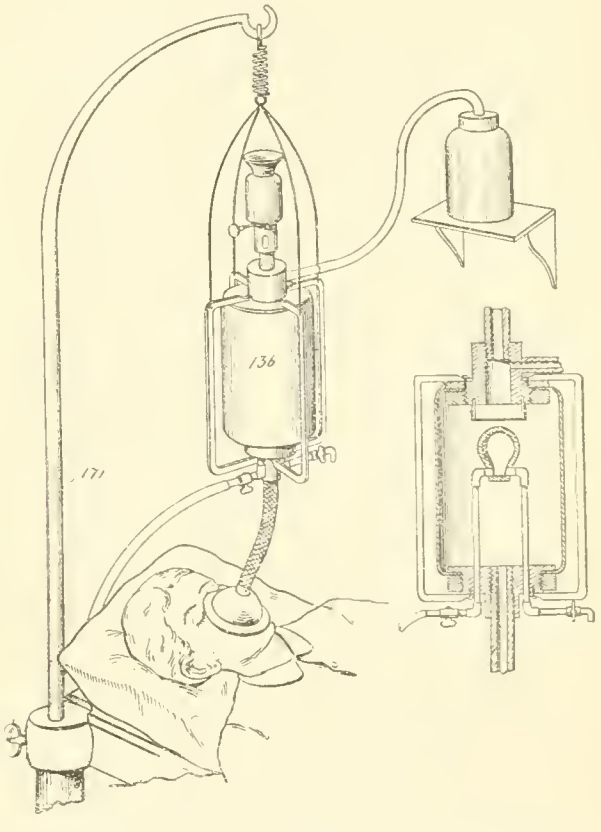
By JOHN S. PYLE, M.D., LL.B.,

TOLEDO, OHIO.

For more than a year past I have been devoting a great deal of my spare time to the construction and improvement of an apparatus by means of which it would be convenient to administer a pure ether vapor, warmed and so attenuated as to do away with many of the unpleasant effects so commonly observed in ether anæsthesia. I have been convinced for some time that most of the disagreeable symptoms arising from the administration of ether were produced wholly by local irritation affecting the nerve endings situated along the respiratory tract. Viewing it in this light, I was led to think of some way to reduce the irritating properties of the compound, without in any way lessening its anæsthetic value. This I have satisfied myself can be done, with the unexpected result of enhancing its anæsthetic value by shortening the required time for producing anæsthesia. Heat alone, supplied to the ether vapor, appears to be sufficient to bring about the desired change; but the addition of an ample supply of oxygen would, in my opinion, make an ideal anæsthetic mixture. My experiments have been made with and without oxygen. I like the additional use of oxygen, as it seems to add to the tranquillity of the nervous system and produce a most natural sleep.

This alteration in the properties of ether, after being subjected to a warming process, is due, in my opinion, to a more perfect evaporation attended with a corresponding attenuation, which accounts for its greater absorbability and increased rapidity of action. The supply of artificial heat, to compensate for the loss upon evaporation, removes the evil effect of cold resulting from the inhalation of imperfectly evaporated ether. I believe that all the disagreeable phenomena witnessed in giving ether are the direct consequence of imperfect evaporation. Ether, like water, will be influenced by varying temperature; the greater the heat, the greater the evaporation. The moisture present in the expired vapor is condensed when discharged in a colder medium, and this being reinhaled carries in particles of ether, which, coming in contact with the delicate respiratory surfaces, causes the irritation and unpleasant effects so commonly experienced. Now if the ether chamber, from which the vapor is removed in inhalation, is kept at a temperature above that of the body, nothing of this kind will ensue.

I introduce here illustrations showing the mechanical device that I have had constructed for the purpose alluded to. The accompanying figures show a sectional view and the apparatus when in use. The illustrations do not do justice to my improved ether inhaler, but will serve the purpose of representing, in the main, the principles involved. As shown in the sectional view, the parts will be seen to consist of a rubber sac (numbered 136), and a heating-bulb having attached thereto two metallic tubes for the purpose of admitting steam and emptying the bulb of any air or condensed water that may accumulate therein. The flexible sac is necessary for the easy exchange of ether vapor; and rubber is of especial value on account of its impermeability and poor quality of conducting heat. The heating-bulb and the tubes inside the rubber sac I wrap with several layers of loose gauze to prevent the action of the heat directly upon the rubber, and for the purpose of absorbing any fluid ether that may reach this point before evaporation. Inside the sac and just above the bulb a layer of gauze guards the upper opening where the liquid ether is admitted and evaporated. The cup on the top of the sac, shown in the accompanying illustration, contains the liquid ether, which is allowed to enter the sac through a very small needle valve. A glass gauge, just under the valve, permits one to see the dropping of the ether, which, by means of the valve, can be regulated by timing the drops so that one, by knowing the exact quantity of ether in the cup, can tell the precise time when it will be exhausted. The cup, in my improved inhaler, has a capacity of six ounces of liquid ether, and will keep a patient under influence for a period of two hours. The rubber tube attached to the metallic tube leading to the bulb is for the purpose of conveying steam from any source of supply. The jar on the bracket is intended to represent the oxygen supply, but I desire it to be understood that this may be taken from any oxygen reservoir and may be admitted through the lower end of the inhaler and be conveyed to the




interior of the sac by means of a tube provided for that purpose. No. 171 in the figure shows a means of attaching the apparatus for convenience to an operating-table. This places the inhaler just over the patient's face, and is easy of management. I have recently made an inhaler in which I use the electric current to supply the necessary heat. In every other way the apparatus is the same.

My experience demonstrates that when ether is heated, from whatever source, the vapor is rendered much less irritating and is unobjectionable as an anæsthetic; furthermore, that vomiting rarely occurs and patients recover from the anæsthesia without any nausea, and express themselves as not feeling the slightest ill effects. The amount of ether consumed will be found much less than ordinarily. It should be remembered that the degree of heat supplied must be sufficient to raise the temperature of the vapor above that of the body.

2123 Ashland Avenue, April 21, 1899.

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The Empress of Russia has been delivered of a daughter. A son would have been more welcome.

# Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 24, 1899:

| | Cases. | Deaths. |
|---|---|---|
| Tuberculosis | 165 | 145 |
| Typhoid fever | 19 | 5 |
| Scarlet fever | 13 | 14 |
| Measles | 33 | 12 |
| Diphtheria | 16 | 30 |
| Laryngeal diphtheria (croup) | 7 | 3 |
| Cerebro-spinal meningitis | 0 | 1 |
| Chicken-pox | 2 | 0 |
| Smallpox | - | 2 |

**Hard Service.**—An ex-postmistress out West is said to be suing the Government for a pension for having ruined her eyesight reading the postal cards which passed through her hands.

**Do They Ever?**—In a public institution of this city there is hung upon the wall of a clinic room the following notice: "Assistants, visitors, and others are requested not to criticise the cases, practice, or personal characteristics of other physicians in this or other cities."

**A Drunken Womanhood.**—There can be no doubt that the great problem before the temperance people of this country is how to arrest the alarming increase of inebriety among women. The lamentable fact that in England woman is especially associated with the sale of intoxicants, that her presence is to be found behind the bars of every drink-shop, has caused the safeguards that surround her in other countries to be set aside, and we stand as a nation in the unenviable position of almost the only one that has a drunken womanhood. The question, therefore, remains for us, not only how to stem the evil, but how we are to deal with those that fall.—Lady Henry Somerset.

**Free Medical Treatment.**—All the free dispensaries and hospitals and similar institutions do not accomplish what they might; do not do half as much good as they were intended to do, because, in the first place, people fear and distrust them, and, in the second place, because they are obnoxious to any self-respecting poor man as being all more or less charitable institutions. Charity?—People do not want charity, those benefiting by it seldom deserving it, and those who do deserve and need it being too proud to accept it, preferring rather to suffer sickness and misery than submit to the humiliation that cannot be disconnected from any kind of charity, no matter how well meant it is.—F. C. Theo. Krüger.

**Proposed Monument to Sir Thomas Browne.**—Subscriptions are being solicited to erect a monument in memory of Sir Thomas Browne, late of Norwich, England, author of the well-known "Religio Medici." The London *Times*, in a leading article, warmly approves the project, and in discussing the paucity of medical men who have gained fame as writers outside their own peculiar province, it speaks as follows: "In the long list of men devoted to the healing art, there is a dearth of those who have shown the highest literary faculties united with the learning of their art and time. Striking exceptions will occur to every one, but Sir Thomas Browne stands by himself, fully versed in the professional learning of his generation, ardently interested in the advancement of his profession, and in every page of his writings making it evident that he is the physician and experimentalist. It would not be a gain if any clever doctor of to-day were to try to imitate the mannerisms of Browne. What he did well was done once for all. But science would not suffer and humanity would gain if accomplished, gifted physicians of our time occasionally sought after his manner to take the large views of their art, its relations to all that is best in the spiritual world, in which Browne delighted. To the physican honest to his calling, and worthy, come naturally, whether he has thoughts of literature or not, ideas which if presented faithfully, and not obsequiously in the train of some theory, would add to that store of moral truths to which humanity turns in its troubles and perplexities. So many persons tell the world more than they really do know. From our profession, brought into close contact with the misery and pathos, the tragedy and irony of life, we do not get all the interest which we strongly suspect the best members of the profession have to give, the practical wisdom and the philosophy of life which come to the best physician, but which are not taught in their technical treatises or Harveian orations. A Religio Medici, a true product of our time, would be interesting."

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ending June 24, 1899:

Smallpox—United States.

| | | Cases. | Deaths. |
|---|---|---|---|
| Dist. of Columbia, Washington | June 3d to 10th | 1 | |
| Florida, Jacksonville | June 3d to 19th | 5 | |
| Georgia, Brunswick | May 16th to June 10th | 6 | |
| Macon | June 3d. | 2 | |
| Savannah | June 14th | 6 | |
| Illinois, Chicago | June 10th | 1 | |
| Indiana, Evansville | June 3d to 17th | 4 | |
| Kentucky, Louisville | June 15th | 5 | |
| Louisiana, New Orleans | June 17th | 1 | |
| Massachusetts, Boston | June 17th | 1 | |
| Fall River | June 13th | 2 * | |
| Michigan, Bronson Township | June 3d to 17th | Present. | |
| Delray | June 3d to 17th | Present | |
| Franklin Township | June 3d to 17th. | Present. | |
| Missouri, St. Louis | June 12th to 19th. | 9 | |
| New Jersey, Bloomfield Township | June 5th | 1 | |
| Ocean Township | June 13th | 24 | |
| Ocean County | June 14th | 1 | |
| Ohio, Columbus | June 17th | 3 | |
| Pennsylvania, Philadelphia | June 3d to 17th | 38 | |
| New York, New York | June 17th | | 5 |
| Virginia, Norfolk | June 15th | 1 | |
| Wisconsin, Milwaukee | June 15th | 1 | 1 |

* Total 32.

Smallpox—Foreign.

| | | | |
|---|---|---|---|
| Belgium, Antwerp | May 27th to June 30 | 1 | |
| Brazil, Bahia | May 20th to June 3d. | 1 | |
| Cuba, Nuevitas | June 17th | Present. | |
| England, London | May 27th to June 3d | 1 | |
| Liverpool | May 27th to June 3d | 4 | |
| India, Bombay | May 16th to 23d. | | 11 |
| Calcutta | May 6th to 13th | | 1 |
| Greece, Athens | May 27th to June 3d. | 16 | 7 |
| Mexico, Chihuahua | June 3d to 17th | | 1 |
| Nuevo Laredo | May 27th to June 3d | | 2 |
| Russia, Moscow | May 26th to 27th. | 15 | 3 |
| Odessa | May 27th to June 3d | 10 | 1 |
| St. Petersburg | May 20th to 27th. | 18 | 2 |
| Warsaw | May 11th to 16th | | 1 |
| Turkey, Constantinople | June 1st to 7th | | 1 |
| Smyrna | May 14th to 21st | | 2 |
| Uruguay, Montevideo | May 6th to 13th | 4 | |

Yellow Fever.

| | | | |
|---|---|---|---|
| Brazil, Para | May 20th to 27th | 101 | 34 |
| Colombia, Panama | June 13th | 18 * | 9 |
| Cuba, Puerto Principe | June 21st. | 2 | |
| Santiago. | June 16th to 13th. | 7 | 2 |
| Mexico, Tampico | June 5th | 1 | |
| Vera Cruz | June 7th to 15th. | 117 | 61 |

* Total 3.

Cholera.

| | | | |
|---|---|---|---|
| India, Bombay | May 16th to 23d | | 1 |
| Calcutta | May 6th to 13th. | | 27 |
| Karachi | April 24th to May 1st | 1 | |
| Maulmain | April 15th to 30th | Epidemic. | |

Plague.

| | | | |
|---|---|---|---|
| India, Bombay | May 16th to 23d | | 174 * |
| Calcutta | May 6th to 13th | | 53 |
| Kurrachee | April 9th to 16th | | 203 |
| District of Kurrachee and Province of Singh | April 24th to May 1st. | 251 | 175 |
| Mauritius | May 1st. | 3 | |

* Officially reported. Probably 500.

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 56, No. 2.
Whole No. 1496.

NEW YORK, JULY 8, 1899.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### REPORT OF A CASE OF ALCOHOLIC MULTIPLE NEURITIS, WITH AUTOPSY.

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AND

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ALCOHOLIC neuritis has been the subject of so many studies that it might appear unnecessary to try to contribute anything new either to its clinical picture or its underlying pathological conditions. Leyden, Erb, Strümpell, Gudden, and others have so thoroughly covered the ground from the clinical standpoint that little can be added to their extensive studies, but in the sphere of pathology newer methods of investigation have offered an opportunity for the recording of certain cytological changes, as yet not thoroughly understood nor classified. While it is perfectly true that of late years a number of observations have been made by means of these methods, the amount of evidence, we believe, is still insufficient to permit of generalizations that might cover all cases of alcoholic neuritis. Heilbronner[2] has in recent studies exhaustively covered the field of the fibre degenerations of the peripheral nerves and of the spinal cord, and it has been the object of the present communication to confine itself to a study of the ganglionic changes observed. Such ganglionic changes have been recorded for years. Their extreme grade in some cases made their recognition comparatively easy, even when studied by the carmine or hæmatoxylin micro-chemical reactions, but their clearer analysis has obtained only since Nissl introduced his general methods. By these methods the changes have been studied by a number of observers experimentally, and in the human subject. Polyneuritis due to other closely related toxic agents —tuberculosis, diphtheria, malaria, typhoid fever, beri-beri, etc., has also been carefully investigated, and the analogies to alcoholic neuritis are close.

The following case has been reported, since it presents certain features worthy of note. It is a simple, uncomplicated case, and the pathological picture, in so far as the clinical history could determine, should show the effects of a sudden acute alcoholic poisoning. Other factors which are known to be the cause of changes in the ganglion cells of the central nervous system can be excluded. This is a condition which is extremely rare among the cases reported which have come to autopsy. In the great majority of these, chronicity, accompanying renal disease, bacterial toxæmias, hyperpyrexia, or other cause of cell degenerations have been present, as revealed by a close scrutiny of the clinical histories. The work of examining these histories has been materially lessened in Gudden's tabulation of forty-eight cases and Heilbronner's careful digest of some sixty cases. No collection of the recent work on alcoholic paralysis, as revealed by the Nissl method, has as yet been attempted. Ewing[1] has given perhaps the best short *résumé*.

History of patient: Mrs. C. S——, aged thirty-five years, admitted to St. Francis' Hospital, May 13th, suffering from paralysis of both arms and legs, with slight catarrhal jaundice, gastric disturbance, and excruciating pain in arms and legs.

Past history: She has been married eight years, and has had five children, two abortions. The oldest child is seven years, the youngest one year old. All the children were normal births and are at present healthy. The patient has had the ordinary diseases of childhood, and has always been a robust and healthy woman. She has always been in the habit of using beer and wine to a moderate extent.

Present history: About one year ago she lost her mother and two brothers under peculiar circumstances. These she considers the causes of her over-indulgence in strong alcoholic drinks. Her debauches were of a periodical nature. She would drink for weeks at a time, taking no food of any account while on these sprees. At the end she would gradually "taper off" and remain well, drinking no liquor in the interval. The periods between these debauches would be months. At one time she went four months without tasting liquor of any kind. Her last debauch began on March 15th (?), 1898. From that time until April 15th (two to four weeks) she drank very heavily. About April 2, 1898, she awoke one morning with a sensation of "pins and needles" in both hands and feet. This continued during the day and for about twelve days, when the sensation changed gradually to pain, slight at first, but increasing as the days went by. She was treated at home this time for rheumatic pains and sciatica. About April 15th she noticed that her skin was turning yellow and that her feet began to swell, and she became somewhat short of breath. The pains in both feet were then of a severe shooting character, while those in her hands were only moderate in degree. From this time on she was evidently growing rapidly worse, and on the advice of her physician was removed to the hospital on May 13, 1898.

On admission: The patient is well nourished. There is some œdema about the face and puffiness under the eyes. There is moderate jaundice, especially noticeable in the sclerotic of the eye. There is œdema of both extremities, with spasmodic twitching of the leg muscles. The patient's facies is one of suffering, and she complains bitterly of the pain in her arms and legs, which gives her no rest.

Physical examination: The heart apex is in the sixth interspace. The impulse is forcible, with some slight pulsation over the pericardium. The heart area of percussion is large. There is a systolic murmur of moderate intensity heard at the apex and transmitted to the left under the axilla, and heard only feebly at the back, at the spine, or the scapula. The lungs are

[1] The writers desire here to express their thanks to Dr. O. Seibert for the privilege of reporting this case, and to Dr. T. M. Prudden for assistance and counsel.

[2] Monatsschrift f. Neurologie u. Psychiatrie, 3, 1898, p. 457 et seq.

[1] Archives of Neurology and Psycho-Pathology, 1, 1898, p. 263.

normal. The liver extends three finger-widths below the free border of the ribs on the right side; its edge is moderately rounded. The spleen is not palpable, but on percussion seems moderately increased in size. There is nothing noticeable about the abdomen. The kidneys: The urine is 1.018 specific gravity, acid; albumin, very delicate trace with nitric-acid test; no casts. White and red blood cells are few. There is no sugar. There is some involuntary evacuation of bladder and rectum. The patient's legs are drawn up. There is marked pain, made worse on pressure over the nerve trunks. Double drop-foot and spasmodic twitching of leg muscles are present. No evidence of atrophy of any groups can be made out on account of œdema. The tendon reflexes are lost on both sides. There is flattening of the muscles of the buttocks, with considerable pain all along the spinal column. There is double drop-wrist; the skin and tendon reflexes are abolished. The muscles of the forearm are atrophied and flabby.

The pain sense was examined by electricity, hot and cold water, and by needle. The electrical examinations were not extended. The faradic current alone was used. The current employed was so strong that a normal individual could not stand it, yet the patient never evinced the slightest discomfort. Complete analgesia to needle pricks was present. Tests with heat and cold were not successful, as the statements of the patient were not satisfactory. Reaction of degeneration was well marked in the extensors and flexors of lower limbs and forearms.

The patient continued to grow steadily worse day by day. The pain in the back, arms, and legs was excruciating, and required anodynes for relief. On May 27, 1898, the patient grew slightly delirious. The temperature was 103° F. The pulse was rapid and small. On the following day the delirium was more marked and the patient had to be restrained. On May 29th, the delirium changed to a stuporous condition. In this she remained till she died on May 31, 1898, without any marked rise in temperature.

The autopsy was made by Dr. Larkin, three hours post mortem. The body is that of a well-nourished woman. There is moderate general jaundice; no rigor mortis; no post-mortem lividity. There are several nodular tumors (sebaceous cysts), about the size of a marble, in the subcutaneous tissue of the scalp, freely movable. There is an old cicatrix over the front of the tibia at lower third, the probable seat of recent traumatisms. Both mammary glands are well developed. There is moderate subcutaneous fat tissue, which is bile stained. The muscles are dark brown in color. The abdominal cavity is yet warm. There is about a litre of bile-stained serum in the abdominal cavity. There is no evidence of peritonitis, either old or recent. The liver extends three finger-widths below the free border of ribs.

The lungs: There is no fluid in either pleural cavity. There are no adhesions. The posterior pendent portions of both lungs are in the condition of hypostatic congestion and œdema; otherwise they are normal.

The heart: There is no fluid in the pericardium. There is moderate pericardial fat tissue. The heart weighs 60 gm. There is hypertrophy of the wall of left ventricle. The aortic valves are normal. The mitral valves are thickened along the free edge with thickening of the chordæ tendineæ; the pulmonary and tricuspid valves are normal. There is no atheroma of the aorta. The liver is congested, slightly increased in size and granular, and is in a condition of beginning mild cirrhosis. The spleen is increased in size; its pulp is dark brown; the capsule is thickened and the trabeculæ are prominent. The kidneys weigh 245 gm. They are uniformly congested and succulent, with non-adherent capsules and irregularities in the markings of the cortex, which is also slightly diminished. There are no changes in the blood-vessels. The pancreas presents no gross changes. The stomach is coated with glairy mucus; there is some congestion at the pylorus, otherwise normal. The tubes and ovaries as well as the uterus are normal. The brain and spinal cord present no observable gross anatomical lesions, the pia mater over the frontal lobes alone showing some slight œdema.

Microscopical examination: The lungs, heart, spleen, and pancreas show no microscopic change. The liver shows increase of connective tissue in Glisson's capsule; there is general congestion of central veins and capillaries. The kidneys show chronic congestion with slight increase of connective tissue between tubules; swelling of cells lining Bowman's membrane, increase of cells in and on capillary tufts; no degeneration of the epithelium lining tubule; the blood-vessels except for congestion are normal. Posterior tibial nerve: the sections show slight œdema of connective tissue and swelling of the endothelium lining the blood-vessels.

Technics: The brain and spinal cord were removed and placed in absolute alcohol within three hours of the time of the patient's death. The pia of the brain was removed and the cord was cut in sections of about 2 cm., still adhering to the dura on one side in order to *orientier* the segments. Portions of the peripheral nerves were fixed in absolute alcohol and in osmic acid.

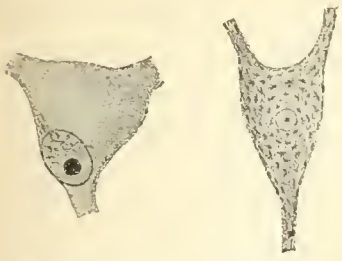
The microscopical technic need only be summarized. After thorough fixation and hardening several weeks, portions of the spinal cord and brain were embedded in celloidin, and sections cut from 5 to 20μ in thickness. These were stained by Nissl's methylene-blue preparation and mounted in damar. Held's modification without the acetone was also employed. Delafield's hæmatoxylin and eosin were employed in some of the studies of the nucleus and for the blood-vessels. Heidenhain's iron hæmatoxylin was also employed in some instances. Von Rehm's method gave excellent pictures of neuroglia elements. The cord was studied at intervals of 1 cm. throughout its entire length. The medulla and pontine regions were also sectioned through the more important cranial nerve nuclei. Sections from the cortex were taken from a number of areas; these will be discussed under the head of the cortical findings.

Spinal-cord changes: The white matter of the spinal cord was not closely investigated. The studies of the fibre tracts by Gudden, Heilbronner, and scores of others have demonstrated very clearly the great alterations that may be found in alcoholic multiple neuritis. Degenerations are extremely common in the ascending columns, notably those of Goll and Burdach, and the relations of the process found in alcoholic neuritis to the degenerations found in tabes have been exhaustively treated by these authors.

The examination in the present instance was purposely confined to the study of the ganglion cells, and in these there was found a degeneration of very marked extent. In many of the contributions on the subject of the ganglionic changes in this affection it is apparent that a large number of the cases are not simple ones of pure alcoholic neuritis, but are instances of the occurrence of a neuritic invasion in people who have been suffering perhaps for years with some form of constitutional or exogenous toxæmia. In many of the cases examined by the newer methods the element of chronicity is also to be borne in mind, and in still others hyperpyrexia may add its complicating changes. These points of difference are taken to be of importance in the description of the lesions of this case, since it presents a clear picture of an acute lethal intoxication in a healthy adult, and therefore more closely approxi-

mates the experimental standards than most cases recently reported and studied by the newer methods.

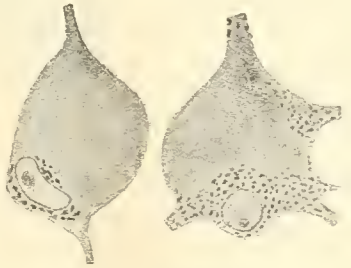
Description of the lesions in the cord: From the level of the upper cervical cord to the conus marked ganglionic degeneration was the rule. This involved not only the ganglion cells of the anterior horns, but also those in the posterior horns and throughout the dorsal cord, the columns of Clarke, and in the lumbo-sacral enlargement the nucleus of Stilling. The different levels may be considered seriatim. Manipulative artefacts were found in the cervical cord, which, to a certain extent, confused the picture, yet the ganglion cells throughout this region could be seen to be in various stages of chromatolysis. A careful count of the ganglion cells in the various levels from the seventh or eighth cervical downward is here appended, with the number of normal or approximately normal cells found therein. From the first or second to the seventh or eighth cervical there were on the average about ten per cent. normal cells in the anterior horns; fully ninety per cent. were degenerated.



FIGS. 1 AND 2.—Cells from Anterior Horn. Fourth cervical segment showing, in 2, beginning chromatolysis; 1, more advanced stage.

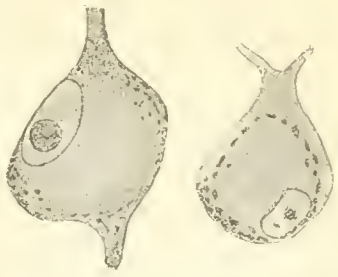
| | Anterior Horns. No. of Cells Present. | | Anterior Horns. Normal Cells. | | Column of Clarke. No. of Cells Present. | | Column of Clarke. Normal Cells. | |
|---|---|---|---|---|---|---|---|---|
| | Right Side. | Left Side. | Right Side. | Left Side. | Right Side. | Left Side. | Right Side. | Left Side. |
| 1st dorsal .. | 15 | 9 | 3 | 0 | 16 | 14 | 2 | 0 |
| 2d " .. | 12, 13 | 10, 11 | 5 | 1, 2 | 10 | 5–6 | 1–2 | 0 |
| 4th " .. | 18 | 8 | 0 | 0 | 10 | 8 | 1 | 0 |
| 6th " .. | 15 | 8 | 1 | 1 | 13 | 10 | 1–2 | 0 |
| 8th " . | 10–12 | 10 | 0 | 0 | 16–18 | 17 | 0 | 0 |
| 10th " .. | 7–8 | 6–7 | 0 | 1–2 | 20 | 13 | 1–2 | 1–2 |
| 11th " . | 10–12 | 10–15 | 5–6 | 1–2 | 15 | 12–13 | 1–2 | 1–2 |
| 12th " . | 6–7 | 6–7 | 1–2 | 1–2 | 20 | 20 | 3–4 | 4–5 |
| 1st lumbar . | 10–12 | 6–7 | 1–2 | 3–4 | 20 | 21 | 2–3 | 5–6 |
| 2d " .. | 12–15 | 13–15 | 6–8 | 3–4 | 7–8 | 6–7 | 3–4 | 1–2 |
| 3d " . | 45 | 30 | 4–5 | 1–2 | 1–2 | 3–4 | 0 | 0 |
| 4th " .. | 40–50 | 35 | 0 | 0 | 5 | 4 | 0 | 0 |
| 1st and 2d sacral..... | 40–50 | 35–40 | 5–6 | 4–5 | 1–2 | 1–2 | 0 | " |
| 4th sacral ... | 60–70 | 50–60 | 6–7 | 5–6 | 0 | " | " | " |

The above table indicates the extent of the cellular degeneration. As to its character the following general remarks may be made: Nearly every described grade of chromatolysis was observed—peripheral, central, perinuclear, etc.—but the predominant type was the well-known central chromatolysis so characteristic of axonal degenerations. In a great many of the cells, perhaps fifty per cent. of them, from the fourth to the tenth dorsal region and in the lumbar enlargement, the chromatolysis had advanced to the extreme grade of complete loss of stainable substance, reticular or cytoplasmic, and even to complete cell destruction. Eccentricity of the nucleus was a predominant factor; for the plane of the section, it was present in at least thirty per cent. of the cells; sections cut in different planes would probably show it to be more universal.



FIGS. 3 AND 4.—Degenerative Change in Upper Dorsal Region. Third segment, left side; central and peripheral chromatolysis, nuclear eccentricity and chromophilia

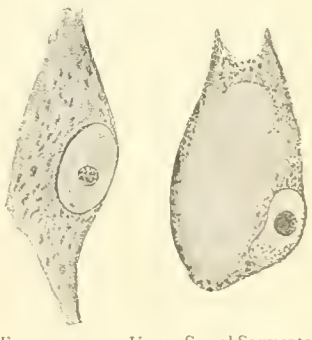
No relationship between the eccentric position of the nucleus and the principal dendrites or axis-cylinder process could be shown because of the practical impossibility of seeing the cell and all its parts, even in a series of sections. As far as could be ascertained, the nucleus appeared to be at the farther extremity of the cell, as contrasted with the site of origin of the axis-cylinder process, but this is more a matter of conjecture than proof.



FIGS. 5 AND 6.—From Columns of Clarke. Upper dorsal segments, left side, showing different chromatolytic changes.

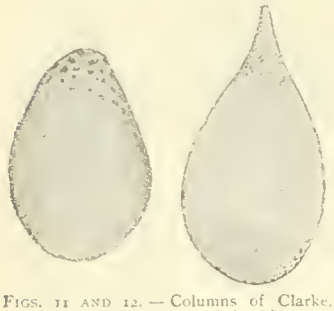
The greater involvement of the cells of the left side of the cord is noteworthy, the decrease in their number signifying actual cell destruction, and in those remaining the chromatolysis was more extensive. Changes in the cyto-reticulum of the nucleus were manifest in most of the levels, though this part of the cell structure seemed more resistant than the structures of the cytoplasm. No special constant nucleolar variations could be posited; fragmentation occurred, but seemed capricious, occurring in fairly normal cells and in cells completely destroyed; well-marked nucleoli were abundant in badly degenerated cells. The absence of nuclei was probable in a number of cells, this did not occur so often as would appear from a study of any one plane, since the section just above or just below might contain the nucleus. This consideration leads the writers to maintain that for the general study of the degenerate processes in nerve cells it is wiser to use sections which are cut thicker than is frequently advised. Ganglion cells are frequently from 60–90μ in diameter, and sections of 5–10μ, which are said to be desirable, do not permit a correct interpretation of the structure unless cut in series and so studied. We prefer sections about 20μ in thickness for average work. Specially thin sections certainly are of service for the finer cytological detail of the cyto-reticulum, but for the general study of the chromatolytic process we believe them to be less serviceable. This is especially true in the case of the cells of Clarke's columns. In the present case it would appear that there was a marked degeneration of practically the entire column of Clarke, yet the structure of the cells of Clarke's column, we think, is different from those of

FIGS. 7 AND 8.—Degeneration of Anterior Horn Cells, at second lumbar segment, right and left sides. 7, Peripheral chromatolysis, nuclear chromophilia; 8, complete chromatolysis, nucleus disappeared, cyto-reticulum still present (in specimen).



FIGS. 9 AND 10.—Upper Sacral Segments, anterior horns showing milder grades of chromatolysis. Fig. 9 is almost normal save for slight fragmentation of granules and eccentricity of nucleus; Fig. 10 shows slight central chromatolysis.

the anterior horn in several cytological details; and it undoubtedly occurs that in these cells very thin sections give pictures of what appears to be marked central chromatolysis with centric nuclei and a fringe of cross sections of chromophilous bodies on the periphery of the section. Believing as we do that the interior of the body of the cells of the column of Clarke has fewer formed chromophilous bodies than the periphery, it would follow that such a picture is readily misinterpreted. When the granules at the periphery have entirely disappeared and the nucleus is eccentric, the interpretation is beyond cavil, but there are, we believe, grounds for questioning the observations made on too thin sections in the cells of the columns of Clarke.



FIGS. 11 AND 12. — Columns of Clarke. Eighth dorsal segment, left side, complete cellular degeneration.

Portions of the brain were taken from the following areas (their exact location is represented in the subjoined diagram): 1, superior frontal; 2, mid-frontal; 3, inferior frontal, just in front of the pre-Sylvian fissure; 4, operculum, just behind the pre-Sylvian fissure; 5, at the base of the central fissure, anterior central convolution; 6, anterior central convolution about the junction of the middle and lower third; 7, anterior central convolution, junction of middle and upper third; 8, top of anterior central convolution, including part of the paracentral lobule; 9, post-central convolution; 10, middle superior parietal; 11, superior temporal; 12, mid-temporal; 13, inferior temporal; 14, inferior parietal; 15, cerebellum.

These were treated by the same technical methods as outlined for the cord.

1. Superior frontal convolution: The large and medium-sized ganglion cells throughout fairly normal; sub-pycnomorph, pigment prominent; many nuclei eccentric, though in these cells where the nucleus makes such a large part of the cellular mass, little weight is to be placed upon such eccentricity. The blood-vessels were not materially altered.

2. Mid-frontal convolutions: The ganglion cells were normal in this region as far as could be determined, though many had eccentric nuclei.

3. Preopercular convolutions: No appreciable lesions were observed.

4. Operculum: In the large and medium-sized ganglion cells the cytoplasm was finely granular. Pigment was present in many, and in a few of the cells the nucleus was eccentric. The blood-vessels were not affected.

5. Base of the anterior central convolution: The large and medium-sized ganglion cells showed little trace of any stichochrome structure. The cytoplasm was finely granular; many of the nuclei were eccentric.

6. Anterior central convolution, junction of lower and middle third: The medium and large sized ganglion cells were markedly bleached. The typical stichochrome arrangement of the chromophilous bodies was absent, fine granules taking their place. The majority of the nuclei were centric. The dendrites were paler than in the normal condition and showed no stichochromes. Advanced grades of chromatolysis, similar to that found in the cord, was found in a few of the large ganglion cells of this region. The blood-vessels were not markedly altered, though moderately dilated.

7. Anterior central convolution, junction of upper and middle third, was not so markedly affected as the section 6. Stichochrome structures were here apparent and the nuclei were more centric. Many of the cells, however, had nothing but a fine granular cytoplasm. Pigment was rare. The blood-vessels were normal.

8. Top of the anterior central convolution, including a part of the paracentral lobule. Many of the cells in this region showed partial degenerative changes, especially those in the paracentral lobule. Many had eccentric nuclei, and the reticulum of the cytoplasm was obscured. But few of the ganglion cells had retained any stichochrome arrangement of their chromatic substances.

9. Post-central convolution, middle third: The cells in this region were not materially altered.

10. Superior parietal convolution: The medium and large sized ganglion cells of this region were noticeable by reason of a large amount of pigment. Beyond a certain amount of granulation of the cytoplasm they appeared normal. There were no nuclear changes observed.

11. Superior temporal region: There were no marked structural changes in this region. A slight grade of granulation of the cytoplasm alone was observed.

12. Mid-temporal convolution: Few structural modifications were found in this region.

13. Inferior temporal convolution: Mild degenerative changes were found in the sections from this region. The dendrites were not prominent and the cyto-reticulum was obscured. The reticulum of the nucleus was normal.

14. Inferior parietal convolution: This seemed normal.

15. Cerebellum: The Purkinjé cells were pale throughout. In nearly all of them there were some small chromophilous bodies clustered near the nucleus. The dendrites were mostly colorless and the nuclei were in a stage of chromatophobia. There was no marked eccentricity of the nuclei of the Purkinjé cell. The nucleoli were regular. The blood-vessels of the cerebellum seemed normal.

*Résumé* of changes in the cortex: There were, therefore, distinct degenerative lesions irregularly distributed throughout the cortex of the brain. These consisted for the most part of the following: In the cortical stichochrome cells of the motor cortex there was a disappearance of these bodies, an irregularity in the position of the nucleus, and qualitative variations in the staining portions of the cytoplasm. The archyostichochrome cells in many cases had lost the characteristic arrangement of their reticulum, and the cytoplasm showed a distinctly granular structure. Peripheral chromatolysis was present in the Purkinjé cells of the cerebellum.

FIGS. 13 AND 14.—Cells from Nucleus of Stilling. Lumbar and sacral region, showing. 13, complete chromatolysis; 14, beginning perinuclear chromatolysis.

In any discussion of the lesions produced by the alcoholic poison, the *rationale* of the process, in so far as it is understood, should be borne in mind. It would seem that two distinct series of changes might be going on simultaneously in multiple neuritis—one similar to that produced by a degeneration or a cutting-off of the axis-cylinder process, and the other a direct poisoning of the ganglion cell. Under experimental conditions the changes produced by the former process are fairly well understood, but

the cytological variations, which might be due to the direct poisoning, may not be so readily correlated. Vas, Dehio, Berkley, and Stewart have given us contributions to this latter question; with the former ques-

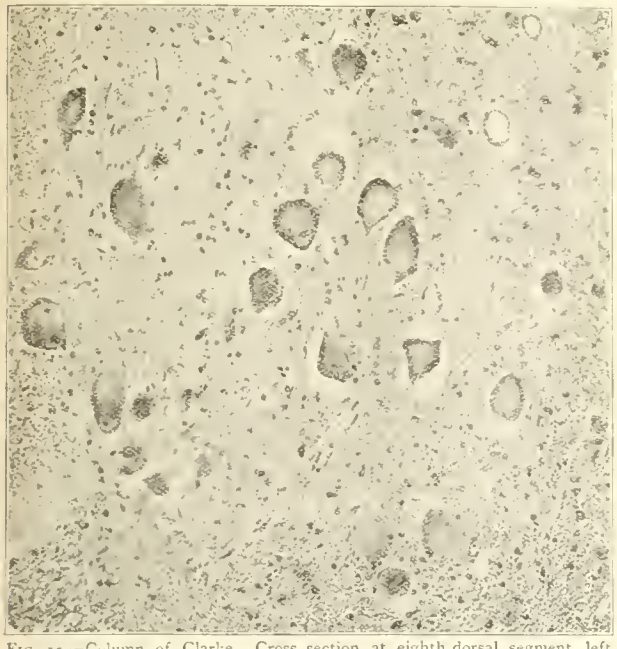


Fig. 15.—Column of Clarke. Cross section at eighth dorsal segment, left side, showing various grades of chromatolysis. (Photomicrograph by Dr. Leeming.)

tion a host of observers have busied themselves. Marinesco has compressed the final matter in a nutshell, thus: "After the section of a motor nerve or of a sensory nerve, in from five to six days there are certain positive lesions in the ganglionic centres of these nerves, as shown by Nissl's method of examination. These, as given in *résumé*, are: (1) A partial dissolution. Disappearance of the chromophilous elements of the nerve cells. This process may affect the entire cell body. The nucleus, more or less altered, is usually found at the periphery of the cell body. (2) When the lesion has affected the entire cytoplasm of the cell, it presents a homogeneous aspect. (3) A process of restoration may take place as the regeneration of the sectioned nerve takes place."

But while this presents a picture of the end results, it tells very little of the natural history of the process, if it has a definite cycle. Ewing believes from a wide experience, in by far the best presentation of the whole subject of ganglionic changes thus far given to technical pathological literature, that the minute variations in the process of the parenchymatous degenerations present an almost endless variety of possibilities. "The minute lesions seem to differ in every case, and the range of minor peculiarities is practically limitless. Especially in the advanced stages of acute and chronic degeneration the aspect of the cells may be so heterogeneous that classification of the lesions is impossible."

The reported cases of fatal alcoholic multiple neuritis, examined by the newer methods, have not been very numerous, nor does there seem to be a consensus of opinion with reference to the central lesions. In this form of neuritis the absence of changes is reported by Tooth, Achard and Soupault, Dejerine, and others. The first two, though coming within the "Nissl epoch," do not appear to have been examined by his methods, but in them attention was paid to the search for central lesions.

In Tooth's[1] case, which clinically ran a typical course, there was extreme degeneration of the peripheral nerves, but no central lesions were found. The cytological investigation was by means of the older methods for the most part.

Achard and Soupault[1] report two cases—one negative and one positive. The first occurred in a man, aged twenty-eight years, first received in the hospital in a condition of acute delirium after a two months' steady indulgence in absinthe. Three weeks previous to entrance he commenced to have the initial paræsthesiæ and pain of the neuritic process. He had been delirious two days previous to his entrance. His delirium cleared up in a few days, and the peripheral-nerve involvement was then manifest. He had marked paralysis of the limbs of the lower extremity, the extensors in particular, with foot-drop and also extensor paralysis of the arms and forearm. The patient developed a high temperature and died of syncope with evening temperature of 39.2° C. (102.5° F.). The autopsy showed meningeal congestion. The cord seemed normal. There was congestion of all of the viscera and heart muscle (myocardial fragmentation). The cells of the anterior horns were normal; some in the cervical region were tumefied and transparent. There were no changes in the medulla. The examination of the nerves showed some degeneration, especially in the median, cubital, and right radial nerves. The changes in the heart, kidney, and liver were of a parenchymatous type.

The case of Dejerine and Thomas is of more interest. These authors[2] report some observations made upon a case of a cook, forty-eight years of age, who had alcoholic paralysis of the lower extremities, with atrophy and talipes equinus. There was hyperæsthesia of the skin and of the muscles, and abolition of the patellar reflexes. On autopsy there were found marked lesions of the cutaneous nerves of the lower extremities. There was integrity of the anterior and posterior roots, gray matter, and ganglion cells. It is of interest to note in this case that the patient was in process of recovery. There had been a complete paralysis of the upper extremities, but this had disappeared and the lower limbs were regaining their power somewhat. The cutaneous nerves were examined in osmic acid, and the cord was examined by both the Nissl

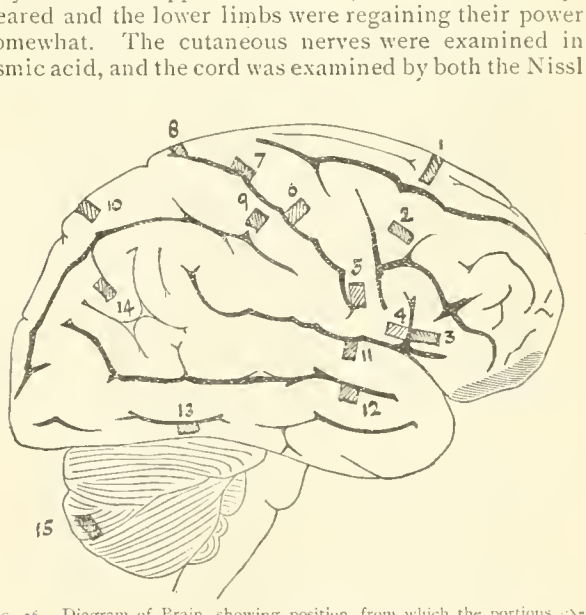



Fig. 16.—Diagram of Brain, showing position from which the portions examined were taken.

and Marchi methods. The authors believe that the absence of the ganglion-cell changes may have been due to the fact that the peripheral nerves were re-es-

[1] Tooth, H. H. "Degeneration of the Nerves in Alcoholism." Transactions of the Pathological Society, London, 1894.

[1] Achard, Ch., et Soupault, M.: "Deux cas de paralysie alcoölique." Arch. de méd. exp. et d'anatomie path., 5, 1893, p. 359.

[2] Dejerine, J., et Thomas, A.: "Sur l'absence d'altération des cellules nerveuses de la moëlle épinière dans un cas de paralysie alcoölique en voie d'amélioration." Comptes rendus de la Soc. de Biologie, May 1 1897.

tablishing their function, though at the time of death paralysis was still present. Moreover, they show that chromatolysis should not be too rigidly interpreted, since it may be found in cases like these, or in cases, as Jacottet[1] has shown, in which there was apparently

FIG. 17.—Cell from Anterior Horn, fifth cervical segment; central chromatolysis, eccentric nucleus, central destruction of reticulum. (Photomicrograph by Dr. Leaming.)

no impairment of function, yet marked cellular changes were present. Thus chromatolysis links itself with other parenchymatous cell changes, and its significance is great, yet not pathognomonic of any single type of lesion.

Soukhanoff[2] has reported a positive and a negative case. His negative observations were in the case of a young man of twenty-one, who for some years had been a hard drinker. He had a poor family history and suffered from delirium tremens, so that his case might be considered one of multiple alcoholic intoxication, extending over a period of some years. At the autopsy it was shown that he had a marked chronic leptomeningitis; the cerebral substance was œdematous and the ventricles were markedly dilated. There was sclerosis of the arteries of the base of the brain. There was a purulent infection of the pleural sac and tuberculous cavity formation in the right lung. Thus this case is not an uncomplicated one, and the changes in the nervous tissue may be due in part to the alcoholic poison and in part to the action of toxins. The peripheral nerves stained with osmic acid showed the characteristic picture of degeneration. The spinal cord in the lumbar region treated by Marchi's method showed a marked involvement of the posterior columns. There were degenerated fibres interspersed with healthy ones. Some few degenerated fibres were found in the anterior and lateral columns, and in the anterior commissure there were also degenerations. The cervical region showed a most marked degeneration in the column of Goll. Examined by the method of Nissl and by carmine, the author states that notwithstanding the extensive fibre degenerations there were no appreciable lesions noted in the ganglion cells. The changes in the medulla were of the same type. There were a few degenerated fibres going to and from the hypoglossal, facial, abducens, and oculo-motorius nuclei. Examination of the brain was negative by Marchi's method.

From a careful reading of the histories of these cases as reported, the evidence is not sufficient, we believe, to exclude the possibility of there being some cytological alterations. In the less marked cases, as those of Dejerine and Thomas, the absence of grave lesions might be expected from what we now know of repair in ganglion cells, and in the more positive case of Soukhanoff it is not evident that a rigid examination was made throughout the cord, since more attention was paid to the fibre degenerations and only sections here and there were taken for the Nissl technique, a procedure which is only too apt to cause misleading conclusions.

The positive cases are comparatively numerous. We here report a number of them in which lesions similar, in part, to those found by the writers were present. Ballet and Dutil's[1] case is of interest in that it shows most of the lesions observed by us, and yet, so far as these observers were able to determine, no direct toxic agent could be found. These authors report the case of a man, aged forty-four years, who, without any ascertainable infectious or toxic cause, developed at the age of forty-four years all the symptoms of a multiple neuritis. The examination of his peripheral nerves showed the typical lesions of neuritis. There were a number of degenerated fibres in the anterior roots. The posterior roots were healthy. The most marked alterations, however, were found in the cells of the anterior horns. In a number of these there was absence of the chromophilous granules, the cytoplasm had become homogeneous and turgid, and in some of the cells the nuclei had vanished, the cells had become globular, and the prolongations had disappeared. Changes in the nuclei were also evident; the nuclear mass was irregular and even star-shaped in some of the affected cells. The peripheral position of the nuclei was evident in many of the diseased cells. The *resume* of the authors' contribution is as follows:

1. We have been able to show that in a case which presents the clinical picture of an idiopathic polyneuritis, there were lesions of the nerve trunks, of the anterior roots, and marked alterations in the ganglion cells of the anterior horns.

2. When one desires to examine for spinal cell changes in cases similar to this, it is necessary to use other cytological methods of examination than picrocarmine; such as the method of Nissl, or, if the nucleus is to be studied, hæmatoxylin.

3. It does not suffice to affirm that the polyneuritis has been secondary to alterations in the spinal cord, since the poliomyelitis could be secondary to the peripheral nerve lesions.

4. The arguments which are of value in favor of the medullary origin of the polyneuritis are of another kind.

The second case[2] occurred in a woman, twenty-five years of age. She was admitted to the Salpétrière following a slight convulsive attack. She had been drinking for some time, but presented a very irregular history. A month after her admission the symptoms of the neuritis developed and continued up to the time of her death, which occurred three months after the first symptoms. Phthisis was a complicating factor. Microscopical examination of the medulla showed some nuclear degeneration at the region of the olivary nucleus. The spinal cord showed sclerosis of the columns of Goll and of the lateral columns. The cells of the anterior horns were remarkably degenerated. In certain groups the cells were normal; in others, changes were profound. Normal and diseased cells were intermingled in places without any regularity.

[1] Thèse de Lausanne, 1897.

[2] Soukhanoff, S.: "Contribution à l'étude des changements du système nerveux centrale dans la polynévrite." Arch. de Neurologie, 1896, p. 177.

[1] Ballet, M. G., et Dutil, A.: "Sur un cas de polynévrite avec lésions médullaires." Soc. méd. des Hôpitaux, 12, 1895, p. 818.

[2] Achard and Soupault: *Loc. cit.*

The changes for the most part were of interest only in the variation of contour, loss of prolongations, changes in colorability of the nucleus, and its dislocation to the periphery of the cell. Sometimes there was complete loss of the nucleus. These changes were noted in the cervical, dorsal, and lumbar regions, the cell changes in the dorsal region being extreme. Marked degeneration of the nerves was noted, including that in the pneumogastric.

Marinesco[1] reports a case of polyneuritis with grave central changes, but viewed from our point of view it has little bearing save upon the general peripheral pathological findings in cases of this character. The case was one lasting over two years, in an old rheumatic patient who had early in 1892 paralysis and atrophy of the muscles following an attack of acute articular rheumatism. He died in 1894. The cell lesions were marked.

See *Comptes rendus*, 1896, p. 467, for another case in contradistinction to the case observed by Dejerine and Thomas, with no cytological changes. These same authors published formerly a marked case, illustrating most of the phases of the chromatolytic process.[2] In this case incontestable lesions existed in great numbers in the cells. These lesions were not equally distributed throughout the whole cord. They predominated markedly at the level of the lumbo-sacral enlargement. They diminished in the posterior inferior portion of the cervical enlargement and were hardly appreciable in the upper cervical roots. They showed further a certain parallelism between the cell lesions and the changes of the peripheral nerves. These lesions were essentially polymorphous. Beginning in one stage the cell appeared swollen, often to a considerable degree. Instead of measuring 60μ some reached 85 to 90μ. This increase of the volume was constant in all the portions of the cells, which tended to become more and more spherical; at the same time the protoplasm underwent profound modifications. It took on a general blue tint, often more marked at the middle of the perinuclear zone. The chromatic substance was represented here and there by a few striations. The plaques became finely granular. These diverse cytoplasmic alterations did not appear to them to begin by preference in the region of the nucleus. They did not seem to follow any clearly definable law. In the second stage the volume of the cells diminished; its protoplasmic mass especially staining less and less intensely. The nucleus with its nuclear membrane was made out with difficulty. It underwent a more or less considerable displacement. Finally in the last stage, which is more rarely reached, the cell body, very pale throughout, does not present any protoplasmic prolongations. The chromatic elements are reduced to minute granules scattered here and there. The nucleus is located at the periphery; its substance is feebly tinted; its membrane is often destroyed. These cell lesions having been already described in the more extended works of the pathological histology of alcoholic polyneuritis, we desire in our communication especially to call attention to their polymorphism and to their constant existence when the disease is at its greatest height.

Soukhanoff[3] reports a case of multiple neuritis of probable alcoholic origin, in which both the methods of Nissl and of Marchi were used in the examination of the central nervous system. In the ganglion cells of the anterior horns there was marked central chromatolysis, and the nucleus was driven to an eccentric position. In a few cases the nucleus was centric with some perinuclear chromophilous substance, but about this the chromatolysis was marked. The author interprets the cell changes in two ways: In those cells with centric nuclei and with perinuclear chromatolysis the changes are probably primary, whereas in other cells the lesions are probably secondary to degeneration in the nerve fibres.

This position is, we believe, difficult to maintain.

Ewing[1] in his recent monograph reports a case with typical course, in which paralysis had been present for about two months. He found that, throughout the lumbar cord, the anterior horn cells showed all the changes described as following the section of nerve trunks. Nearly every cell showed marked central or complete chromatolysis with eccentricity of the nucleus. Many of these cells had passed beyond this stage and were entirely lacking in normal characters, containing no traces of chromatic substance, and both cell body and nucleus appearing greatly shrunken. The earlier stages of the same lesions were found in the cervical cord. Throughout the cranial nerve nuclei the majority of the cells showed central or complete chromatolysis, with eccentricity or protrusion of nuclei. Many of the cells in some nuclei, however, appeared quite normal. The nucleus *x* and nucleus ambiguus were extensively altered. The cells of the cortex and cerebellum showed only slight fading of chromatic bodies or appeared quite normal.

Heilbronner[2] has given us one of the most careful and extended studies of multiple alcoholic neuritis of recent years. In limiting his investigations more particularly to observations of the fibre and muscle pathology, his work is of secondary interest when viewed from the present general point of view of the paper, but the suggestive results obtained by his painstaking application of Marchi's method are of primary importance and demand a more careful analysis than can be here entered into. His results, as

FIG. 18.—Cell from Column of Clarke. Left side, tenth dorsal segment, showing central chromatolysis; eccentric nucleus. (Photomicrograph by Dr. Leaming.)

[1] Marinesco, M. G.: "Les polynévrites en rapport avec la théorie des neurones." Comptes rend. de la Soc. de Biol., 2, 1895, p. 765.

[2] Dejerine and Thomas: Soc. de Biologie.

[3] Soukhanoff, S.: "Sur la histologie pathologique de la polynévrite dans ses rapports avec les lésions de la cellule nerveuse." Nouvelle Iconographie de la Salpétrière, 10, 1897, p. 347.

[1] Ewing, J.: "Studies on Ganglion Cells." Archives of Neurology and Psycho-Pathology, vol. i., 1898 pp. 263–440.

[2] Heilbronner, K.: "Rückenmarksveränderungen bei multipler Neuritis der Trinker." Monatsschrift f. Psychiatrie u. Neurologie, 3, 1898, p. 457; 4, 1898, pp. 1–81.

"zusammengefasst" by himself in his four cases, are about as follows:

1. Degeneration of the anterior horns, which in Cases I. and II. showed a marked preponderance in the lumbar cord over that found in the cervical cord, while in his Cases III. and IV. the lumbar cord was affected in a minor degree compared with the involvement of the cervical cord. The dorsal cord showed but little degeneration. In those cases in which degeneration of the anterior horns was marked, a degeneration of the fibres in the anterior horn was also appreciable, and there was an involvement of the fibres of the anterior commissure.

2. There is also a degeneration in the posterior horns, involving different areas in the cases studied; in I., the cervical more than the lumbar; in II., both alike; and in III. and IV., the lumbar cord was affected the most.

3. A fresh acute ascending degeneration in the posterior columns, which in the different cases affected the columns of Goll and Burdach in different fashion. This case showed markedly greater degeneration in the columns of Burdach in the cervical region. In Case II. there was an equal degeneration in both cervical and lumbar regions of the columns of Goll, while in Cases III. and IV. the degeneration was confined almost exclusively to Goll's columns and the lumbar posterior roots.

4. Case IV. also showed a degeneration in the crossed pyramidal tracts in addition to this degeneration of the posterior columns and the posterior roots.

One fact is brought out in relation to the similarity of posterior-column degeneration to those of tabes, in that in three cases, as studied by the Marchi methods, there is no constant pathological picture, although the clinical pictures might appear identical, and that in these cases the author notes that the lesions do not exist in every root area but are found here and there, sometimes skipping a segment or segments. In this peculiar distribution of the degenerated areas is to be found one of the cardinal points of difference in the two diseases from a pathological point of view. It is possibly due to this fact also that the case of Soukanhoff gave him no positive lesions.

The lesions that Heilbronner describes as occurring in the ganglion cells, studied by the Nissl method, in one of his cases which presented the typical clinical picture and ended fatally without hyperpyrexia or other abnormal feature, are held by him to fall into two classes. The more common one was characterized by a minute disintegration of the chromatic bodies, at first about the nucleus, then about the periphery, without any variation in the nucleus; this latter, however, in the later stages would become eccentric. In a few cases vacuoles were to be found in otherwise normal cells. These he holds to be essentially different types of lesion, although he does not characterize them with reference to their causation.

The correlation of the structural changes found in this case with those induced by experimental alcohol poisoning has not proven entirely satisfactory. The earlier writers Vas and Dehio give us some interesting findings. Vas, by chronic alcohol poisoning, induced severe grades of malnutrition, which in turn, as he interpreted the lesions, produced a condition of general swelling and central chromatolysis. The findings of Dehio were more interesting with reference to the changes found in the cells of Purkinjé. In these mild grades of chromatolysis were observed. The fine chromatin bodies were largely replaced by finer granules. Stewart confirmed many of the results of Dehio. Berkley made some extended studies on acute and chronic alcoholism in rabbits. In his series of chronic poisonings alcohol was administered for almost a year in daily doses of from 5 to 8 c.c. The changes in the capillaries are reported upon, the walls of many of them being irregularly shrunken, the vascular wall nuclei being swollen and more readily stainable. In the cerebral cortex the somatochrome cells show alterations mainly in the nucleolus; here, in place of the smoothly appearing nucleolus in or near the centre of the nucleus, it appears roughened, spongy, or even with elongated projections from the surface. Not only is the nucleolus roughened, but it is also considerably enlarged, occupying from an eighth to a sixth of the interior of the nucleus, its projections extending to the periphery of the circle. Around these nucleolar figures is grouped a small amount of nuclear dust particles resembling an irregular circle, but the remaining portions of the nucleus are free from the presence of molecular particles. In the nucleus there is a decided tendency to take up more of the aniline stain. So marked does this tendency become at times that the contents are rendered indistinct and the cell body is much less refractile than normally.

In a second rabbit similar changes are noted in the blood-vessels. All of the nerve cells take up a larger quantity of the aniline dye than usual. The chromophilous granules in the cytoplasm are not so distinct; the nuclei stain a deeper hue than normally. In his series of acute alcohol poisoning of three rabbits large doses were given until a certain tolerance was established; then the doses were increased suddenly until death resulted. The Nissl method of investigation showed few definite alterations save in a few cells located in the immediate neighborhood of clogged vessels. Here the cellular protoplasm did not show its stichochrome structure: it appeared uniformly and fully granular, and besides did not take up so much of the dye as other more normal cells. In these individual cell bodies there is beginning swelling of the nucleoli, and they appear slightly roughened. The nuclear dust has not aggregated into clumps and become adherent to the nucleolus, as in some of the chronic cases of the first study. In the areas where the disturbance of the circulation has been less well defined, changes in the protoplasm and nuclei of the cells are not very positive. The stichochrome particles of the protoplasm are seen somewhat less clearly than normal, and the protoplasm as an entirety shows greater receptivity to the aniline stain than is customarily seen, or, better, they will not bleach out with the same facility that they ordinarily do. The nucleus and nucleolus appear to be strictly natural. The striated appearance of the thicker dendrites near the cell body is always seen.

These results, if they occurred in the present case, were certainly overshadowed by the changes probably induced by the peripheral disease, for, beyond some slight nucleolar fragmentation, the lesions observed were not characteristic of the findings as given by these experimental studies. In man the changes found in delirium tremens have been very various. Some observers report almost no changes at all, while others find extreme grades of cell degeneration. Perhaps none are more pronounced than those observed by Ewing.[1] He reports two cases, both of which were fatal in a condition of delirium tremens. There was some hyperpyrexia just before death, 104°–105° F. One case was complicated by acute kidney disease, the other by slight catarrhal pneumonia. These cases present a clear picture of the alcoholic poisoning. The spinal, medullary, and cortical stichochromes presented the lesion of extreme chromatolysis. No normal cells were seen anywhere, and in only a few were there any traces of the peripheral ring of chromatic bodies, often seen when the disintegrating proc-

[1] Ewing, J.: "Studies on Ganglion Cells." Archives of Neurology and Psycho-Pathology, vol. i., 1898, pp. 263–440.

ess begins about the nucleus. In many cells, especially in the cranial nuclei, the lesions had advanced far beyond simple chromatolysis, and the cell outlines were irregular and ragged and considerable areas of the cells were almost transparent. The remains of the chromatic bodies appeared as a uniform deposit of fine granules, or no traces of them could be found. In badly altered cells the nuclei were almost invariably markedly eccentric or projected beyond the cell border. They were not found to stain diffusely. Yellowish granular pigment was rarely seen in these cells. Many of the Purkinjé cells contained a moderate number of large distinct chromatic bodies, but usually these bodies are thin, ragged, granular, or absent, the deficiency being most marked at the poles and not above the nuclei. In the examination of the brain he found the following general lesions: "The cortical archyochromes showed a bleached chromatic network, though sometimes coarsely granular and indistinct."

These cases by reason of their extreme severity show marked cellular changes comparable in many ways to the lesions observed in the present case. Whether polyneuritis was beginning in these cases it is impossible to say, but the presence of the extreme grades of chromatolysis in the spinal cord throws a somewhat conflicting light on the generally accepted dicta of the process of axonal degenerations. Nor is this question of axonal degeneration made more capable of interpretation when we look at the changes in the cells of the columns of Clarke and the nucleus of Stilling. From a reference to the tabulation of the lesions found in these cells in the present case it will be noted that the cells in this region suffered as much if not more than the anterior horn cells. Such degenerations have before been noted, more particularly in other forms of polyneuritis, and especially have they been the subject of much speculation in Landry's paralysis.

Marchi[1] has shown that, following total ablation of the cerebellum in monkeys, there is a marked degeneration of the direct cerebellar tract and a degeneration of the cells of the columns of Clarke. This degeneration of Clarke's columns is distinctly homologous to the changes in the anterior horn cells following an injury to or the destruction of the peripheral end of the motor neuron. Similar changes have been noted in transverse myelitis, and recently by Barker as a result of epidemic cerebro-spinal meningitis. In this case the direct cerebellar tract was involved and the degeneration of Clarke's column was to be expected. Further we know, however, from the studies of Heilbronner and many others that degenerations of the direct cerebellar tract are found in some cases of alcoholic multiple neuritis. These cases, however, are to be classed, we believe, as fibre degenerations following cell degeneration rather than the reverse, although it must be confessed that we are entirely in the dark with reference to any knowledge of the degree of poisoning that might take place in the terminal arborizations of the direct cerebellar tract in the cerebellum.

But from this point of view, which will explain quite readily the changes observed in Clarke's columns, when the present case is studied and those of many others in which the peripheral sensory neuron is affected by the disease process and a second central neuron bears the impress of that disease, the interpretation is not so clear. Lissauer[2] as early as 1884 noted the degeneration of the cells of the columns of Clarke in tabes, and more recently Marinesco has shown the characteristic picture of an axonal degeneration in a case of tabes and general paresis; the presence of the paresis complicates this case somewhat, yet in this disease, and in others with involvement of the posterior root zone, such typical lesions are found. Sano[1] and a number of others describe similar lesions in Clarke's columns following amputation of a limb, and Sano found lesions also in the motor cortex.

In Landry's paralysis the cells of this region have been found with similar lesions by a number of writers, and more recently Mills and Spiller[2] have gone over the ground in this disease, and though believing that the entire peripheral sensory neuron may be affected by the disease, this does not explain the lesion in Clarke's columns which are connected only by collaterals with the sensory neuron. Marinesco, in his statement that he believes the changes to be secondary and like those found in polyneuritis, overlooks that the process of degeneration of the anterior horn cell of the motor neuron and those of the cells of the columns of Clarke are not homologous types of degeneration at all. We are unable to offer any explanation why the columns of Clarke should be affected, unless we assume with Van Gehuchten[3] that the ganglion cells in a nervous chain react one upon the other, and that the cutting off of the peripheral sensory stimuli produces a degeneration in the secondary spinal neuron. It is possibly true that both centralists and peripheralists are correct, and that the lesson taught by the changes in these cells in alcoholic neuritis is that the degeneration of the secondary neuron is possible only when in addition to the cutting off of its collateral stimuli the central ganglion cell is overwhelmed by some toxic influence, and yet no such toxic influence can be posited in ordinary nerve sections. With reference, however, to this latter, we might again recur to the fact that perhaps some misinterpretations have been made in estimating the degree of degeneration of the cells of the columns of Clarke. One further point of interest brought out in the present study shows that the disease of the blood-vessels may play a very secondary rôle in the neuritic process. This is quite in opposition to the views held by Fleming, who in two cases was led to the belief that the principal cause of degenerative neuritis was pressure, the result of an inflammatory exudate.[4]

Résumé: From the investigation of the present case the following general conclusions seem warranted:

1. In fatal alcoholic multiple neuritis grave variations from the normal structure (equivalent picture of Nissl) of the ganglion cells of the anterior and posterior horns, the columns of Clarke, the nucleus of Stilling, and the nuclei of the medulla are always to be found when studied by appropriate methods.

2. These cytological variations are characterized by their extreme polymorphism. They may consist of simple swelling of the ganglion cell or of its chromatin particles; fine granular disintegration of the chromatin; destruction of the chromatin; central, peripheral, perinuclear, and general chromatolysis; wandering of the nucleus to an eccentric position, and destruction of the achromatic structures to complete disintegration of the cell.

3. To what extent these lesions are due to the direct

[1] Marchi, V.: "Sull' origine e decorso dei peduncoli cerebellari e sui loro rapporti cogli altri centri nervosi." Rivista Sperimentale di Freniatria, 17, 1880, p. 357.

[2] Lissauer, H.: "Ueber die Veränderungen der Clarkeschen Säulen bei Tabes dorsalis." Fortschritte der Medicin, iv., 1884, p. 113

[1] Journal de Neurologie et d'Hypnologie.

[2] C. K. Mills and W. G. Spiller: "On Landry's Paralysis, with the Report of a Case." Journal of Nervous and Mental Disease, vol. v., 1898, p. 365.

[3] Van Gehuchten: "Le phénomène de chromatolyse consécutif à la lésion pathologique ou expérimentale de l'axone." Bull. de l'Acad. Royale de Belgique, 11, 1897, p. 805.

[4] For a full citation of pathological changes in ganglion cells consult Jelliffe, "Bibliographical Contribution to the Cytology of the Ganglion Cell." Archives of Neurology and Psycho-Pathology, No. 1, 1898, p. 440.

action of the alcoholic poison on the molecular structure of the ganglion cell (primary), or the degeneration of the peripheral extensions of both sensory and motor neurons (secondary), cannot, we believe, be accurately determined. The conclusion drawn is, that the peripheral degeneration is the much more important one of the two.

4. The best hypothesis yet offered to account for the degeneration of the cells of the column of Clarke is that of Van Gehuchten, by the assumption that the ganglion cells of a nervous chain exercise the one upon the other a trophic action, the suspension of which produces a chromatolysis and disappearance of the corresponding cells.

Pathological Laboratory,
Columbia University, April, 1899.

## NOTES ON THE INDUCTION OF PREMATURE LABOR.[1]

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There is such an apparent unanimity of opinion with regard to the technic of this operation that it would seem to admit of no argument. Students are taught in lectures and text-books that it is a simple matter to excite uterine contractions by artificial means, but when they attempt to apply the ordinary methods in actual practice they are often surprised and disappointed at their failure to accomplish the desired result, and are apt to attribute their ill success to lack of skill, or to the omission of some necessary details. Experience has shown that the uterus is more tolerant of rough handling than was formerly supposed. Every gynæcologist has been impressed with this fact in performing operations upon pregnant women, especially in cases of ovariotomy and appendectomy. This is well illustrated in the following cases:

Case I.—Multipara, pregnant four months, pregnancy being complicated by a large retro-uterine abscess. There was no fluctuation, and the mass was supposed to be a neoplasm or retroflexed and incarcerated gravid uterus. There were peritonitis and high temperature for several days. I made an exploratory section and found such firm and general intestinal adhesions that the incision was closed and the abscess opened per vaginam, several ounces of offensive pus being evacuated. Irrigation with hydrogen peroxide was made and gauze drainage was inserted. The temperature dropped to normal and the patient had a smooth convalescence, abortion occurring a month later, after she was up.

Case II.—Multipara, pregnant five months. She was suddenly seized with severe pain in the back and abdomen, with pressure on the rectum and inability to evacuate the bowels. On examination a tumor the size of a grape-fruit was found to be impacted in the cul-de-sac. I performed cœliotomy and removed an adherent multilocular cyst, the pedicle of which had been twisted 360°, causing intra-cystic hemorrhage and commencing necrosis. The uterus was lifted out of the cavity and covered with hot towels. The operation was long and necessitated extensive suturing of the broad ligament and peritoneal covering of the uterus. There was no reaction, the convalescence was afebrile, and the patient was up during the fourth week. She was discharged at the end of five weeks in excellent condition. Fœtal movements were active. In another nearly similar case an adherent dermoid was removed from Douglas's pouch, the patient going to full term, and having a normal labor. Such cases are now too common to cause any comment.

[1] Read at a meeting of the Harvard Medical Society, May 27, 1899.

It is usually stated that dilatation of the cervix in a pregnant woman involves imminent risk of abortion, but how often is this done without accident to relieve obstinate vomiting! Abortion has not occurred from this cause in my practice, although I always introduce the branched dilator to its fullest extent and separate it widely. Provided that the membranes are not ruptured, mere dilatation of the cervix rarely excites more than transient uterine contractions, if any.

In a recent admirable text-book on obstetrics the author seems to rely principally on the classical method of introducing a bougie. All practitioners must admit that this is more or less uncertain, and that there is considerable risk of rupturing the membranes, even at the hands of an expert—an accident which may seriously complicate subsequent attempts at artificial delivery. I recall a case in which the repeated introduction of a sound and intra-uterine faradization failed to excite contractions in a uterus pregnant three and one-half months, so that it was necessary to divulse the cervix and to remove the contents piecemeal. There remains the method of dilating the cervix and exciting uterine action by means of the gauze tamponade, with or without the subsequent introduction of rubber bags. From the trend of society discussions I would infer that the bags had fallen into undeserved disrepute. The criticisms that they cannot be rendered thoroughly aseptic, or that they are liable to do injury to the soft parts, or to displace the presenting part, seem to me to be entirely theoretical. On the other hand, it has been confidently asserted that both the gauze and bags when introduced well within the os internum invariably induce labor, but such has not been my experience, as proved by the following cases:

Case I.—Multipara with conjugate of three inches. In her first labor I was obliged to perform craniotomy upon the living fœtus, Cæsarean section and symphyseotomy being refused. In the second pregnancy I induced labor at the beginning of the ninth month. The cervix was soft and dilatable, so that the smallest Barnes' bag was easily introduced and left for several hours without result. A larger one was substituted, and finally the double McLean bag, a most valuable instrument. Thirty-six hours were spent in trying to excite labor pains. These were few and transient and then ceased entirely. Preparations were made to deliver. The bag was found to have been forced into the vagina, but the cervix was so much dilated that after a few minutes spent in manual dilatation twins were easily delivered by podalic version. There was normal convalescence of the mother, and both children thrived.

Case II.—Multipara, conjugate three and one-quarter inches. The first child was large and the cervix was rigid. There was an impacted breech with premature rupture of the membranes. Manual dilatation was made, but not sufficient to paralyze the contraction ring (a serious error), so that delay in extracting the head cost the life of the child. In her second pregnancy (again a breech presentation) I introduced two or three yards of gauze within the os internum, and substituted a medium-sized bag at the end of twenty-four hours and a large double bag twelve hours later. There were absolutely no pains, so that at the end of forty-eight hours the bag was removed and, dilatation being perfect, a vigorous child was extracted in a few minutes. Convalescence was normal.

Case III.—Multipara, with moderate contraction of the conjugate (three and one-half inches ?), but false promontory marked. In her first labor I delivered a live child by a difficult forceps operation. She became pregnant again, and I resisted the importunities of the patient and her physician to terminate the pregnancy, promising to induce labor early in the ninth month. Hydramnios and a large child. The cervix

was dilated with one finger and several feet of gauze were carried well up into the lower uterine segment. There was no result after twenty-four hours. A medium-sized bag was substituted and left in situ for twelve hours. There were no pains whatever. The patient, family, and attending physician had then become so nervous that I decided to operate. The bag had dilated the cervix about one-half, but it was easy to complete the dilatation, and a healthy child was delivered by podalic version. Mother and child did perfectly well.

Case IV.—IIIpara, enormously stout. Labors had always been difficult. She was two weeks from full term. She had had marked uræmic symptoms in her last pregnancy, and was said to have organic changes in the kidneys. She was passing a small quantity of albuminous urine, with a marked diminution of urea and constant headache. The uterine tumor was unusually large, due to hydramnios and the presence of a child above the average size. The cervix was dilatable up to the os internum, where there was marked rigidity. At least four yards of gauze were packed into the lower uterine segment. There were no pains after twenty-four hours. On removing the gauze, the double bag was easily introduced, so that it was entirely within the os internum. No pains after eight hours. Manual dilatation was completed in twenty minutes, and a nine-pound child was extracted after podalic version, the extraction being unusually difficult. There was adherent placenta, with profuse hemorrhage, requiring gauze tamponade. Convalescence was normal, and the threatening symptoms promptly disappeared.

Case V.—This case differs somewhat from the preceding, as the patient was only four months pregnant, hence the uterus may be said to have been less responsive to mechanical irritation. The patient was weak and anæmic. There were marked varicosities of the vulva, so that locomotion was difficult. Her first labor was tedious, the cervix being long and rigid. A live child was delivered by a difficult (medium) forceps operation, the cervix being so deeply lacerated that immediate trachelorrhaphy was required. The healing process was so perfect that the os subsequently looked like that of a nullipara. Early in her second pregnancy (third month) she began to have severe headache, the daily amount of urine dropping to from twenty to twenty-five ounces, while only six grains of urea to the ounce were excreted. There were no albumin nor casts. Careful diet and medicinal treatment were without result. I advised emptying the uterus, after consultation with Dr. Marx; and, having dilated with a steel instrument, I introduced two yards of gauze, which remained in situ for twenty-four hours without producing any result, except softening of the cervix. There was no dilatation whatever. The uterus was then emptied after an hour's hard work, the fœtus and placenta being removed piecemeal. It was impossible to pass one finger within the os internum. Afebrile convalescence followed. The headache ceased promptly, and the amount of urine increased in a week to fifty ounces. The patient drove out at the end of the third week.

These cases are presented simply to confirm the statement that while the gauze tamponade and water bags are invaluable for the purpose of softening and dilating the cervix and lower uterine segment, they cannot be depended upon to excite regular uterine contractions, provided that the membranes remain intact. In my opinion their use should always precede attempts at manual dilatation, save in those exceptional cases in which rapid dilatation and immediate delivery are necessary in the interests of the mother. It is more in accord with the spirit of modern elective obstetrics to deliver the patient promptly after full dilatation has been secured than to keep her in a state of anxiety for days waiting for labor to begin, until she loses both her strength and her courage, and is in poor condition to sustain long anæsthesia and an obstetric operation.

I may add that I have rarely found it necessary to anæsthetize a patient in order to introduce the gauze or bags. It is apt to demoralize the woman and her family if she is chloroformed and an "operation" is performed two or three times before the beginning of labor.

It would seem unnecessary to add that rigid asepsis is indispensable in all these manipulations. It is not enough simply to give a vaginal douche each time that the gauze is introduced, removed, and a bag substituted. Unless the same care is observed on every occasion as in a minor gynæcological operation, with regard to the preparation of the field of operation and the sterilization of hands and instruments, there will always be a painful uncertainty as to the ultimate result.

## VARIATIONS IN HUMAN GAIT.

By E. H. BRADFORD, M.D.

BOSTON, MASS.

It is important in the recognition of certain diseases to examine carefully the gait of the individual, and for this purpose a knowledge of all varieties of normal human gait is useful; it is therefore somewhat surprising that the subject is one to which comparatively little attention has been given. To walk is as natural as to talk, and to walk correctly would seem to be instinctive; but grammatical speech is not instinctive, and training can improve "form" in every exercise. When Molière's uneducated bourgeois first learned that he had been talking prose all his life, his surprise showed his unacquaintance with the subject. Perhaps attempts to classify the art of walking may excite the same amused attention.

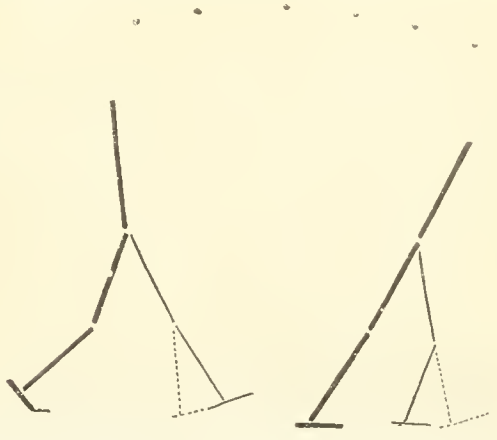

Fig. 1.—Diagram illustrating the erect and inclined gait. Dotted lines indicate the position of the leg in the variations; the upper dotted line indicates the rise and fall of the head at different portions of the gait.

Human gait is ordinarily divided into the walk and the run, the distinction between the two being based on the fact that in the former one foot is always on the ground, while in the latter both feet may be in the air at the same time. The walk, however, can be subdivided according to the force used in propelling the trunk forward, and the manner in which that force is used.

The varieties are as follows: first, the upright gait, which is commonly seen in adults walking on an even surface. It is characterized by the erect position of

[1] Read before the centennial meeting of the Medical and Chirurgical Faculty of Maryland.

the trunk and the firm planting of the heel of the forward leg upon the ground. The trunk is pulled forward by the muscular action of the glutei and the hamstring muscles, and this is aided by the push of the rear foot. This gait is seen in all cities and is common among shoe-wearing people. It is exaggerated in people the muscles of whose feet are weakened by shoes, and by a life of leisure. In this gait, the front of the forward foot is used but little, and of the rear foot only at the end of the stride. The gait, consequently, taxes the muscles of the soles of the feet governing the action of the toes and the front of the feet but slightly. This gait can be easily recognized by the erect position of the trunk, with the head well behind the striking-point of the front heel. In exaggerated cases there is added to this an exaggerated toeing out of the feet and an unusual angle of the foot formed with the plane of the ground as the heel strikes the ground. The erect gait is common in corpulent persons and in persons walking down an incline.

Fig. 2.—Illustration of the erect gait.

Fig. 4.—Diagram indicating the side inclination of the trunk in the variations in gait, according to the varying strength of muscular groups; dotted line indicating the line of side oscillation in the sway of the body.

The second form of gait is usually seen in barefooted individuals, and is characterized by the utilization of the weight of the body falling forward as a means of propulsion. The body is inclined forward from a stationary point, and would fall forward if this was not checked by the forward leg thrust out to prevent the fall. The heel of the front foot may or may not strike the ground first, but if it does, it is immediately followed by the whole of the sole and the toes. Ordinarily, however, the front foot catches the weight on the whole sole. The front of the foot pressing upon the ground presses the inclined body forward, and in barefooted or moccasined individuals and on soft ground, the pressure of the toes pulls the body forward, progression being also aided by the push of the rear foot at the end of the stride. The heel is but little used as a point by which the body is pulled forward, but the front of the foot is largely used, somewhat as in animals, to claw the ground. This gait is characteristic of barefooted and moccasined people.

Fig. 5. Diagram indicating the rotation of the trunk in walking, and the swing of the arm.

Fig. 3.—Illustration of the inclined gait among barefooted savages of Western Africa.

It is common in young children and is seen in persons in snow-shoeing, walking in slippery places and up a

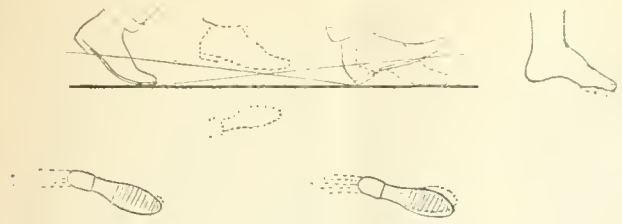

Fig. 6.—Diagram of the varying positions of the feet in different portions of the gait, and of foot impressions in walking in the snow.

sharp ascent, and against a strong wind. The knees are usually slightly bent, and strain comes upon certain muscles of the leg not used in the other variety of gait, that is, in the muscles of the soles of the feet and the front of the thighs. Less strain comes upon the muscles of the calf, as the weight of the body is not

Fig. 7.—Photograph of footprints in snow.

rested on the feet, but chiefly upon the knees. As the heel does not strike the ground with a straight limb there is less jar on the spine, and as the body falling forward is utilized as an aid to propulsion there is a muscular economy in this gait.

A combination of these two gaits is seen in strong and active walking, the weight of the falling body being utilized, but the stride is long, a strong push of the rear leg being used.

Variations in the details of gait are seen in the angle with which the front foot strikes the ground, the straight or bent position of the forward and rear leg at the extreme limits of the stride, the angle of divergence of the foot, that is, the angle formed by the axes of the feet seen from the front or from behind, the height to which the rear foot is raised as it

Fig. 8.—The variations of the position of the feet seen from the front.

leaves the ground, the straight or inclined axis of the rear and front foot with the vertical plane, and the divergence and inclination of the foot as it is swung forward. These variations, when slight, are of but little practical significance, caused as they are ordinarily by habit and by the different strength of different individuals. It may be stated that the stronger the foot and the stronger the gait, the less the angle of divergence and the more near to the central line and horizontal plane the foot moves. Variations are also to be seen in the sway of the body, the swing of the arms, the rise and fall of the trunk, and the rotation of the axes of the pelvis and the thorax. These slight variations may in paralytics become exaggerated, indicating the weakness of certain muscles and causing a limp, dragging of the foot, swaying of the trunk, or unusual position of the feet. The toeing out of the feet either in standing or in walking is a convention-

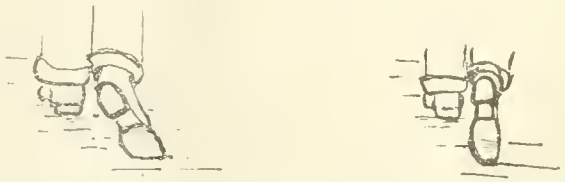

Fig. 9.—Variations in the inclination of the axis of the foot seen from behind.

ality if carried beyond a slight degree. Persons with normal strength of the muscles of the leg and feet can stand with the feet straight as steadily as with a slight divergence of the axis of the foot, but in shoe-wearing people in whom the action of the front of the foot is weakened, a slight amount of toeing out broadens the base of support and is of use to prevent swaying of the body, and in leisurely gait in which the muscles are relaxed and those of the foot are not much used, a slight amount of divergence of the feet is normally seen even among barefooted people, as, owing to the attachment of the psoas and iliacus muscles to the inner side of the femur, when the thigh is swung forward it would turn out slightly. This is checked and corrected in a strong gait in which the muscles of the front of the foot are actively and firmly used.

In order to detect pathological changes in the muscles of the feet and legs, it is necessary to study more closely the motions of the feet in walking. When the front foot strikes the ground in the ordinary erect gait, the heel strikes first: as the body comes forward the front of the foot strikes and remains in contact with the ground till by the forward motion of the trunk and other limb the front foot has become the rear foot; the heel is raised in the final push, and the rear foot is swung forward. The foot is swung forward clear-

Fig. 10.—Spanish prisoners embarking at Santiago, showing the gait of exhausted men. The figure in the centre is of a Cuban and indicates the leisure gait of strength. The figure to the left is that of a American soldier.

ing the ground, moving with the heel on a descending line until it strikes the ground, the toe or front of the foot being raised as the foot is pushed forward. In some individuals the heel is first raised quite high in the final push of the rear foot, in others is raised but little, and the front of the foot by a motion at the ankle joint is raised considerably. In the latter instance considerable strength of the muscles of the front of the leg is indicated. A singular change in the direction of the foot takes place as it is swung forward. When it is raised from the ground as the rear foot the axis of the foot may be vertical to the ground or at a varying angle, the heel dropping slightly inward, as the foot is brought forward the toe is raised and the whole limb turned slightly outward by the action of the psoas and iliacus already mentioned, so that just before the heel strikes the ground the foot turns outward more than when the heel is first raised from the ground. As the front of the foot is brought down upon the ground it is more nearly straight than when swung forward. In persons with but little play in the medio-tarsal articulation, or in whom the muscles of the leg and foot are weak, the foot is but little turned in after the heel strikes the ground producing a flat-footed gait. Under these circumstances in aggravated cases the final push at the end of the stride is weak and a shuffling gait results. In strong-muscled people, especially when barefooted, there is but little outward swing of the foot as it is brought forward and often slight toeing-in of the front of the foot as it strikes the ground; the greater toe spreads to the inside in order to grasp the ground as an aid in propulsion characteristic of barefooted or moccasined people. The swing of the foot of shoe-wearing people can best be seen in watching the tracks of individuals who have walked in freshly fallen snow, where the snow-fall is not so deep as to give the gait the act of wading. It will be seen that as the foot is brought forward, the heel descends on an incline until it strikes the ground, causing a track by disturbing the snow which appears attached to the footprint. This track in the snow is always in the direction in which the individual is going and forms an angle with the axis of the footprint of the foot, the amount of the angle being dependent upon the amount the individual toes out. Light snow with a depth of a fall of two inches will in certain instances show the track of the toes of the foot as it is swung forward. This is seen somewhat to the outside of the line of descent of the heel and behind it, and will be noticed as a curved line joining the line of the descending heel. This will not be seen in strong or vigorous walking, in which the feet are brought forward in a straight direction and without an outward swing.

FIG. 11.—Photograph of the soles of the feet, one of an individual who has worn shoes, showing the weakened muscles and the cramped condition of the toes; the other of an individual who has never worn shoes, showing the strong condition of the foot muscles and of the toes. Photograph from the Caroline Islands.

The old writers have claimed that in the normal gait the front of the foot strikes the ground at the same time that the heel does, and this is taught as the parade step in some armies. The fallacy of this has been completely proved by instantaneous photographs, and the step is unserviceable in the erect gait where the heel is meant to strike the ground as a point by which the body is to be pulled. It is, however, characteristic of strong walkers that the front of the foot strikes the ground after as short an interval as possible following the impact of the heel, in order that the pressure of the front foot upon the ground may be as strongly used as possible in the muscular effort of propulsion. It is for that reason that the striking of the ground with a high angle of the foot is to be avoided and is indicative of an untrained gait. The striking of the ground with the knee of the front foot bent is also indicative of an untrained gait in that the stride

FIG. 12.—Gait of baboon, showing the claw-like action of the toes.

is thereby shortened, unless the gait is of the second variety in which propulsion is not gained by the heel of the front foot so much as by the falling forward of the

FIG. 13.—Photograph of a child beginning to walk, showing the claw-like position of the toes.

weight of the trunk. A long stride may be gained in the second variety of gait by allowing the body to fall more completely, but it is checked by the forward leg. A long stride therefore in this variety of gait is obtained only by the expenditure of a greater strain on the muscles of the front of the thigh, and it is for this reason that a short stride is for ordinary use preferable in this variety of gait.

The swaying of the body sideways varies according to habit and muscular strength. When the muscles are all strong there is but little side sway; when the muscles that hold the trunk upon the thigh are weakened the body will swing to the outer side as the weight comes upon the leg to diminish the strain upon these muscles. Not infrequently, however, when the individual pushes with the rear foot somewhat obliquely, the whole figure is pushed from the ankle upward to the outer side and slightly forward. In the ordinary gait there is but slight rise and fall of the hips as the weight comes alternately upon one foot or upon the other, but in some individuals this may be considerable.

The amount of rise and fall will depend upon the length of the stride and also upon whether the knees are bent and straightened in the different parts of the step. In a shuffling gait there are but little rise and fall; in a strong stride the rise and fall are uniform and considerable.

The cross axis of the pelvis is held during the walk at right angles to the direction of motion, and a slight sway takes place as the foot is thrust forward. In track walking this is artificially exaggerated in order to lengthen the stride, the individual swinging forward and the front of the rear foot twisting his pelvis forward in the direction of the front foot. As the legs are thrust forward in ordinary gait a compensatory swing of the arms takes place, the arm opposite the protruding leg being swung forward. The amount of this swing depends upon the rapidity of the gait and the activity of the stride.

These less important variations need to be carefully noted by any one wishing to familiarize himself with the peculiarities of gait, but for the practical purpose of the clinician it is necessary to bear in mind only a few of the points herein suggested, as follows: that there are two varieties of human gait besides what is known as a run, and that of these that in which the body is held erect, the weight being well behind the front foot, is the most common in civilized communities. The other variety is common among barefooted savages. That in the erect gait the heel of the front foot is important as a means of pulling the body forward, as is also the front of the forward foot as soon as the weight of the trunk is brought over the forward leg; the front of the rear foot is also used as a means of propulsion in the final push.

The importance of the front of the foot in gait should lead to greater care in construction of footwear, and in the prevention of weakening the muscles by shoes; and in gymnasiums, and in training men for marching, greater attention should be paid to the development of the muscles regulating the front of the foot, in the toes, and in the development of muscles that will enable them to utilize the forward gait. Troops sent in rapid pursuit of Indians or moccasined people should be trained in such a way that they should not be outclassed by the special muscular development of the people who can utilize thoroughly the economy of their forces in walking.

133 NEWBURY STREET.

## Progress of Medical Science.

**The Employment of Yeast in the Treatment of Vaginal Blennorrhœa.**—In seeking for a method capable of destroying gonococci and their toxic products, without deleterious effect upon the patient, Landau (*Deutsche medicinische Wochenschrift*) found that common yeast fulfilled this requirement. Of forty cases of vaginal blennorrhœa treated according to this principle cure was effected in more than half, in some after one or two applications. In others temporary relief was afforded, and the discharge returned; in still others the catarrhal affection was ameliorated; and in a few cases there was no apparent improvement, although the patients declared that they felt better. The yeast was obtained from a brewery, and, after being diluted with a small quantity of beer, was injected into the vagina with an ordinary syringe, and retained by means of a tampon closing the orifice of the canal. The injection was repeated after two or three days and the treatment was continued for several weeks.—*Lancet.*

**The Bearing of the Neurotrophic Function on Cutaneous Conditions.**—In an article by Dr. Samuel Wolf (*Philadelphia Medical Journal*, March 25th), what the writer has designated as the neurotrophic function is first described as a term to represent the action of the nervous system on metabolic processes. He then reviews the various classes of cutaneous affections which are due to impaired nervous conditions. Seven classes are made to cover the field, and the following conclusions are formulated: (1) That trophic powers or metabolic properties are inherent in the tissues themselves. (2) That these are related in highly specialized organisms to impulses generated in gray nervous matter in the ganglionic systems of the cerebrospinal axis and the sympathetic. (3) That the impulses arising in the brain and cord are anabolic in their character, while those arising in the sympathetic

are katabolic. (4) That the impulses are in each case conveyed over special fibres adapted to their function by virtue of their central and peripheral terminations. (5) That the field of dermatology offers exceptional and remarkable opportunities for the study of neurotrophic processes.

**Pulmonary Emphysema.**—Dr. Samuel Gee closed his lectures before the Royal College of Physicians of London in March last with the following remarks: "To end our inquiry by recapitulating the results at which we have arrived, I submit to your judgment these propositions: That pulmonary emphysema is chiefly due to forced inspirations, although forced expiration may to some small extent play its part. That the distention of the lung in so far as it is due to inspiration is secondary to distention of the chest. That the forced inspiration is rendered necessary by a feeling of dyspnœa. That the dyspnœa which occurs at the beginning of pulmonary emphysema and which determines it is consequent upon obstruction of the air passages. That in chronic progressive emphysema this obstruction depends upon bronchitis, either humid and attended with free secretion or dry with scanty secretion. That when once emphysema is set up, the dyspnœa and the necessity for forced inspiration are increased by the natural defect of expiratory power in the lungs and in certain parts of the chest, nature having provided means insufficient for reducing excessive inspiratory distention to the normal and for thus emptying the lungs of residual air. That the degeneration and atrophy of lung tissue are usually dependent upon preceding overdistention, although it is possible that pulmonary atrophy may to some extent be primary. Allow me to conclude by appropriating the words of the most ancient of the Greek philosophical poets, 'These opinions have seemed to me to resemble the truth.'"—*Lancet*, March 25th.

**The Education Treatment of Neurasthenia and Certain Hysterical States.**—In an essay upon the severer forms of neurasthenia and allied conditions, Dr. Morton Prince (*Boston Medical and Surgical Journal*, October 6, 1898) summarizes the general mode of procedure advised by him as follows: (1) Instruction of the patient in the nature of the symptoms and disease. (2) Fixed ideas, apprehension, and erroneous beliefs counteracted; faulty habits of temperament and character corrected. (3) Individual symptoms suppressed by electricity, suggestion, and other therapeutic agents. (4) Rules given for the daily conduct. (5) Improvement of nutrition, moderate rest, and, in extreme cases, isolation from previous surroundings only. The principle is, see that enough rest is given, and being satisfied of that, see that the remainder of the time is spent in education and training, and provide as much hygienic occupation as the patient will stand. If a neurasthenic cannot sit up ten minutes, she can one, which will soon become ten. If she cannot drive twenty minutes she can ten.

**Common Soap as a Disinfectant.**—Experiments made by Serapin in Padua (*Annal. d'Igiene Sperimentali*, 1898) to determine the disinfecting value of various soaps show ordinary varieties not inferior to those claiming to be highly disinfectant. The former, however, vary greatly in exact value. White or marbled hard, pure castile containing little water appears to be the best. Solutions of three-per-cent. or four-per-cent. strength are efficacious when other disinfectants are not available.

**Anæsthetics and Urinary Secretion.**—Prof. W. H. Thompson made a preliminary communication on this subject before the Royal Academy of Medicine of Ireland, of which the following is a brief summary: (1) A mixture of ether and chloroform (2 to 1) did not cause an increased diuresis. This was the anæsthetic used in his sodium-chloride research. Six experiments were performed on dogs. (2) A. C. E. mixture, on the contrary, did in most cases markedly increase the amount of urine. In one case suppression was caused. This dog proved to have albuminuria. (3) Ether also produced an increase of urine, as did chloroform likewise, but with this latter anæsthetic only one experiment had so far been carried out. (4) Little or no effect was produced by the various anæsthetics on the total output of nitrogen and of urea, even in cases in which marked diuresis was caused. (5) The after-effect on the output of chlorides showed a marked diminution. What the immediate effect was had not so far been definitely decided. (6) In eight experiments (with different anæsthetics) the urine was examined for carbohydrates with chloride of phenyl hydrazin and sodium acetate. All but one gave crystals. Some of these were undoubtedly glucosazone, others glycuronic acid, while in one case it is probable the crystals were those of galactosazone. In all cases the dogs were injected with a solution of morphine.—*The Medical Press*, March 22d.

**Inoperable Tumor.**—Dr. William Mitchell (*British Medical Journal*, February) recommends moist compresses of formalin. It diminishes the secretion, suppuration, and the hemorrhage from perforating ulcers. Repeated applications cause the formalin to penetrate into the tumor, producing coagulation, and permitting the use of the scalpel and sharp spoon in the removal of considerable portions of the growth without causing bleeding.

**For the Prevention of Post-Scarlatinal Diphtheria.**—Garratt and Washbourn (*British Medical Journal*, April 15, 1899, p. 893) maintain that post-scarlatinal diphtheria is due to the association of unrecognized cases of diphtheria with patients suffering from scarlet fever, and that this can be obviated only by systematic bacteriological examination of the fauces in cases of scarlet fever, and separation of those in whose throats diphtheria bacilli are found.

**Pseudo-perityphlitis.**—Under this title Nothnagel (*Wiener klin. Wochenschrift*, March, 1899, No. 15) describes a case of hysterical perityphlitis occurring in a patient twenty years of age. For the past two years signs of a chronic appendix trouble were shown, and a laparotomy was performed, on the occurrence of some of the symptoms of an acute diffuse peritonitis. The operation showed a normal peritoneum and no local cause for the symptoms. There remained, however, a constant pain in the ileocæcal region; there were no pain and no fever and no signs on palpation with the exception of a marked hyperæsthesia. The author terms this a pseudo-typhlitis hysterica.

**Vulvitis in Children.**—Dr. Drummond Robinson, before the Obstetrical Society of London, which met January 4th, reported the results of his investigation of fifty cases of vulvitis in children, in seventy-six per cent. of which were found cocci similar to the gonococcus of Neisser. Dr. Handfield-Jones found it difficult to believe that over seventy per cent. of all vulvar discharges in children depended on gonorrhœal infection. The following points seemed to him to render the gonorrhœal theory doubtful: (1) The disease had not spread to neighboring tissues; (2) it was readily cured; (3) the inguinal glands were rarely enlarged; (4) the disease was common in delicate, rare in robust children; (5) in undoubted infection during rape the disease was much more severe than in ordinary cases of vulvitis.

MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

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PUBLISHERS

WM WOOD & CO., 51 Fifth Avenue.

New York, July 8, 1899.

## BULLET WOUNDS IN MODERN WARFARE.

IT is safe to say that since the introduction of the small-calibre rifle and smokeless powder the conditions of warfare have undergone an almost complete change. Until our war with Spain little was definitely known of the effects produced by wounds resulting from a bullet fired from a modern rifle. Indeed, with the exception of the experience of the British gained in Indian frontier wars, our knowledge in regard to the latest patterns of small arms may be said to have been practically *nil*. Much valuable information was gathered during the fighting in Cuba. And the battles and skirmishes now continually taking place in Luzon will undoubtedly furnish further and more precise evidence in regard to the comparative deadliness of the old and new weapons and to the difference in the character of the injuries inflicted by them. The Filipinos, as were the Spanish, are chiefly armed with the Mauser, an excellent type of the up-to-date rifle. The penetrating power of the Mauser bullet of the pattern of 1897 is, according to Major Legarde, 35.125 inches. The Krag-Jorgensen of 1898 penetrated 26.125 inches, while the Springfield could send a bullet only six inches through the same thickness of wood. The velocity of a bullet expelled from a Lee-Metford is nearly equal to that of one from a Mauser. What then are the consequence and nature of an injury produced by a bullet travelling at such a marvellous speed? Brun's experiments led him to believe that at ranges over three hundred metres the small-calibre bullet hardly ever becomes deformed, while between four hundred and fifteen hundred metres it as a rule makes a wound with a very small passage, with very small apertures at the points of ingress and egress and with very little shattering of bones or tearing away of the soft parts. Stevenson says the velocity of the bullets since 1865 has greatly increased and consequently in the same ratio its energy or impact. With increased velocity they have gained enormously in penetration, but if they do not reach a vital part or strike a large bone, they do not disable. With respect to the character and gravity of a wound the same authority remarks: "When a bullet has passed through soft parts only, the exit wound is usually a circular punctured-out hole, but its edges are slightly shreddy and torn. . . . The nearer the bullet strikes the bone at its greatest diameter the greater is the destruction produced both in the bone and in the soft parts beyond; but even with grazing shots most severe splintering of the bone and extensive pulping of the soft parts are observed."

Dr. Davis, speaking from his experience in the Greco-Turkish war, reaches the conclusion that the initial force of a bullet is an onward or penetrative one; that when penetration is impeded the onward force becomes transformed into a lateral one; that explosive effect is only another name for lateral action, *i.e.*, outside the track of the bullet; that lateral action is most marked in hard bones (the fragments being carried onward) and in organs containing water (bladder, brain, liver, etc.); that practically the rotation of the bullet on its axis does not materially affect the character of the injury; that the effect of gunshot wounds is not so severe upon the living body as upon the dead; that the destructive power of the small-calibre gun has been overestimated; that its stopping or disabling power is less than that of larger calibres; that wounds in future conflicts will be as a rule less severe and will heal more rapidly, with fewer complications, than has been the case in the past; that less radical treatment will be required, and conservatism will be followed by brilliant results. The foregoing views have been quite recently corroborated in many respects by the army surgeons in the Philippines. Surgeon Beck, of the Thirteenth Minnesota, says that "to the small-calibre bullet of the insurgents' Mausers the wounded boys owe their lives and a continuance of their usual friendly association with good arms and legs. In the bony structure of the body the Mauser bores a clean little hole, rarely fracturing a limb; in the skull it takes a centre shot to kill." He says that he has knowledge of fully a hundred men shot through the chest cavity in every portion except the heart, who recovered. But while the injuries brought about by bullets from the army rifles of to-day are on the whole less severe than was formerly the case, abdominal wounds are as fatal, if not more so, than in former times. Surgeon Beck says: "Through the soft abdominal tissues the Mauser is always fatal. Wounds of the intestines, stomach, and spleen always kill. Every operation for resection of wounded intestines resulted in death, and the operation is now entirely abandoned." This is in line with the opinion of a large number of army surgical authorities, although views differ considerably as to whether in penetrating wounds of the abdomen a radical or conservative treatment should be pursued. Dr. William Parker, of New Orleans, discussing this point, records his belief that in abdominal wounds caused by the small modern bullet laparotomy should not be attempted in the field. Dr. Nicholas Senn lays down the dictum that laparotomy in penetrating gunshot wounds of the abdomen is indicated in all cases in which life is threatened by hemorrhage of visceral wounds, and the general condition of the patient is such as to sustain the expectation that he will survive the immediate effects of the operation. And Sir William MacCormac advises, when penetration has been diagnosed, that abdominal section should be performed as quickly as possible. The fact, however, may be noted here that the mortality which has up to

the present followed penetrating wounds of the abdomen treated on the battlefield or in war hospitals has been extremely high. The French lost 91.7 per cent. of their cases in the Crimea, and the English 92.5 per cent. In the American war the death rate was ninety per cent. From a consideration of the facts arrived at in regard to the bodily damage inflicted by the small-calibre bullet in the Spanish-American, Greco-Turkish, Philippine, and Indian frontier wars these conclusions may be laid down:

That while the modern army firearm leaves nothing to be desired as a humane weapon, it hardly fulfils the special purpose for which it has been designed.

That owing to the velocity with which the bullet of a modern rifle travels there is but little fear of pieces of clothing being carried into the wound, and in consequence the danger of infection by these means is very considerably reduced.

That the wounds produced are as a rule much less serious than when bullets of a larger calibre are used.

That the velocity of a bullet fired from any one of the new rifles is so great that it does more damage at a distance than at close quarters.

And, lastly, that abdominal wounds effected by bullets fired from weapons of the newest type are in a high degree fatal.

## THE EMPLOYMENT OF ANTISTREPTOCOCCIC SERUM IN THE TREATMENT OF SMALL-POX.

While in many, if not all, infectious processes serious consequences and even death may result from the primary disorder, there is abundant clinical and pathological evidence that these occurrences are favored and sometimes actually brought about through the agency of secondary infections, and it has been thought that if the latter could be averted or mitigated a great end would be attained. Observations in support of this view were made by Dr. W. J. Lindsay, resident medical officer at the Middlesbrough Isolation Hospital, in the course of an epidemic of smallpox in the English town and district of the same name, during the earlier months of the year 1898 (*British Medical Journal*, May 13, 1899). It was found that death occurred most frequently during a period of from three to five or seven days after the pustules began to dry and be absorbed, and it was concluded that the purulent change was due to pyogenic organisms entering the vesicle from without, and to the absorption into the circulation of the toxic products to which the untoward results were in some degree due. It was found that by rigid antiseptic treatment suppuration in the vesicles could be prevented, but the procedure was difficult of application and the results were not entirely certain. Resort was, therefore, had to antistreptococcic serum, injections of which at intervals of from twelve to twenty-four hours were made aseptically into the subcutaneous tissues of the abdominal wall, either just before or coincident with pustulation. Six cases in which the lesions were confluent and the prognosis was grave were selected for the treatment, with the result that the critical period following the absorption of the pustules was shortened, the intensity of the toxæmia lessened, and the tendency to cardiac failure and collapse diminished. The pulse throughout, though fast, was regular; and the strength of the beat was well maintained. Convalescence set in earlier and progressed rapidly. In two of the cases death resulted; in the remainder no abscess formed.

## THE MANHATTAN MEDICAL SERVICE COMPANY.

There has recently sprung up in this city a most pernicious method of deluding the public and of cheating the physician of his just dues. The Manhattan Medical Service Company is referred to. This company, formed and conducted by Guy Otis Brewster, M.D., as president, with M. E. Brewster as vice-president, promises for the munificent fee of two dollars a year to treat at the consultation offices, in upper Madison Avenue (with an average charge of twenty-five cents for medicine), any person between the ages of sixteen and forty-five years. Further than this, if patients prefer to be treated at their own homes, the services of what is termed the company's district physician can be requisitioned, the charge for this attendance being ten cents weekly. The said district physician receives five dollars per hundred for all contracts issued by the company in his district, and seven dollars per hundred for all prescriptions written by him. He is also directed to make his prescriptions as simple as possible, and to use no proprietary drugs on account of the expense. The physician, however, who is unfortunately for himself inveigled into becoming an employee of this company, soon discovers that he does not even get the amount stated in the contract, for these contracts, which he was given to understand were to be single, are in reality family ones, so that he is expected to treat families irrespective of numbers for fifty cents per annum, with seven cents for each prescription he gives. Confinements and venereal diseases are inclued within the same contract. There are no troublesome restrictions with regard to ability to pay or otherwise in connection with the Manhattan Medical Service Company, but so long as the subscriber hands over ten cents per week he is entitled to medical treatment and medicine. This is not all: if the subscriber's illness is serious he will be received into the sanatorium on Madison Avenue, where he will be furnished with the most skilful medical and surgical treatment obtainable in New York City (?), doubtless at an exceedingly low cost, although the directors of the company are careful not to mention the rate of payment for sanatorium treatment. This scheme strikes us as an impudent attempt to fool the public, while at the same time it must seriously injure many struggling young medical practitioners. We trust that by a showing up of the methods of the Manhattan Medical Service Company the eyes of both the medical profession and the general public may be opened to the iniquity of their proceedings.

## News of the Week.

**Dr. W. F. Brunner,** recently United States sanitary inspector at Havana, has been appointed health officer at Savannah, Ga.

**Aid to the British in South Africa.**—The statement is made that the Boers in South Africa consume large quantities of patent medicines of American manufacture. Thus do we seek to aid the Anglo-Saxon by undermining the Boer constitution.

**Smallpox Epidemic.**—The inspector of the State board of health on June 27th reported fifty-six cases of smallpox at Utahville, a mining village of Pennsylvania with two hundred inhabitants. The disease has prevailed since February, when it was supposed to be chickenpox.

**Holders of New Jersey Licenses can Practise Medicine in Delaware.**—In accordance with an amendment to the State medical law adopted by the last legislature, the medical council of Delaware will hereafter recognize the certificates of license to practise medicine issued by the New Jersey State board of medical examiners.

**The Study of Tropical Diseases in Germany.**—The new German school for the study of tropical diseases is to be established at Hamburg. It was designed at first to locate the school in Berlin, but was afterward decided to establish it at one of the larger seaports having trade with tropical countries, and Hamburg was selected.

**Sweat-Shop Reform.**—An amendment to the factory inspection act in Pennsylvania permits of the confiscation of the clothing found in process of manufacture in unsanitary places. On the occasion of its first enforcement a short time ago, a woman was found engaged in sewing on children's clothing in the same room with a child lying ill with diphtheria. Hitherto the maximum penalty for infringement of the law was a fine of $20, but the punishment was not heavy enough to be a deterrent to a rich proprietor, especially as the law was seldom enforced. Now, however, the confiscation of the clothing, added to the money penalty, is expected to influence the dealers to exercise more careful supervision over the places in which their wares are manufactured.

**Recommendations of the State Board of Health in Regard to Consumptives.**—The board of health of Saranac Lake, by a resolution passed June 27th, has indorsed the action of the New York State board of health directing all local health officers to register the name, address, sex, and age of every person suffering from tuberculosis in their respective jurisdictions; and providing that in all cases in which it comes to the knowledge of the health officer that premises which have been occupied by consumptives have been vacated by death or removal, the premises must be visited, directions given as to disinfection, removal of carpets, rugs, bedding, etc., and such further directions given as may be deemed necessary, which must be enforced for sanitary reasons, and that no person shall be allowed to occupy such apartments until the order of the health officer is complied with. It has also indorsed the recommendation of the State board that formaldehyde be employed as a disinfectant of houses and textile fabrics.

**The Lane Lectures.**—The fourth course of ten lectures, founded by Dr. L. C. Lane, was delivered at Cooper Medical College, San Francisco, by Dr. N. Senn, on June 28th to July 3d. The lectures were on shock, hemorrhage, wounds, fractures, and amputations.

**An Example not to be Followed.**—Dr. Klebs has opened in Chicago a private free dispensary for the poor, thereby introducing the German custom into this country. Certainly he deserves no thanks from the medical profession for this innovation, especially as we are just now seeking a remedy for the surplus of existing dispensaries in our cities.—*Cleveland Journal of Medicine.*

**A Supposed Plague Ship at San Francisco.**—The steamer *Nippon Maru*, which was reported from Honolulu with plague aboard, arrived at San Francisco last week and was immediately quarantined. The passengers have sent a protest to Washington against their detention, asserting that there is no proof that the passengers who died *en route* were victims of the plague.

**A Candy Investigation.**—An analysis was recently made by the board of health of nearly two thousand samples of candy of all kinds, purchased at different stores in this city, but chiefly from street stands and little shops in the vicinity of the public schools. According to the report, none of the samples submitted contained any insoluble or harmful materials. The chief ingredients of the cheaper grades of candy were found to be starch, sweet gum, and glucose.

**Object to Safety Lamps.**—A year and a half ago an explosion occurred in a mine near Wilkesbarre, Pa., whereby five of the engineer corps, a fire-boss, and a miner, seven in all, lost their lives through the careless use of a naked lamp. A strike is now in progress at this same mine, the object being to defeat the attempt of the company to compel the miners to use safety lamps.

**Prosecution of a Quack.**—A man calling himself Clarence Foster was recently held for trial in the Yorkville court on two complaints of practising medicine without a license. He has been connected with a "dermatological institute" in Twenty-third Street and is also said to have had an office in Fifth Avenue, practising there as Dr. Efil. The County Medical Society has for a year been trying to get evidence against him. When arraigned, he admitted that he was not a physician and that "Dr. Efil" was a myth. He claimed in his defense, however, that he gave only patent medicines. He was held in $500 for trial.

**The Opticians Protest.**—The Optical Society of the State of New York at its annual meeting last week passed some resolutions protesting against the condemnatory resolutions of the American Medical Asso-

ciation at Columbus and of the American Institute of Homœopathy at Atlantic City, and declaring that the society believed that "the honorable occupation of an optician entitles him to the same courteous consideration at the hands of medical men as that now accorded to those following dental and other mechanico-scientific callings."

**Tuberculosis Sanatoria in Germany.**—Baron Hoyl zu Horrnshein, the National Liberal member of the Reichstag, has donated 3,000,000 marks to the fund for the erection and maintenance of sanatoria for the treatment of tuberculosis in the poor.

**The Canadian Medical Association.**—The annual meeting of this association will be held at Toronto on August 30 and 31 and September 1, 1899. The general secretary of the association is Dr. F. N. G. Starr, of Toronto.

**American Medical Editors' Association.**—At the annual meeting of this association, held at Columbus in June, the following officers were elected for the ensuing year: *President*, Dr. I. N. Love, St. Louis, Mo.; *Vice-President*, Dr. J. E. Brown, Columbus, Ohio; *Secretary*, Dr. Dillon Brown, New York; *Treasurer*, Dr. Alexander Stone, St. Paul, Minn.

**Officers of the New Jersey State Medical Society.**—At the meeting of the Medical Society of the State of New Jersey, held at Allenhurst, June 27th, 28th, and 29th, the following officers were elected for the ensuing year: *President*, Dr. Luther M. Halsey, Williamstown; *Vice-Presidents*, Drs. William Pierson, Orange, John D. McGill, Jersey City, and E. L. B. Godfrey, Camden; *Corresponding Secretary*, Dr. E. W. Hedges, Plainfield; *Recording Secretary*, Dr. William J. Chandler, South Orange; *Treasurer*, Dr. Archibald Mercer, Newark.

**Yellow Fever** has appeared at Salvador in Central America. The epidemic still continues at Vera Cruz, and cases are reported from Tampico and other places on the Mexican Gulf coast. The marine hospital service has sent an inspector to reside at Vera Cruz for the present in order to keep a check on all passengers and notify the United States quarantine inspectors of all persons who come from the infected districts. He will also arrange a system of issuing certificates to all railway passengers who desire to enter the United States, reciting the movements of the passenger and baggage for a period of ten days previous to entry into the United States. The marine-hospital service treats every place south of Vera Cruz to the Guatemala border as infected, and it is believed that the danger to this country during the present summer is in Mexico rather than in Cuba. The disease is thought to be decreasing in Santiago, where there were ninety-five cases and twelve deaths up to July 3d. Almost all the cases have been among United States troops, who are believed to have become infected either in the old Spanish barracks or in an old building in which there is a drinking-saloon much frequented by the American soldiers. Havana is declared to be as free of yellow fever as New York, furnishing a striking illustration of what cleanliness can do even in an unsewered city inhabited by people to whom the name of sanitation is as unfamiliar as the English tongue.

**The Food of the German Soldier.**—The German soldier used to be given only two meals daily, namely, breakfast and dinner. The latter meal was given at eleven o'clock in the day, and from that hour till breakfast the following morning he had nothing to eat except what he was able to provide out of his own pocket. On January 1, 1897, however, a step forward was made, and the soldier was given two evening meals in the week; the further additional meal for the remaining five days has now been granted, and for the future the German soldier will be served daily with a substantial evening meal.—*British Medical Journal.*

**An International Congress on Medical Ethics** will be held in Paris during the week of July 23–28, 1900, immediately preceding that in which the International Medical Congress will be held. From a notice in *The Lancet* we learn that the congress will be divided into four sections. The first will deal with the relations of medical practitioners with large bodies, the State, the municipalities, etc. This comprises: (1) relations with the State, organizations depending directly on the State, and the laws regulating medical practice; (2) medical service in respect of public assistance, poor-law, public hospitals, and private medical charities; (3) the position from the economic point of view of medical officers of health and other sanitary functionaries; (4) the relation of medical practitioners and the judicial authorities; (5) the utilization in times of war of the services of medical men whose period of military service has expired. Then comes the relation of medical practitioners to large bodies which do not depend on the State, such as insurance companies, railway and maritime companies, large industrial enterprises, mines, mills, factories, etc., provident and benefit societies, and private charities. The second section will discuss the relations of the medical practitioner with his patients, his relations with dispensing chemists, with trained nurses, midwives, manufacturers of surgical appliances, and others. In this section, also, the question of medical practice by unqualified persons will be debated. The third section will be devoted to the relations of medical practitioners with their colleagues—consultations, clinics and medical institutions, locum tenens, the sale of practices, the relations between medical practitioners of different nationalities, professional medical societies, the formation of medical unions or syndicates to defend the economic interests of the profession, and other societies of medical men. The fourth section is to discuss all that relates to mutual aid and assistance among members of the profession, such as insurance in case of illness, a fund for old-age pensions, and help for the widows and children of medical men. The general secretary of the committee on organization of the congress is Dr. Jules Glover, Rue du Faubourg Poissonnière, 37, Paris, to whom all inquiries should be addressed. The president of the committee is Dr. L. Lereboullet, and the treasurer M. Pierre Masson, Boulevard St. Germain, 120.

**The Army Hospital Corps.**—According to a recent general order, the hospital corps detachment allowed a regiment serving in divisions and departments of the insular possessions and dependencies of the United States is fixed at one hospital steward, three acting hospital stewards, and twelve privates of the hospital corps. The officers commanding the division of Cuba, the department of Porto Rico, the department of the Pacific and the troops in Hawaii are charged with the full control of the transfer from the line, enlistment, re-enlistment, and discharge of members of the hospital corps of the commands, and with the detail of acting hospital stewards.

**A New Infectious Disease of Dogs.**—Dr. Johannes Horowitz writes to the New York *Times* from Vienna that for a year past an extraordinary number of dogs have been taken ill and died in different German towns under very striking conditions. At first it was believed to be due to malicious poisoning, but it was soon discovered to be a malignant epidemic. From the observations of Herr Kurtz, veterinary surgeon at Stuttgart, it appears that the disease, which everywhere assumes the form of an epidemic, is an infectious disease of the nature of gastric catarrh, with bleeding from the mucous membrane of the mouth. At Stuttgart at first seventy per cent. of the cases ended fatally, which number afterward fell to forty per cent. The epidemic is now nearly over there; but as yet the cause of the disease is unknown. Animals which have once had the complaint and recovered seem to acquire immunity, for no case has been observed in which a dog has been attacked twice.

**Revision of the Pharmacopœia.**—In accordance with resolutions passed at the National Convention for Revision of the United States Pharmacopœia held in Washington in 1890, a general convention for the revision of the pharmacopœia will be held in Washington, beginning on the first Wednesday in May, 1900. It is requested that the several bodies represented in the conventions of 1880 and 1890, and also such other incorporated State medical and pharmaceutical associations, and incorporated colleges of medicine and pharmacy, as shall have been in continuous operations for at least five years, shall each elect delegates, not exceeding three in number; and that the surgeon-general of the army, the surgeon-general of the navy, and the surgeon-general of the marine-hospital service shall appoint, each, not exceeding three medical officers to attend the convention. It is desired that the several medical and pharmaceutical bodies, and the medical departments of the army, navy, and marine-hospital service shall transmit to Dr. H. C. Wood, of the University of Pennsylvania, the names and residences of their delegates, so soon as they shall have been appointed. It is also requested that the several medical and pharmaceutical bodies concerned, as well as the medical departments of the army, navy, and marine-hospital service, shall submit the present pharmacopœia to a careful revision, and that their delegates shall transmit the result of their labors to Dr. Frederick A. Castle, secretary of the committee of revision and publication of the United States Pharmacopœia, 51 West Fifty-eighth Street, New York City, at least three months before the date fixed for the meeting of the convention.

**The Ameer of Afghanistan** has secured the services of a Russian woman, Miss Termoshova, a graduate of the University of St. Petersburg, as physician to his wives and children. The former medical attendant in the harem was an Englishwoman.

**Increased Hospital Accommodation in Paris.**—A proposal for a considerable extension of the hospital accommodation of Paris is now before the municipal council. To carry this scheme into effect it is estimated that a sum of 72,000,000 francs (£2,880,000) will be required. With this fund 2,810 additional beds could be provided.

**A Woman's University in Moscow.**—Mr. Astrakoff, a wealthy Russian engineer, who recently died, left 1,000,000 rubles ($500,000) toward the foundation of a university for women in Moscow. The university is to comprise a mathematical, a scientific, and a medical faculty. The municipal council of Moscow has voted an annual grant of 3,000 rubles to the institution.

**Regulation of Massage in Hungary.**—The Hungarian minister of the interior has issued stringent regulations for the control of massage establishments, etc. Massage treatment in diseases of the sexual and abdominal organs and of the eye may be carried out only by qualified medical men. In all other cases the operator must have the advice and supervision of a qualified medical man. Transgression of these rules is a misdemeanor punishable, if free from aggravating circumstances, by imprisonment up to fifteen days and a fine not exceeding 100 gulden.—*Medical Magazine.*

**The Spread of Consumption in Indiana.**—Governor Mount, of Indiana, has evidently a tender regard for criminals and a ferocious hatred of honest people outside of jail. He has recently announced his intention to pardon or parole all prisoners in the penitentiary who have tuberculosis. His alleged reason for so doing is that the disease is contagious, and he fears the other inmates will catch it. So he frees the spreader of contagion from the one place where he is no longer a source of danger to any one, and sends him out into the world to infect others. Some one should suggest to this crayfish sanitarian to keep the consumptives in jail and free the well prisoners. That would be jollier all around, and would boom the business of the courts, though it might not be so good for the doctors and undertakers.

**A Question of the Physician's Veracity.**—So many physicians' certificates of ill health have been presented of late by jurors who seek to be excused from duty on the plea that they are unable to endure the hardship of sitting in a jury-box, that the supreme-court justices are growing skeptical. They say that the simple certificate in writing over a physician's signature is worthless unless the document bears the jurat of a notary public or commissioner of deeds, showing

that the doctor has fortified his diagnosis of jury illness by an oath. One of the justices is reported to have declared that he will not accept the illness of a juror as an excuse for non-attendance unless the physician appears in person before him for examination as to the condition of the patient.

**Navy Department,** Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending July 1, 1899. June 23d.—Assistant Surgeon W. L. Bell detached from the naval hospital, Mare Island, Cal., and ordered to the *Philadelphia*. Assistant Surgeon H. E. Odell detached from the *Philadelphia* and ordered to the naval hospital, Mare Island, Cal. June 28th.—Assistant Surgeon F. M. Bogan ordered to additional duty at the Boston navy yard. Passed Assistant Surgeon R. G. Brodrick ordered to Washington, D. C., July 6th, for examination for retirement, and then home and to wait orders. June 24th.—Passed Assistant Surgeon J. C. Rosenbleuth detached from the *Buffalo*, when put out of commission, and ordered to the *Vermont* immediately.

**An Austrian Ambulance Ship.**—The example given by the United States during the Spanish-American war of fitting out an ambulance ship under the Red Cross regulations has been followed, we learn from the *British Medical Journal*, in Austria. The enterprise, which is due to private initiative, is intended to commemorate the jubilee of the Emperor Francis Joseph. At the express desire of the Emperor the vessel has been named the *Graf Falkenhayn*, after the first President of the Austrian Red Cross Society. The association has been entrusted with the care of the ambulance ship by the donor, Baron von Reinelt, who has also devoted a sum of 50,000 florins to its maintenance in times of peace. The new steamer, which has an estimated speed of nine knots, has an isolated wing for infectious cases, and two bathrooms, and is provided with all modern hygienic requirements. Its equipment, which is now complete, includes four lifeboats and two disjointable rafts. The *Graf Falkenhayn* will for the present be stationed at Trieste, where she will be placed in charge of a retired officer of the Austrian Lloyd Company. The Austrian Red Cross Society is the first institution of the kind in Europe which possesses a permanent naval ambulance.

**The British Medical Association** will hold its sixty-seventh annual meeting at Portsmouth on Tuesday, Wednesday, Thursday, and Friday, August 1, 2, 3, and 4, 1899. The president-elect is Dr. John Ward Cousins. The address in medicine will be delivered by Sir Richard Douglas Powell, and that in surgery by Dr. Alexander Ogston. The following are the subjects announced for set discussions in the several sections: Medicine: (1) "The Medical Tests Required at Present for Admission to the Public Services"; (2) "The Preventive and Remedial Treatment of Tuberculosis." Surgery: (1) "The Diagnosis and Treatment of Gunshot Wounds of the Abdomen"; (2) "The Prevention and Treatment of Syphilis in the Navy and Army." Obstetrics and gynæcology: (1) "The Treatment of Fever Following Delivery, with Special Reference to Serum-therapy"; (2) "The Natural Menopause Compared with (*a*) the Menopause Produced by Removal of the Uterine Appendages; and (*b*) the Menopause Produced by Removal of the Uterus without Removal of the Appendages." Tropical diseases: (1) "Psilosis or Sprue; Its Relations (Etiological and Pathological) to Other Forms of Tropical Diarrhœa, and its Treatment"; (2) "On Thermic Fever (So-called Siriasis), with Special Reference to its Alleged Microbic Causation"; (3) "The Agency of Insects in Spreading Infections."

**Christian Science and the Law.**—We cannot see that there is any flaw in the argument from the New York *Times*, that "if we make laws to protect the public against spurious butter, why not make or enforce laws against spurious doctors? A quack is not less dangerous because he takes the name of the Saviour to hide his ignorance and cover his homicides." Certainly a man is not allowed to sell gunpowder, dynamite, and other explosives without a license; why should he, as a Christian or as a scientist, be permitted to distribute infection gratuitously?—*Buffalo Commercial.*

**Sir William Henry Flower,** of London, died on July 2d. He was born at Stratford-on-Avon in 1831 and was elected a fellow of the Royal College of Surgeons in 1857. At the time of his death he was president of the Zoological Society.

**Decreased Death Rate in New York State.**—The bulletin of the State board of health says that the number of deaths reported during May, 1899, was 9,556, the average for the ten years past. It was 200 less than that of last May and 850 less than that of April of this year, the average daily mortality having been reduced from 346 to 308. The death rate now is 16. The decrease from last month is in acute respiratory diseases, from which there were 500 fewer deaths. There were also 50 fewer deaths from zymotic diseases.

**Obituary Notes.**—Dr. George Thomas Dutcher, of Far Rockaway, New York, died in Pasadena, Cal., June 23, 1899, aged thirty years. He was a graduate of the College of Physicians and Surgeons of New York of the class of 1894. Soon after his graduation he went to California for his health, where he has since lived. He was a young man of superior attainments and character and remarkably fine personal qualities. —Dr. Francis E. Noble, of Jersey City, died on June 29th of broncho-pneumonia, at the age of seventy-five years. He was born in New York City and was graduated in medicine from the medical department of the Western Reserve University in 1851. After graduation he settled in Jersey City and had practised there ever since. He left a widow, two daughters, and one son.—Dr. Paul Clendenin, captain and surgeon, United States army, died of yellow fever at Santiago on July 4th. He entered the army as assistant surgeon from Illinois in 1886, and was appointed captain in 1891. During the war he held the rank of major and brigade surgeon of volunteers. He was in charge of the army hospital at Santiago.

# Reviews and Notices.

Die multiple Fettgewebesnekrose. Klinische und experimentelle Studien. Von Dr. Arthur Katz und Dr. F. Winkler, Assistenten in der allgemeinen Poliklinik in Wien. Berlin: S. Karger. 1899.

The obscurity that still exists regarding a very large part of the pathology of the pancreas makes the results of every investigation tending to the solution of some of the problems involved, of much interest. By a careful study of the published reports of cases and further animal experimentation, the authors, if not fully clearing up the matter, have made an appreciable advance toward the understanding of fat necrosis that so often seems directly referable to lesions of the pancreas. Significant facts are, that it was found possible to produce abdominal fat necrosis by the application of ligatures to the pancreas; that the lesion was attended by hyperleucocytosis; and that distinct diminution in size of the spleen was usually observable.

Handbook of Hygiene and Sanitary Science. By George Wilson, M.A., M.D., LL.D. Edin., F.R.S. Edin., D.P.H. Camb., Medical Officer of Health for the Mid-Warwickshire Combined District. Eighth edition. London: J. and A. Churchill. Philadelphia: P. Blakiston, Son & Co. 1898.

We have had occasion to commend this volume in noticing its former editions. With its increasing size has gone, in large measure, increasing value, but also at the same time the author has permitted a certain amount of dry rot to remain. In the chapters on infectious diseases he shows some haziness on matters now pretty clearly understood, and in other portions of the book some antiquated notions have not been dressed in more modern garb. Withal, however, we believe the work to be the best of the small manuals on hygiene.

The Serum Diagnosis of Disease. By Richard C. Cabot, M.D., Physician to the Out-Patients, Massachusetts General Hospital. New York: William Wood & Co. 1899.

If the experiences of the recent war have demonstrated anything, they have certainly brought into prominence two facts. One is, that the microscopical examination of the blood is an extremely important and reliable means of determining the presence of malaria, and the other that the serum reaction is an equally important aid in the diagnosis of typhoid. This present essay, or compilation, is a result of the author's investigations in Cuba, and is a timely and interesting contribution to our knowledge of the serum test (Widal) in typhoid. Serum reactions in other diseases are also briefly touched upon, and a complete bibliography is appended. The work is of value, and is well gotten up from the standpoint of the bookmaker's art.

Die Wanderniere. Ein Beitrag zur Pathologie des intra-abdominalen Gleichgewichts. Von Dr. Med. M. Wolkow und S. N. Delitzin, Privat-Docenten an der Kaiserlichen militar-medicinischen Akademie in St. Petersburg. Mit Abbildungen im Text und 35 Lithographischen Tafeln. Berlin: Hirschwald. 1899.

The importance which is of late being attached to the pathology and causation of the various forms of movable and dislocated kidney makes this an especially welcome contribution to our knowledge of the subject. The work of these two authors embraces the results of experiments covering a period of four years and performed on one hundred male and female cadavers. The conclusion reached is that the active physiological factor which retains the kidneys in their normal position is not to be found in their peritoneal ligaments, nor in the subperitoneal fascial ligaments, nor in the vessels, nor in the capsule of perirenal fat, but in the general conditions of normal intra-abdominal equilibrium. Circumstances liable to produce a disturbance of this state are, relaxation of the anterior abdominal wall, pendulous abdomen, ascites, sudden evacuation of the abdominal cavity as in parturition, prolapses, hernias, enteroptoses, alterations in the weight of individual organs, etc.

As a second passive or anatomical factor is to be regarded some peculiarity of conformation of that portion of the posterior abdominal wall in relation to the kidney and along which a dislocation causes it to glide. By means of plaster casts it was possible to demonstrate that the "paravertebral niches" which form the nidus of the organ are subject to individual variations, and that abnormality of these has a direct relationship to the occurrence of movable kidney. The subject is treated at great length and with much minute attention, and the book deserves thoughtful attention from all interested.

Examination of Water (Chemical and Bacteriological). By William P. Mason, Professor of Chemistry, Rensselear Polytechnic Institute. Third edition. New York: John Wiley & Sons. 1899.

This book is for the undergraduate student. It contains no information for the actual worker in water supplies, but is a convenient, handy manual for class-room work. In the author's introduction, he aptly says that a water analysis is not in a true sense an analysis at all, *i.e.*, a chemical analysis. It usually consists of a series of unintelligible figures—unintelligible to the laity, and, it must be confessed, in large measure to chemists also. The author, in a mild way, suggests that the examiner should inspect the source of a water supply before pronouncing on its potability. When it is borne in mind that one of the foremost authorities of Germany, Flügge, maintains that the inspection of the sources of a water supply is the main requisite, and worth more than any other means of examination, the author of this modest manual, and others in the same line, should lay more stress upon this, the essential point, and less on the chemical analysis. A brief account of the bacteriological means of examining water is included, but it is too brief to be of much service. No mention is made in the work of the microscopical examinations of water, which have of late years become so important.

Respiratory Exercises in the Treatment of Disease, Notably of the Heart, Lungs, Nervous and Digestive Systems. By Harry Campbell, M.D., B.S. Lond., Fellow of the Royal College of Physicians, London, Physician to the Northwest London Hospital and to the Hospital for Diseases of the Nervous System, Walbeck Street. New York: William Wood & Co. 1899.

The author adopts as his thesis that marked effects on the animal organism may be produced by modifying the respiratory movements, and, in accordance with this, has presented a very serviceable handbook, describing what the changes are and how they may be made of service in the treatment of disease. The methods so commonly employed at Bad Nauheim are of the same class as those treated of in this volume, but, as the author has pointed out, his deductions are more in the line of applied physiology than are those laid down at this well-known health resort.

The book, of about two hundred pages, is made up of twenty-six chapters. The first ten are devoted to the anatomical and physiological factors that are concerned in the acts of normal and forced breathing. The following chapters discuss at varying lengths the action of respiration on the various organs of the body, and the therapeutic applications that may be made of this process in diseased conditions. The work fills a gap in hygienic literature, and will be especially welcome to those trainers of our youth who wisely consider the importance of the respiratory function.

An American Text-Book of Diseases of the Eye, Ear, Nose, and Throat. Edited by G. E. De Schweinitz, A.M., M.D., Professor of Ophthalmology in the Jefferson Medical College, Philadelphia; Consulting Ophthalmologist to the Philadelphia Polyclinic; Ophthalmic Surgeon to the Philadelphia Hospital and to the Orthopedic Hospital and Infirmary for Nervous Diseases; and B. Alexander Randall, M.A., M.D., Ph.D., Clinical Professor of Diseases of the Ear in the University of Pennsylvania; Professor of Diseases of the Ear in the Philadelphia Polyclinic; Ophthalmic and Aural Surgeon to the Methodist and Children's Hospitals, Philadelphia. Illustrated with 766 engravings, 59 of them in colors. Pages, 1,251. Philadelphia: W. B. Saunders. 1899.

This volume makes a valuable addition to the series of "American Text-Books," and is designed for students, general practitioners, and specialists. In all, there are sixty authors represented in its compilation, each one being selected with special reference to work which he has done on the sub-

ject treated, this naturally causing such a book to express conflicting opinions. The editors have, however, supplied cross references where such discrepancies exist. Dr. de Schweinitz has assumed full editorial responsibility for the articles on ophthalmology, and Dr. Randall for the otological and laryngological sections. As the preface states, in the portion of the work devoted to the eye, its embryology, anatomy, histology, physiology, diseases, and injuries are discussed in twenty-four sections by twenty-four authors, its operative surgery in seven sections by as many authors; while certain practical details in the examination for color-blindness among railroad employés, etc., receive attention in an appendix containing five sections. In the portion devoted to the ear, its anatomy, physiology, diseases, and injuries are discussed in thirteen sections by fourteen authors, while diseases of the nose and throat are described in twenty sections by nineteen authors. Among its special articles we note "The Roentgen Rays in Ophthalmic Surgery," "The Practice of Ophthalmic Operations on Animals' Eyes," and an interesting article on "The Micro-organisms in Ocular Diseases." The volume is well arranged, and well printed; its illustrations are excellent, and the practical side of its teachings is especially complete.

TRANSACTIONS OF THE AMERICAN OTOLOGICAL SOCIETY. Thirty-first Annual Meeting, Pequot House, New London, Conn. Vol. VII., Part I.

BESIDES the list of members, this volume contains numerous interesting articles with the subsequent discussion, and an alphabetical index of otological bibliography from June 1, 1897, to June 1, 1898. To those interested in otology, this volume is certainly very valuable.

TRANSACTIONS OF THE LUZERNE COUNTY MEDICAL SOCIETY, for the Year Ending December 31, 1898. Vol. VI.

THIS volume contains two hundred and seventeen pages, embracing twenty-one articles on diverse subjects. Additional interest is given by the publication of the discussion on the various papers, thus rendering the articles doubly interesting.

SYPHILIS. Von DR. ISIDOR NEUMANN, O. ö. Professor der Dermatologie und Syphilis an der Universitat Wien. Zweite Auflage. Wien: Alfred Holder. 1899.

THIS second edition of Neumann's carefully written and rather exhaustive treatise on syphilology occupies eight hundred and fifty pages, illustrated with sixty wood-cuts. The first twenty-nine pages are given to the history of syphilis; then follows its distribution. Then, after a special chapter devoted to venereal ulcer and venereal bubo, begins syphilis proper, with a consideration of the primary sclerosis, and from this point are traced all the phases and forms which the affection may assume through the brain and nervous system, and the hereditary forms. The author's long and wide experience as student, observer, and teacher of this branch in a university whose material is of world-wide fame makes his writings of special value. The present edition shows evidence of having been carefully gone over before publication, and some condensation has been made. The treatise constitutes volume xxiii. of Nothnagel's work on Special Pathology and Therapy.

DIE KRANKHEITEN DER MUNDHÖHLE, DES RACHENS UND DES KEHLKOPFES. MIT EINSCHLUSS DER UNTERSUCHUNGS- UND BEHANDLUNGSMETHODEN. Für praktische Aerzte und Studierende. Von DR. ALBERT ROSENBERG, in Berlin. Zweite Auflage, mit 180 Abbildungen im Text. Berlin: S. Karger. 1899.

THIS excellent treatise has been increased in volume by almost a quarter in its present second edition. Sixty-six pages are devoted to diseases of the mouth, one hundred and thirty-eight to those of the throat, and one hundred and ninety-three to the larynx. The author's work has already been much praised for its clearness and conciseness, as well as for its pedagogical value, but the practitioner will also find it most valuable as a reference book, as even the rarer conditions of disease are described and the therapy and treatment of the more common troubles more elaborately discussed. A large number of excellent illustrations fully elucidate the anatomy and pathology as well as the technique and methods of examination, and for readers of German the book is to be warmly commended.

## Therapeutic Hints.

**Lupus.**—

℞ Salicylic acid ..... ʒ iiss.
Creosote ..... ʒ v.
Simple cerate ..... ʒ iiiss.
White wax ..... gr. lxxv.
M. S. Apply externally.

—UNNA.

**Coccygodynia.**—

℞ Ext. belladonnæ ..... gr. ¼
Ext. hyoscyami,
Iodoformi ..... āā gr. ¾
Olei theobromæ ..... gr. xx.
M. ft. suppos. S. Employ at bed-time.

—WHITLA.

**Intestinal Colic.**—

℞ Bismuthi subnit. ..... ʒ ss.
Pulv. cinnamomi ..... ʒ i.
Ext. nucis vomicæ ..... gr. i.
Sacch. alb. ..... ʒ ij.
M. ft. pulv. S. ʒ i. before diuner.

—*Med. Sum.*

**Intercostal Neuralgia.**—

℞ Chloralis,
Camphoræ,
Mentholis ..... āā ʒ i.
M. S. Apply with brush.

—SOLIS-COHEN.

**Coryza.**—

℞ Menthol,
Camphor ..... āā gr. v.
Albolene ..... ʒ ij.
M. S. Use with atomizer every two hours.

—*Prescription.*

**Pruritus Ani.**—

℞ Sodium hyposulphite ..... 30
Carbolic acid ..... 5
Glycerin ..... 20
Water ..... 450
M. S. Apply wet compresses.

—PENZOLD.

**Sea-Sickness.**—

℞ Menthol ..... gr. iss.
Cocaine hydrochlorate ..... gr. iij.
Alcohol ..... ʒ ij.
Simple syrup ..... ʒ i.
M. S. ʒ i. every half-hour.

—A. MOREL-LAVALLÉE.

**Menopause.**—

℞ Ammonii bromidi ..... ʒ ij.
Sodii bromidi ..... ʒ ss
Spir. ammon. aromat ..... ʒ vi.
Aquæ camphoræ ..... q.s. ad ʒ vi.
M. S. Tablespoonful every four hours.

—PARVIN.

**Blennorrhagic Urethritis.**—

℞ Methylene blue ..... 0.06–0.12
Ol. santali,
Ol. copaibæ ..... āā 18
Ol. cinnamomi ..... gtt. i.
M. For one capsule. S. Give one such three times a day.

—HORWITZ.

**Syphilis.**—

℞ Hydrargyri di-iodati ..... 1
Potassii iodidi ..... 10
Syrupi simplicis ..... 200
M. S. Teaspoonful to tablespoonful at dose.

**Yellow Oxide Ointment,** which will keep without decomposing:

℞ Hydrarg. oxidi flav. (recent) ..... 0.01–0.05
Lanolini.
Aquæ destill ..... āā 2
Petrolati ..... q.s. ad 10
M. Put into black glass.

**Pertussis** may be limited to a week by local use of formalin in dilute solution. It causes emesis, which further tends to dislodge germs.—H. S. OLIPHANT, *New York Medical Journal*, March 4, 1899.

**Tapeworm.**—After the bowels have been moved by oil or salts, give:

℞ Spir. chloroformi ..... ʒ ij.
Ess. terebinth. rect.,
Ext. filicis ether.....āā ʒ i.
Glycerini ..... ʒ iv.
M. S. Teaspoonful every hour.

**Tonsillitis.**—

℞ Sodii benzoat..... ʒ i.–iv.
Glycerini,
Elix. calisayæ.....āā ʒ i
M. S. A teaspoonful every one or two hours.

—Stevens.

**Correction of the Taste of Unpalatable Drugs.**—In his "Pocket Formulary of Diseases of Children" Dr. L. Freyberger has devoted considerable attention to the important question of how to disguise the taste of nauseous drugs. The following list is given:

Acetanelid—gr. i. is disguised by gr. iii. of white sugar or gr. ij. of elæosaccharum menthæ piperitæ.
Aconite—♏ i. of tincture is disguised by ♏ v. of elixir simplex.
Ætheris Nitrosi Spir.—♏ v. by ʒ i. of sugar water or aqua carui.
Aloin—gr. ¼ by ♏ x. of extr. glycyrrhizæ liquidum.
Ammonii Acetatis Liq.—♏ v. by ʒ i. aq. camphoræ, menth. pip., or mist. amygdalæ, milk, and boiling water.
Ammonii Bromidum—gr. i. by ♏ v. syr. aurantii.
Ammonii Carbonas—gr. i. by ♏ v. syr. aurantii or tolu.
Belladonnæ Extr.—gr. ⅛ by ♏ ii. spir. chloroformi or ♏ v. syr. aurantii.
Belladonnæ Tinct.—♏ ii. by ♏ ii. syr. aurantii.
Caffeinæ Citras—gr. i. by ♏ xxx. syr. limonis.
Calomel—gr. i. by gr. iv. saccharum lactis.
Camphora—gr. ⅛ by gr. iii. pulv. cinnamomi comp. or ʒ i. aq. cinnamomi.
Cascaræ Sagrad. Extr. Fl.—♏ x. by ♏ v. syr. zingiberis and ext. liquiritiæ fld.
Chloral Hydras—gr. i. by ♏ v. syr. aurantii or pruni virginianæ with ʒ i. aq. cinnamomi.
Copaiba—♏ v. by ʒ ii. mistura amygdalæ.
Creosotum cannot be effectually disguised—♏ i. in ʒ i. mist. amygdalæ.
Cupri Sulphas—gr. i. by ʒ ii. syr. simplicis.
Digitalis Tinct.—♏ i. by ♏ v. syr. aurantii.
Ferri Perchloridi Tinct.—♏ i. by ♏ v. syr. aurantii or glycerin.
Filicis Maris Extr. Liq.—♏ xx. by ʒ i. syr. cinnamomi.
Guaiacolum—gr. i. by ʒ ii. of sherry wine.
Ipecacuanhæ Pulv. Comp.—gr. ss. by gr. ss. pulv. cinnamomi and gr. i. sugar.
Morrhuæ Oleum—♏ x. somewhat disguised by ♏ i. essence of almonds and lemon, or by ♏ ss. ol. menth. pip.
Nucis Vomicæ Tinct.—♏ ss. by ♏ x. syr. aurantii.
Pepsinum—gr. i. by ♏ v. syr. aurantii.
Phosphoricum Acid. Dil.—♏ i. by ♏ v. syr. rubi idæi.
Phosphorus—♏ i. of ol. limonis to ounce of mixture makes it more palatable.
Potassii Arsenitis Liq.—♏ i. disguised by ʒ i. aq. cinnamomi or ♏ v. syr. tolutani.
Potassii Acetas—gr. iii. by ♏ xv. syr. rubi idæi.
Potassii Bromidum—gr. iii. by ♏ xv. syr. aurantii.
Potassii Iodidum—gr. i. by ʒ ss. aq. menth. pip.
Quininæ Hydrochlor.—gr. ss. by ♏ xx. syr. aurantii.
Ricini Oleum—♏ v. by ♏ iii. syr. zingiberis and ʒ i. aq. menth. pip
Sodii Salicylas—gr. iii. by ♏ v. syr. simplicis and ʒ i. aq. cinnamomi.
Strychninæ Hydrochlor. Liq.—♏ i. by ♏ x. syr. aurantii or zingiberis or ♏ xv. extr. glycyrrh. liq.
Tannicum Acidum—gr. ½ by ♏ v. syr. zingiberis

**In Tabes to Stimulate Circulation.**—

℞ Ammon chlor ..... ʒ iv.
Glycerini..... ʒ i.
Tinct. capsic..... ʒ ss.
Aquæ menth. pip.....q.s. ad ʒ xij.
M Rub on the body daily for twenty minutes with massage.

—Pearce.

**Unguentum Hydrargyri by the Mouth.**—

℞ Ung. hydrargyri cinerei ..... gr. lxss.
Pulv. glycyrrhiz..... gr. lxxv.
Glycerini..... gtt. v.
Mucilaginis ..... q.s.
Ut ft. pil. No. lx. S. Two pills twice daily.

—Silberstein.

**Dyspepsia with Flatulence.**—

℞ Tincture of gentian,
Tincture of valerian.
Tincture of nux vomica .....āā ʒ i.
Chloroform..... gtt. xx.–xl.
M. S Ten to twenty drops in water before meals.

**Blennorrhagia.**

℞ Menthol ..... gr. ss.
Salicylic acid ..... gr. ij.
Phenic acid,
Lactic acid,
Essence of eucalyptus.
Salicylate of methyl.....aā gr. iv.
Resorcin ..... gr. x.
Water ..... ʒ iv.

The above formula, taken from *The Medical Press* of March 15th, is not intended to supply a distinct drug for each gonococcus encountered, but it is thought that a mixture of several agents will prove more efficacious than a strong dose of a single one. The quantity to be injected twice a day is one-half syringeful.

**Rheumatic Affections.**—Phenacetin either in the form of:

℞ Phenacetin ..... 5 parts.
Lanolin..... 20 "
Ol. olivæ..... q.s.
Fiat ung.

Or as compress—

℞ Phenacetin ..... 5 parts.
Alcohol rect..... 1 part.
To be applied as hot as possible.

—*Klin.-therap. Wochenschr.*, 1898, p. 186.

**Blennorrhagic Myositis.**—Apply locally as soon as the acute period has passed:

℞ Guaiacol oil,
Oil of sweet almonds ..... p. æ.

In the beginning envelop the limb in boric-acid solution heated to about 35° C. Cover with impermeable tissue, cotton, and fix with a bandage.—Braquehaye and Servel.

**Atonic Dyspepsia.**—

℞ Sodii bicarbonatis..... gr. xv.
Tinct. nucis vomicæ ..... ♏ xv.
Tinct. calumbæ ..... ʒ ss.
Spir. ammon. aromat ..... ʒ ss.
Infus. aurantii comp .....ad ʒ i.
M. f haus. S. As a dose, three times daily half an hour before meals

—Burney Yeo.

**Lichen Islandicus in Bright's Disease.**—Dr. Morosov (*La Semaine médicale*, No. 58, 1899) recommends a decoction of lichen islandicus 4 to 8 in 100 as a good diuretic in morbus Brightii. He has frequently seen an increased urinary excretion, diminution of albumin, and disappearance of œdema follow its use. The patient should be placed on a milk diet.

**Influenza.**—Half an ounce of a decoction of cinnamon every half-hour for two hours, then every hour until the temperature falls to normal. The decoction is prepared by slowly boiling a pound of cinnamon in vacuo with a sufficiency of water till the fluid is reduced to a pint and a quarter. Tabloids may be substituted.—J. C. Ross.

**Digitalis in Cardiac Disease.**—Research would seem to prove that the prolonged use of digitalis is capable of producing cardiac hypertrophy in the normal heart: and if this is the case, it is fair to assume that when the drug is given to a man suffering with valvular disease with deficient compensation, it must aid materially in inducing compensatory hypertrophy, in addition to any immediate stimulant action which it may exercise in the circulatory apparatus.—Hare.

# Society Reports.

## ONTARIO MEDICAL ASSOCIATION.

*Nineteenth Annual Meeting, Held in Toronto, June 13 and 14, 1899.*

W. J. Gibson, M.D., of Belleville, President, in the Chair.

*First Day—Tuesday, June 13th.*

**A Case of Muscular Dystrophy.**—Dr. Ingersoll Olmsted, of Hamilton, reported this case. The subject was a young married man, twenty-five years of age, who had come to the doctor complaining of wasting of muscles and inability to work. His family history showed that other members thereof (though not either parent) had been afflicted with the same trouble. The patient was presented to and examined by the members of the association, and the peculiarity of his gait and movements noted, especially interesting being his manner of assuming the erect posture from a prone position. Wasting was most marked in the region of the scapulæ, deltoids, biceps, forearm and thigh muscles, while those of the calves and hands were moderately well developed. Winging of the scapulæ was especially well marked.

Dr. McPhedran stated that he had examined the case with very much interest. It was an orthodox case of this kind, but presented one or two phases of unusual character especially the preservation of the trunk muscles. He nought there must be some degeneration of nerve fibres present in these cases.

Dr. Geikie thought that as we came to know more and more of this disease, destructive changes would be found to be existing in the nerve centres.

Dr. Olmsted said, with regard to Dr. Geikie's remarks, that he thought there was no question that extensive atrophy took place without any involvement of the central nervous system.

**Relapse in Typhoid Fever.**—Dr. J. C. Wilson, of Philadelphia, read a paper on this subject. He exhibited a number of temperature charts, and said that especial attention should be paid to the condition of the gall bladder as a causative factor in producing these relapses. He took this as his "working hypothesis," and proceeded to demonstrate the occurrence of a relapse with the renewed physical movements of the patient, the beginning of the administration of the more solid forms of food, the consequent peristalsis thus produced in the gall bladder and the subsequent discharge of the accumulated contents of this cyst, containing large quantities of the bacillus typhosus, into the intestine, thus producing the reinfection and the relapse. This, he thought, must be due to intrinsic and not to extrinsic infection. Dr. Wilson then spoke for some time on immunity, and concluded by saying that thus we had a "working hypothesis" to explain relapse, which might be set forth in these terms: intrinsic reinfection from the gall bladder at a time when the intestines were stimulated by larger meals of a different character, an immunity not yet complete, and reinfection at once without a period of incubation. He perfectly understood that the change in blood serum which underlay the Widal test was not a process of immunity but a process due to the infection. He closed his paper by saying that the histological changes taking place in the solids and fluids of the body, bringing about immunity, were also gradual, and if the "working hypothesis" stood at all, it demanded that complete immunity should be established in the primary attack; otherwise intrinsic reinfection, which gave rise to the relapse, could not possibly occur.

Dr. McPhedran thought Dr. Wilson's definition of relapse a good one, and that he drew a very clear picture of it. We knew that some of the cases of typhoid might be abortive, and he saw no reason why relapses also should not be abortive. The question of the gall bladder as being the source of the infection in these relapses was a very important one, because of the suddenness of the outbreaks of symptoms. He thought the relapse might be due more directly to the toxins in the bile.

Dr. J. L. Davison quoted Fagge referring to cases in Guy's Hospital in which death had occurred from the sequelæ of typhoid fever weeks after convalescence had been established, and in which, on post-mortem examination, Peyer's patches were found still infected or still in a condition which showed evidences of the bacillus. In many cases the disease smouldered along for weeks. While Dr. Wilson's hypothesis of the gall bladder was a reasonable one, it hardly explained why we should have relapses after thirty days and later. There must be other storehouses for the retention of the specific germs. The question of the number of relapses was a very interesting one. While Dr. Wilson stated he had seen as many as seven in a six months' illness, the largest number the speaker had seen in any one case was three. He instanced a case of recovery after perforation. The question of immunity was an interesting one in typhoid fever. From recent researches it appeared that there were two immunity substances, one which produced an antitoxin and destroyed the action of the toxin in the body, and thus served to keep the patient alive; and the other which was bactericidal in its action. It appeared that we must have both of these in order that a patient may recover from the disease. It was this bactericidal element which had a large part to play in the destruction of the germ itself.

Dr. Thistle asked why we went to the gall bladder when the bacilli were in the intestinal contents.

Dr. Wilson in reply said that the infection came from the gall bladder because the toxin was accumulated in a great mass in a hollow viscus, which under physiological conditions of the low diet might remain there; but when the patient began to take solid food at longer intervals the gall bladder was suddenly stimulated to empty itself. Under the condition of feeding small amounts of fluid alone, the gall bladder was not stimulated to push out its contents.

**President's Address.**—Dr. W. J. Gibson, of Belleville, Ontario, expressed his thanks for the honor conferred on him in having been made president of the association. In regard to serum therapy, it was a matter of congratulation to the profession to know that so many able workers were in the field. He instanced tuberculosis, and stated that the whole world was on the alert to discover a cure for this disease. More attention should be given to personal hygiene and cleanliness. It would be difficult to estimate what good would result from reporting all the cases of tuberculosis to the health officers, but it would be a difficult matter to make isolation in all cases compulsory. He spoke of the number of diseases now treated with antitoxins. No doubt investigators were on the threshold of important discoveries. He then spoke at some length concerning education and medical regisration in the Dominion.

**Tuberculosis.**—Dr. Vincent Y. Bowditch, of Boston, opened the discussion with a paper on "The Sanatorium Treatment of Pulmonary Tuberculosis." It was gratifying, he said, to notice the marked change of opinion in regard to the treatment of tuberculosis in special institutions. Massachusetts had been the first State in America to establish sanatoria. It was important to keep this class of hospitals for incipient cases. He spoke of the educational influence of the

hygienic methods employed in these sanatoria. Open windows, even in cold weather, should be insisted on as a special treatment of the disease. Patients have returned to these sanatoria begging to be taken back because they could not breathe in their own houses. He thought much more could be done for the patients by having them treated nearer home. Much more could be accomplished by treating consumptives in these sanatoria than by treating them in their own homes. Thirty per cent. have been discharged at Sharon as arrested cases. Dr. Bowditch had never used the term "cure," believing that it was unjustifiable until after a lapse of years. The causes of death in these cases were: (1) The advanced condition of the disease on entrance; (2) intercurrence of some other disease; and (3) too early departure from the sanatorium and return home to the unhygienic conditions. As to treatment, experiments were made with the so-called specifics. Oil of peppermint proved at times beneficial. Creosote was found to be beneficial as an aid to digestion. Antiphthisin had no effect. Abundance of fresh air, judicious exercise, pulmonary gymnastics, and calisthenics formed the base of all successful treatment. The results at Sharon meant that sanatoria should be near all the large cities and towns. He congratulated the profession in Ontario upon the establishment of a sanatorium at Gravenhurst, and spoke also of the necessity of having hospitals for the hopelessly sick. We took away the principal source of infection when we removed these from their homes.

**Early Diagnosis and Selection of Cases for Sanatorium Treatment.**—Dr. N. A. Powell said that for ten years he had practised in a part of the province where phthisis was practically unknown. The diagnosis of early phthisis called for what we understand by incipient or early phthisis—the pre-tuberculous stage. In this regard our views had changed materially within recent years. Up to the time of the demonstration of the bacillus, a case was considered early unless there were large growths within the lung, and until gross constitutional symptoms had shown. There was an inherent tendency toward recovery in phthisis when recognized early. This led to the question, How often was phthisis recognized in an early stage, in a stage before physical signs were manifest in the chest and before expectoration had commenced? Very few such cases were recognized. This was in part because medical students crowded the course in surgery and gynæcology, but neglected physical diagnosis. Early diagnosis depended upon close study of family and personal history. There were certain aids to the examination, such as the use of the fluoroscope and the tuberculin test. In regard to the personal make-up of the patient, it was important to estimate weight and height together before we could arrive at anything of importance. The symptoms of early phthisis were uncertain. A man who was in apparently excellent health might have serious pulmonary disease. It was sometimes important to notice any scars of the neck. Cough and early hemorrhage were two symptoms of importance. The patient should be made to cough in the presence of the physician, and any sputum thus gained should be examined. An evening temperature running up two-fifths, three-fifths, or one degree, associated with morning pallor, was one of the most important elements in early diagnosis. Dr. Powell spoke of the physical examination, and said the patient should always be stripped to the skin and examined in a quiet room. If we can get association of relative dulness in the spinous fossæ with the slightest accentuation and conveyance of the whispered voice or any prolonged expiration, it is safer to treat such a patient as being probably tuberculous. In a case presenting progressive loss of weight and loss of physical energy, if one can get a little wavy or cog-wheeled respiration near the lung, it is safest to treat such a patient as being probably tuberculous. Personally, without having much basis to go on, the speaker said that he was afraid to use tuberculin as a test, for fear of lighting up tuberculosis. With the fluoroscope it was easy to recognize excursions upward and downward of the diaphragm during respiration, the average excursion in the adult male being about two and one-half inches. If it was notably lessened on one side it raised strong suspicion of the presence of tubercle.

**Home Treatment and Prevention of Tuberculosis.**—Dr. T. F. MacMahon, of Toronto, read this paper. He first spoke of how we should treat the patient in his own home, and what means we should take to cure the disease and stay its ravages. Without a specific germ there could be no tuberculosis. The main sources of infection were, first, the sputum, and then infected food. Prompt destruction of the sputum would go far toward the removal of the disease. The public generally must be educated to this fact. That the danger from handkerchiefs was a real one was borne out by the facts that washerwomen in health resorts had contracted the disease through washing these handkerchiefs. Very fine drops of saliva might be a source of infection. Intimate association with coughing consumptives was dangerous to nurses in the rooms. Another important instruction was that rooms should be dusted with cloths dampened with a disinfectant solution. Premises occupied by consumptives and vacated should be made fit by the health board for occupation. Association of consumptives with other patients in public hospitals was injurious. Consumptives should not be treated in the ordinary hospitals. There should be systematic inspection of dairies and food supplies. There was also danger of infection from domestic pets, cats, dogs, birds, etc. Patients should have as much open-air exercise as possible. Individuals especially predisposed should receive particular attention. If the family physician would make it his duty to watch for badly formed chests, he could do much. Prompt attention should be paid to anæmic and dyspeptic young women. Every precaution should be taken against "catching cold." The patient should not choose a sedentary occupation. Much out-door life was especially desirable. Cure was altogether a question of instruction. There should be no cough mixtures. The nearer we approached the methods of the sanatoria, the better our results would be. The only method was the open-air treatment. When in the house the patient should occupy the room with the most sunshine. Nothing should be allowed to interfere with the fresh-air treatment. Rest in the open air would improve the digestion.

**Care and Prevention.**—Dr. Charles Sheard spoke of the open-air treatment as the ideal one. This was not the only disease which fresh air benefited. Many cases of bronchitis and bronchiectasis were also benefited thereby. There were a great many cases with cavities in the lungs, and we had to care for those cases as well. We had all seen these patients very recently put side by side in the same ward with a patient with chronic bronchitis, with another with pleurisy, and with another with obscure chest trouble; yet there ought to be better places for the care of these cases. There ought to be separate buildings in connection with our hospitals for those cases which the sanitaria will not admit. As regards the danger of getting tuberculosis from animals, Dr. Sheard quoted Clifford Allbutt, who fed his own family with the meat of tuberculous cattle and yet none of them contracted the disease. The tuberculin test applied to cattle was a very crucial one. In one cow

which responded to the tuberculin test, tuberculosis was limited to one gland alone. Generally it was agreed that tuberculous milk was dangerous according to the stage of the tuberculosis in the animal.

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SURGICAL SECTION.

*Second Day—Wednesday, June 14th.*

Dr. Wishart, of London, Ontario, was elected chairman of this section.

**Inguinal Hernia.**—Dr. William Oldright presented four patients, in all of whom he had performed the radical cure very recently. He quoted the indications for and against operating in these cases as set forth by Dr. W. B. Coley in Sajous' *Annual*. He thought Halsted's modification of the Bassini method was not an improvement.

**Treatment of Hernia.**—Dr. A. McKay, of Ingersoll, estimated that something like twenty per cent. of the population was ruptured. He exhibited a new truss which he had contrived after a year's experimenting, and stated that in making trials of its efficiency he had selected men who were lifting all sorts of heavy loads and found that it would give the greatest satisfaction. The idea of the truss was to allow of the body motion, a constant wavering of the pad over the ring.

Dr. W. J. Gibson spoke of the difficulty of supplying patients with proper trusses. Dr. McKay's truss was devised to prevent the excoriation of the skin.

**A Peculiar Gynæcological Case.**—Dr. Harrison, of Selkirk, reported this case. The subject was a woman with a large family. Having become pregnant again—two and one-half months—she was advised by a neighbor to produce an abortion, as it was a very easy thing to do, and no trouble arose other than an ordinary monthly sickness. A glass stylet penholder was passed, blunt end foremost, but it slipped from the woman's grasp and was lost. On examination, the speaker could find no rent or tear of any kind, either in the vaginal walls or in the walls of the uterus, even after putting the woman under chloroform. The stylet could not be found. The woman was most positive that it was there, and that it had been passed blunt end foremost. An exploratory abdominal operation was performed, and the stylet was found in the region of the spleen, with the point almost impinging upon the diaphragm where the heart lies on that muscle. The woman recovered with nothing worse than a stitch abscess.

**A Note on Kocher's Method of Radical Cure of Hernia.**—Dr. Primrose gave a very lucid blackboard description of this operation, and showed clearly how the inguinal pouches in the peritoneum were obliterated. As a guide in performing this operation, it was best to introduce a finger into the canal and cut upon the finger. Kocher recommended the silk suture in both operations.

**On Some Points in the Diagnosis of Eye Affections.**—Dr. R. A. Reeve read a very interesting paper with this title. He said this was important for the general practitioner, as patients were continually consulting them with regard to defective sight, or asthenopia, or for actual disease of the eye. It was necessary, in the first place, for the general practitioner to know whether there was any disease present; as to trauma, whether any existed and to what extent the eyeball was damaged; was it in the fundus or in the orbit itself? If a large magnet was brought close to the eye, pain was experienced, owing to the fact that the foreign body was attracted to the magnet and injured the tissues. Then in some cases we had to determine whether there was rupture of the eyeball itself posteriorly. He spoke of rupture by contrecoup, and also of luxation. In the case of foreign bodies we should carefully scrutinize the anterior eye and the conjunctiva. He thought the time had come when the general practitioner should have a fair knowledge of the eye, and be able to apply such knowledge. He should be able to fit the eyes with proper glasses when required. Some persons who could read $\frac{20}{20}$ brought ordinary print close to the eye. Here we should suspect astigmatism. By testing the tension of the eye we obtained a clew to the presence of glaucoma. Another point that should be attended to was the testing of the field of vision, by closing one eye with the hand or using a watch-glass. Diseases of the cornea and conjunctiva were to a large extent now capable of division bacteriologically. We should be on the *qui vive* for tobacco amblyopia in cases of cataract, and it was important to urge men over fifty years old to reduce the quantity of their tobacco.

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MEDICAL SECTION.

Dr. J. Russell, of Hamilton, was elected chairman of this section.

**Ophthalmology and the General Profession.**—Dr. G. H. Burnham read this paper, the object of which was to bring forward some of the diseases of the eye and also some disturbances associated therewith, which required early recognition in order to be successfully treated. He instanced acute glaucoma, chronic glaucoma, and tobacco poisoning causing dimness of sight. In regard to the subsequent changes produced by an attack of iritis, he did not for these perform iridectomy, but instead of an operation gave his combined form of treatment, viz., mercury and the iodide of potassium internally, and pilocarpine hypodermically. He said his results were in this way much better than those obtained by an operation. In regard to diseases of the tear passage he strongly recommended early treatment. He did not favor the employment of the largest probes and did not probe frequently, as good if not better results could be obtained without the additional suffering which frequent probing was always associated with. He also spoke of eye strain causing so many nervous disorders, as headache, neuralgia, constipation, and St. Vitus' dance, and of the great importance of having the sight tested by an oculist and not by those so-called "doctors of refraction."

Dr. G. S. Ryerson thought that the paper fully met the requirements of the subject. Ophthalmia neonatorum had been, however, omitted. A large percentage of eyes were lost from this cause. Medical men should take great care in cleansing the maternal parts before delivery, and the eyes of infants later. Credé's method greatly reduced the percentage of this disease. One or two drops of a one-per-cent. solution of nitrate of silver should be dropped into the eyes. This is not too strong. In regard to the question of refraction, the term doctor of refraction or doctor of ophthalmology was very misleading. He had tried to legislate against these when he was in the legislature, and had approached the government regarding these titles being used unlawfully. The giving of glasses by laymen to the public had been long done; but these titles were very misleading to the public. The question of refraction was a most difficult and complex one, and how could these men on a few months' training undertake such work and treat such cases?

**The Insanity Plea in Medical Jurisprudence.**—Dr. J. Russell, of Hamilton, read a paper on this subject. He thought the public were beginning to doubt that the law was being properly administered in these cases. The question was of interest to the general practitioner as well as to the psychologist. It behooved every physician to acquire such a general and

even special knowledge of the subject as to be able to acquit himself creditably in the witness box, without bringing personal discredit on himself or the profession.

**Notes of a Case of Torticollis.**—Dr. D. C. Meyers, of Toronto, presented a patient, a married woman, aged thirty-nine years. The trouble came on at the age of twenty-five years, just after the birth of her last child. At that time she was very sensitive as to people looking at her. About three years ago she first noticed that her head would turn voluntarily to the left shoulder, slightly at first, in any position but the recumbent one. She was obliged to keep her hand to her chin to hold her head in position. The right sterno-mastoid was prominent and much hypertrophied. Her neurasthenic symptoms had gradually disappeared. The treatment consisted in the separation of the patient from her friends, Swedish movements gradually increased, galvanism, and the internal administration of iodide of potassium and salicylate of sodium.

**Treatment of Eczema.**—Dr. Graham Chambers read a paper on this subject. He thought the first step toward the successful management of a case of eczema was to make a thorough examination of the patient, with the object of determining the etiology and the course of the disease. Bacteria no doubt had an important part in the etiology. There was one principle in the treatment of acute eczema: that was, to give rest to the skin as completely as possible. Repeated washings with water were contraindicated. Dr. Chambers used externally a mild antiseptic sedative astringent lotion, a combination of black-wash and calamine lotion, and recommended it very highly. The internal treatment was equally important. In the majority of cases there was some systemic disturbance. Rest of mind and body were sedatives to the skin and should be secured. Confinement to bed was sometimes a great aid. Wine of antimony was a valuable remedy in subduing the inflammation of the skin.

Dr. Coventry upheld the internal treatment with mercuric chloride, gr. $\frac{1}{6}$, and calomel at times dry locally.

**The Present Status of Ergot in Obstetric Practice.**—Dr. K. McIlwraith, of Toronto, read a paper with this title. Given in small doses, t.i.d., in combination with strychnine, it delayed the onset of labor and prevented post-partum hemorrhage. In the first stage it was never given now. In the second stage it might be used to hasten lingering labor. Its advocates limited its usefulness to cases in which there was absolutely no impediment to delivery in the passages or in the size or position of the child. It must never be given to a primipara. These conditions excluded its use in most cases. Its routine administration throughout the puerperium retarded involution instead of hastening it, and it diminished milk secretion.

### GENERAL SESSION

**A Case of Coccidial Infection.**—Dr. D. W. Montgomery, of Los Angeles, Cal., reported this case. First there were general symptoms on the part of the lungs simulating tuberculosis. The process went on for some little time—a few weeks—and then the patient got a disease of the skin which consisted of large tubercles, which at first appeared as little maculæ, then grew to be small tubercles, and then large tubercles. These tubercles ulcerated and were covered with crusts, and when one was grasped and squeezed between the fingers, the inside was seen to be granular, looking like a fig. The sputum contained no tubercle bacilli. A piece of one of the crusts, examined under the microscope, was seen to contain small round bodies, having a clear double-contoured membrane and granular contents. The disease occurred in a young German, twenty-one years old, who came to California at three years of age.

**Diseases of the Kidney Amenable to Surgical Treatment.**—Dr. Christian Fenger, of Chicago, read this paper. He said that the subject was a large one. The origin of the surgery of the kidney was in 1869—thirty years ago. This new field of surgery developed rapidly, as was well seen from a review of the literature; for instance, from 1889 to 1899, what might be called the third decade, no less than eight hundred papers had been published on this one subject. Within the last five years came the surgery of the ureter. It was represented in the literature for the last ten years by about ninety papers. We could divide the surgery of the kidney into two periods. The first ten years we could term the period of nephrectomy. During this term the loss of one kidney was not considered of so much consequence as a cure of the patient. This period did not terminate after this ten years, but the dawn of the second period, or the period of conservatism, commenced. Instead of nephrectomy, a less radical operation was performed to locate the disease, without sacrificing the tissue of the kidney at its beginning. In 1881 Hahn made a nephrorrhaphy for floating kidney. But by far the most important step, and one whose consequences had been most far-reaching, covering the entire field of surgery, we owed to Henry Morris, of London, who on February 11, 1880, had the courage to open up the healthy kidney tissue and remove an oxalate of lime stone from the healthy kidney by an incision through the renal parenchyma. No operator had had the courage to do this before, except from suppurating and distended kidneys which did not bleed when cut through. From Morris' important operation dated the possibility of the development of conservatism, which was pressing forward, fighting its way toward the goal of renal surgery, which was not the cure of the patient, but the preservation for the patient of the tissue that was valuable for secretion. Morris' operation had made it possible to save the kidney from the destroying influence of stone, to operate on the healthy kidney with a stone in it. In the third decade, the latest step forward in conservatism was the surgery of the ureter. It was a somewhat limited field. With the exception of ureterectomy for tuberculous infection, which was only a small part of it, the whole of the field of the surgery of the ureter had for its aim absolutely nothing but conservation of the kidney. It was a matter of vital necessity for any one who operated on the kidneys to examine the urine for the quantity of urea before any operating was done. There was compensatory hypertrophy of a healthy kidney when its fellow had been removed or destroyed by disease. The urine must be withdrawn and collected in sterilized test-tubes. Examination of the urine must be made without delay, because urine changed rapidly by decomposition. There should be a chemical examination for albumin, blood, and sugar. There should be a quantitative examination of the urine. It was necessary to know the quantity of the urea for twenty-four hours; the life of the patient depended upon that. Dr. Fenger spoke of the use of the cystoscope and the most important step in diagnosis, the last step, the step that gave us the final answer to the question what the matter was—*i.e.*, direct examination of the kidney through an incision in the lumbar region, or the peritoneal incision. The lumbar method permitted of much more direct examination of the kidney than the abdominal one. The peritoneal was seldom resorted to, while the lumbar incision was the one in daily use. The essayist then spoke of the manner of controlling renal hemorrhage by compression either with the fingers or the clamp.

If that did not stop the hemorrhage, suturing was done. Failing this we had to pack the opening of the kidney into the pelvis and trust to the compression of the gauze. Dr. Fenger next took up the different diseases of the kidney for which operation was done, and in a classical manner described each and the indications for and against operation.

**Election of Officers.**—The following officers were elected and installed for the ensuing year: *President*, J. E. Graham, of Toronto; *First Vice-President*, A. H. Wright, of Toronto; *Second Vice-President*, M. I. Beeman, of Newburgh; *Third Vice-President*, R. J. Trimble, of Queenston; *Fourth Vice-President*, A. F. McKenzie, of Monckton; *General Secretary*, Harold C. Parsons, of Toronto; *Assistant Secretary*, E. H. Stafford, of Toronto; *Treasurer*, George H. Carveth, of Toronto.

## THE AMERICAN PROCTOLOGICAL SOCIETY.

*First Meeting, Held at Columbus, Ohio, June 6 and 7, 1899.*

**The President's Address.**—Dr. Joseph M. Mathews, of Louisville, Kentucky, devoted his address to facts showing the importance of a special study of rectal diseases. He said that there was more quackery practised in relation to the diseases of the rectum than in any other department of medical practice. These important and most serious affections were entitled to a separate and special consideration, and those who treated them should have the privilege of forming themselves into a society. Nothing would contribute more to the advancement and to the elevation of this long-neglected subject than this contemplated organization, for the principal part of our knowledge must ever come from comparing our own observations with those of others.

**Pruritus Ani.**—Dr. Tuttle then read a paper on this subject, in which he said that the term "Pruritus Ani" had for the scientific physician only a vague significance, but for its victims it was portentous of evil. The condition should be dealt with both constitutionally and locally. The speaker said that he was not a believer in pruritus ani essentialis. That there was some constitutional condition back of this symptom he admitted, and regarded it as an important element, but he insisted that there was always an exciting cause for the disturbance. Among the causes he mentioned oxyuris vermicularis, colitis, sigmoiditis, catarrhal diseases of the rectum, and uricæmia. These were the pathological conditions which he had found most often in obstinate and obscure cases. To the scientific physician all treatment must be based upon his conception of the pathology of the case. The pathological cause must be removed if possible, and the disease and not the symptom should be treated. Nitrogenous diet, alkaline diuretics, salicylic compounds, and hot baths composed the general routine of treatment. Local applications of carbolic solutions, larkspur, black wash, salicylic acid, chloral hydrate, extract of conium, camphor, cocaine, tar, etc., might all be used in one form or another.

**A Modification of Whitehead's Operation for Hemorrhoids.**—Dr. Earle, of Baltimore, read a paper with this title. After reviewing the usual methods of operations for removal of hemorrhoids, he described his own method, which consisted of clamping the tumors by sections, beginning at the fourchette, where a primary incision was made to determine the depth at which to place the clamp. After removing the tissue above the clamp piecemeal, a continuous suture, beginning at the primary incision, was inserted around the clamp. When the first section had been cut away and sutured, the clamp was removed and the suture drawn taut, when the clamp was again put in position until the whole anal circuit had been treated. The speaker had given this method a thorough trial, and unhesitatingly maintained it was safest, easiest, and by far the best method that he had ever tried. The operation was practically bloodless, and healing by first intention was secured. The convalescence was complete at the end of a week.

**Defecation.**—Dr. Thomas Charles Martin, of Cleveland, discussed "The Act of Defecation." He said that a knowledge of the anatomy of the rectum was necessary to form an appreciation of the physiology of defecation. The bundles of circular fibres which constitute the muscular element of the rectal valve have the same function as those which form the ental sphincter. It was the function of the normal rectal valve to retard the descent of the fæces, but it was obviously true that it might be the especial property of the valve in certain other than normal conditions to obstruct the descent of the fæces. The speaker's experience had convinced him that a perfect knowledge of the rectal valve constituted the key to an understanding of obstipation, rectal stricture, and their sequelæ.

**Constipation.**—Dr. A. B. Cooke, of Nashville, read a paper on "Constipation, Considered from the Standpoint of the Proctologist." He defined constipation as a diseased condition of the alimentary canal characterized by a modification of function which resulted in the pathological retention of fecal matter. He enumerated among the causes, first, those springing from the violation of hygienic law; second, defective innervation, expressed either in atonicity of the muscular coats of the intestine or in decreased secretion; third, sluggishness of the bowel function; fourth, the habitual use of purgative medicines; fifth, mechanical obstruction; sixth, painful affections of the anus. The relations between constipation and diseases of the rectum were intimate and noteworthy in that either might be cause or effect, or both, with reference to the other. Rectal reflexes were discussed at some length, and in conclusion the speaker stated as his conviction that in a large proportion of cases constipation either originated in or was maintained by causes located in the distal ten inches of the intestinal tract. If this was true, the notorious inadequacy of ordinary treatment was at once accounted for, and the duty of the proctologist in the premises became obvious.

**Rectal Adenomata.**—Dr. William M. Beach, of Pittsburg, discussed this subject. He defined an adenoma as an hypertrophy of gland tissue. He noted briefly the nature of these growths and the value of the rectal speculum in their early diagnosis and treatment. He said there were two principal types of adenomata: (1) The gelatinous, composed of elements of mucous membrane; (2) The mixed variety, consisting of mucosa and submucous cellular tissue. The adenoma with a long pedicle was benign, while growths with a broad base tended to malignity. After discussing symptoms and complications, he said that it was wellnigh impossible to locate these growths of the upper rectum by the old methods of examining the rectum: the newer and more exact methods of diagnosis and treatment of non-malignant adenomata were, however, most gratifying to both patient and surgeon. In conclusion he said that (1) rectal adenoma might be hard or soft, and contained the constituent elements of the mucosa and submucosa; (2) these growths were benign and malignant; (3) benign in their origin, they might become malignant; (4) early recognition was of first importance, which was made possible by the newer methods of inspection.

**Post-Operative Treatment of Hemorrhoids.**—Dr. J. R. Pennington, of Chicago, read a paper with this title. He said that the success of a rectal operation

depended quite as much upon the after-treatment as upon the operation itself. He used a tampon made by taking a piece of five-eighths-inch rubber tubing, about four and one-half inches long, and wrapping it with sterilized gauze until it was as large as desired, and then enclosed this tent in a special rubber cover. The tampon should be introduced through a bivalve speculum. Among the advantages claimed for the rubber-covered tampon over the gauze dressings were: (1) It was neater; (2) its removal was painless, as the granulations could not and did not penetrate or adhere to the rubber coverings as they did to the gauze or wool dressings; (3) the tender granulation sprouts were not broken off during its removal; hence there was little or no hemorrhage, which left the wound better fortified against septic infection and the healing process was greatly enhanced; (4) there was practically no pain during defecation, a point which seemed to those who had seen patients suffer almost to syncope during the first movement of the bowels, after the removal of gauze dressings, of very great importance.

The following papers were read by title: "Surgical Treatment of Non-Malignant Stricture of the Rectum," by Joseph B. Bacon, of Chicago; "The Proctoscope as a Factor in the Diagnosis and Treatment of Simple Ulceration of the Rectum," by Leon Straus, of St. Louis; "A Consideration of the Various Forms of Ulceration of the Rectum, by Lewis H. Adler, Jr., of Philadelphia; and "Rectal Carcinoma—Excision and Subsequent Colotomy," by B. Merrill Ricketts, of Cincinnati.

## Correspondence.

### OUR LONDON LETTER.

(From our Special Correspondent.)

DEATH OF LAWSON TAIT—THE LATE DRS. MOIR AND CROOKE—GENERAL MEDICAL COUNCIL—ROYAL ORTHOPÆDIC HOSPITAL MANAGEMENT—HOSPITAL SUNDAY FUND—A "CONSCIENTIOUS OBJECTION"—ST. MARY'S HOSPITAL BAZAAR.

London, June 16, 1899.

Lawson Tait is dead. His health had declined of late, but the end was not anticipated by those near him, and his vigorous work and language had not prepared others for the news. On Monday while he was at his seaside residence dangerous symptoms set in, and on Tuesday afternoon he died, at the age of fifty-four years.

The last time I saw him was in public, when his burly figure, massive face, and fluent utterance in almost commanding voice gave no indication of weakness. His personality was decidedly distinctive and gave force to his arguments.

Lawson Tait was born in 1845, in Edinburgh, where his education was completed at the university. His first diploma was the license of the Edinburgh College of Surgeons in 1866. He was made fellow in 1870. The same year he settled in Birmingham, and the next took the fellowship of the English College. Two years later he was awarded the Hastings gold medal (1873) of the British Medical Association, and from that time his career has continued to be as successful as it has been prominent in the surgical and gynæcological world. His name and his writings are as well known to you as to us, and he received two or three honorary degrees from American universities as well as other distinctions. This is not the place to attempt an appreciation of his life work or a criticism of his contributions to surgery and gynæcology. It may, however, interest you to hear that he was at one time on the staff of a Birmingham daily paper, and always took an active part in the municipal affairs of his adopted home. He was on the town council from 1876 to 1885. The next year he was a Gladstonian candidate for Parliament, but the wave of unionism was too strong for him and he was badly beaten. Under more favorable circumstances he might have succeeded, for he was a powerful speaker, with plenty of the controversial spirit, a ready wit, a caustic sarcasm, and an earnest manner which impressed his hearers with the idea that he was strongly convinced that his views were right. But perhaps he shone still more as an after-dinner speaker, when wit and geniality replaced sarcasm and argument.

He desired to be buried in Gogarth cave, which is in his garden, but was once within the grounds of an abbey, and further that the funeral should be strictly private. It seems but yesterday he was with us, and last week's *British Medical Journal* contained one of his caustic letters anent the proposal for the Birmingham consulting scheme on which I recently commented, and respecting which he was in opposition to most of the local practitioners.

Robert Moir, M.D., died at St. Andrews on the 7th inst., in his sixty-ninth year. He was the second son of "Delta," and last year took part in centenary celebrations of his eminent father. He practised at St. Andrews for some twenty-five years, and had previously been in the Indian medical service, retiring as surgeon-major.

Dr. G. F. Crooke, who died suddenly on the 30th ult., was formerly pathologist to the Queen's Hospital, Birmingham, and professor at the college. Failure of health compelled him to give up this work. After partial restoration he was able to practise as a physician for a year or two, but another break-down occurred. After prolonged rest he recovered so far as to enter general practice. A few months ago he took influenza. On the day of his death he hurried to catch a train, and soon after taking his seat fainted and in a few minutes was dead. He leaves a widow and one child scantily provided for, and there is talk of raising a fund on their behalf. Birmingham will then show that she can appreciate the services of a brilliant teacher, who was heavily handicapped by ill health.

The Medical Council sat over until Friday afternoon and got through further business, much of it very uninteresting. The Hunter case was discussed, and it came out that the council as a whole did not know all the circumstances, and therefore members excused themselves from the responsibility, but this only shifts the blame on to the penal committee. This committee has been strengthened by the addition of three members, and as Mr. Horsley is one of them we may hope for more satisfactory methods of procedure. The need for amendments of the medical acts was talked about, but no definite action arrived at. The farce of marking as "confidential" minutes which are on sale at the printer's, was exposed and probably will not be repeated.

The Royal Orthopædic Hospital has again been in trouble. Some months ago it was pronounced to be unsuited for its purpose and a removal was proposed. Differences of opinion became a mere dispute. A section of the supporters then managed to replace a number of the committee and thereby obtain a majority of one. There was much talk about faggot votes, and it was proposed that members of the honorary staff should not be eligible for election on the committee. Last week there was a meeting to discuss the management, when after much wrangling the old committee carried alterations in the laws to make it impossible for the management to be taken unawares, and further to exclude the staff from the committee. Having succeeded in this they at once resigned, and so left

the control of the hospital in the hands of their opponents. These resignations were but the natural conclusion to the ebullitions of temper which these gentlemen displayed at the meeting, when the deputy chairman advised the governor "to clear out the whole of the medical staff," and stigmatized one as "the arch-conspirator" in the "raid" that had been made on the committee. The offence thus met was the representation by the staff that the sanitary state of the building was defective, and that this is so remains incontrovertible, as the medical officer of health of the district had previously ordered the drainage to be reconstructed. This is not the first time the Royal Orthopædic has come into collision with its staff. In fact, its early history is tainted with equally unreasonable proceedings. The lay members of the committee seem to have imagined the medical staff could know nothing of hospital management; and yet they themselves have given no hostages to the public as to their own abilities to deal with such a subject.

Up to last night £22,000 had been received as collected on Hospital Sunday. There is more to come, the returns not being yet made up.

A "conscientious objector" pleaded that if the baby was vaccinated he would keep them awake at night. The magistrate would not recognize the objection.

A successful bazaar on behalf of St. Mary's Hospital was held at the Great Central Hotel. I hear that some £6,000 was obtained, but ten times as much is wanted for the contemplated extension.

## A STATE SANATORIUM FOR CONSUMPTIVES.

To the Editor of the Medical Record.

Sir: In a recent number of the Medical Record you mention the bill to establish a New York State sanatorium for consumptives, among those of interest to the medical profession which failed to pass the last legislature. It may not be known to those of your readers who favor this bill, and it may encourage them to learn, that the bill in question, so far as the principles involved were concerned, met with the hearty approval of senators and of members of the assembly, and failed to pass the finance committee merely because of the expense and a desire to economize. Whether such economy is wise in the long run is a question about which opinions naturally differ, according the point of view; but the matter will come up again in the next legislature, and it is encouraging to the friends of the bill to remember that the argument of expense was also used against the bill for the State care of the insane, and that in spite of this objection a victory was won after a three-years' fight. The bill for the State care of consumptives promises to fare even better.

Alfred Meyer, M.D.

801 Madison Avenue

## TREATMENT OF PNEUMONIA.

To the Editor of the Medical Record.

Sir: The Medical Record for January 1, 1897, contains an article by Dr. Andrew H. Smith on croupous pneumonia. He therein suggests the employment of chloroform by inhalation, as he says, "to render the exudate inimical to the development of streptococci." Dr. Roberts Bartholow, in vol. c., p. 452, of the *American Journal of the Medical Sciences*, describes cases treated in a similar manner and for the same purpose by inhalations of ethyl iodide.

In two cases of pneumonia recently treated by me, it seems that an improvement upon Dr. Smith's plan was effected by using a mixture of equal parts of chloroform and formaldehyde. The chloroform seemed to lessen the disagreeable pungency of the formaldehyde.

The inhalations were employed during the first ten minutes of every hour. If the patient is sleeping, they can be used without awakening him; if he is restless and wakeful, the slightly narcotic effect of the chloroform often enables him to fall asleep.

Pain was greatly lessened. Respiration became slower and deeper. Recovery in each case was so prompt and so complete that it seemed fair to attribute much of the good result to the inhalations.

Possibly the formaldehyde may prevent the extension of the disease to unaffected portions of the lung.

E. J. Whitehead, M.D

Columbiana, Ohio, June 21, 1899

## THE PREVENTION OF SUMMER COMPLAINT IN CHILDREN.

To the Editor of the Medical Record.

Sir: Under the heading of "Summer Complaint in Children" appears an article in No. 24, vol. lv., of the Medical Record, which may be considered the incentive to the following:

Already in 1871 the writer expressed his conviction (Medical Record, vol. vi., page 357) that the great mortality caused by summer complaint was due to the fact of its being mostly considered and treated as a disease instead of a class of diseases, and for this very reason the drug treatment can be considered only seriatim as we proceed with the study of the many disturbances of the digestive apparatus of children, commencing with those of the stomach and finishing with those of the rectum, alone or in combination.

I will not repeat what Dr. Fischer has so well explained as to overfeeding, etc., but insist upon, as an additional etiological factor, the heat as it affects the peripheral nerves with its reflex action upon nerve ends of the intestinal canal.

In confining my paper to the prophylaxis of the evil, I, however, like Dr. Fischer, may be justified in speaking of summer complaint as a unit. The whole prophylactic treatment of summer complaint can be summed up in the word "water."

The first rule is to guard against overfeeding, the principal cause of infantile summer diarrhœa. To that purpose parents and nurse must be instructed that, whenever a baby cries on account of what is generally considered to be hunger, it should be given first of all some good (sterilized) water or some very weak fennel-seed tea, only slightly sweetened. Too often the little one cries because of thirst, and it is fed, given milk. Food not being wanted at that time the child may be justly said to be overfed and thus exposed to all the disastrous consequences of summer complaint. Give food often, but always in small quantities, and let it be preceded by some water or slightly acidulated drink, as recommended by Dr. Fischer in his article.

The scrupulous observation of this rule, never to give food when really only drink is wanted, cannot be too strongly impressed upon the minds of parents and nurses as one productive of the best results.

The second rule is "Keep the baby cool." Visits to the seashore or the mountains or ocean voyages may one or all be very good, but are within reach of only the few. And still it is necessary that the baby be kept cool, free from fretting with heat. How often do we hear mothers say: "That poor baby cried all day or night, suffering from the heat and possibly

teething besides; it was so fretful I was afraid it might go into fits." Tell her, and all, that all this is avoidable, and tell her how to apply rule No. 2.

It is within the reach of all to have a wash-tub always partly filled with sun-warmed water. However small the baby, never let it become heated; bathe it or let it bathe as often as necessary (two to ten times per day) to keep cool during hot weather. This rule systematically carried out will prove of inestimable value. It generally takes but a few days before the children will be, to use a certain mother's expression, just crazy for the tub.

It is reflex irritation which causes diarrhœa as a complication of difficult dentition; it is the nerve-sedative action of chloral enemata which proves so beneficent and life-saving in cases of Asiatic cholera. It is this same principle of cause and remedy which is recommended, and forms the basis of our successful prophylaxis in cholera infantum.

E. Steiger, M.D.

Prairie du Chien, Wis.

## AN EXAMPLE OF EASTERN SANITATION.

(From our Special Correspondent.)

"Sir," said a sojourner in the East in my hearing about a week ago, "there is not a finer town in the East than Byrout—barrin' the smells."

I admit he was a pilgrim and a sojourner—an outspoken, genial recruit from the Emerald Isle, perhaps; his modicum of brogue betrayed him anyway.

He told the truth, nevertheless.

Beyrout—or Beyrouth, as the French have it—is an indistinguishable blend of perfume, odor, and filth. And these are all so inseparably mingled, so inextricably amalgamated, that we cannot blame the authorities for their tacit acceptance of the fact.

When Satan pointed from Palestine to a famous city, the words spoken were, according to Milton:

> "Westward turn thine eye;
> On the Ægean shore a city stands
> Built nobly; pure the air and light the soil:
> Athens, the eye of Greece, mother of arts
> And eloquence."

But did Satan ever enter into Athens? Did he ever examine the streets, the purlieus thereof, not to speak of the modes and manners of the citizens of the ancient city? Maybe he would have altered his mind if he had done so—if he had a mind at all; and maybe he would not have been—leaving out details—so enthusiastic.

So far Satan for Athens.

Now let us turn to our Eastern seaport.

It does look noble—more or less—from the sea. So it seemed to us. When we first saw it, Lebanon was like unto a mighty cloud, pure and white as driven snow, cut like a cameo on a distance of steel-blue, cloudless sky. We were about fifty miles away from the town, or city, as some will have it, and it was about half an hour before sunrise.

"What a magnificent mass of vapor!" said the poet of our party, referring to the famous mountain-top.

"Looks more like a cauliflower," said our genial idiot—the droll man of our assembly.

"Why, that's just Mount Lebanon, where King Solomon got his cedars from to build the temple in Jerusalem," explained the chief engineer—evidently a Scotchman—and passed on his way to the stoke-hole.

Then—the pity of it! From the sea—a stately town, built on a promontory, with every facility that nature could give it for perfect sanitation. Built below graceful undulations of foothills—the rootlets of the great snow-clad mountain—clad with pine and olive tree.

So we saw it, and so we felt it—fifty miles away. And then we landed and found Beyrout—indeterminate odors! inextinguishable scents!

We walked some half a mile or so to our hotel, and passed by several families of camels, mules, and donkeys, who seemed to have been passing the night in making a magnificent dunghill on the Sultan's highway.

People say that the smell of the camel is good for health and tends to sleep. It may be so; but, all the same, he has no right to defy the sanitary authorities by other methods.

Our landlord was an excellent man. He had been dragoman or interpreter in a previous Soudan war, and spoke English like a book. This pleased us well, as our Arabic was not sufficiently fluent to express ourselves about the dirtiness of our adopted town.

Our grill room was situated beside the water-closet, and the kitchen was in the immediate neighborhood, with a water-closet all to itself in the corner thereof.

There was a blend of garlic and ammonia in the atmosphere when we entered. As lunch came on, this was interspersed with a flavor of roast beef and musk, which a lady introduced—a handsome lady, too.

The presiding goddess of the cuisine seemed to have in her hands the direction of the defecating and urinating department—at least, when compelled to do so we personally had to perform both functions in her immediate presence—and she did not seem to care one iota.

Strange! there was not one single case of illness during our two-month stay in this hotel.

There was an average of twenty of us at table. We seemed to have been a healthy, hearty lot; we ate well, slept well, enjoyed the blend of perfume, and defied the microbe.

But then we were living just over the sea; and perhaps the beat of the waves on the rocks and the wash of the salt sea-water had something to do with it.

So we came to Beyrout; and it is likely that we will tell you more of it anon—of the poor, the halt, the lame, the blind; of the diseases, of the lepers in our midst, and of the sicknesses that come from want of care.

Beyrout, Syria, May, 1[illegible]

## New Instruments.

### A URINAL FOR CASES OF VESICO-VAGINAL FISTULA.

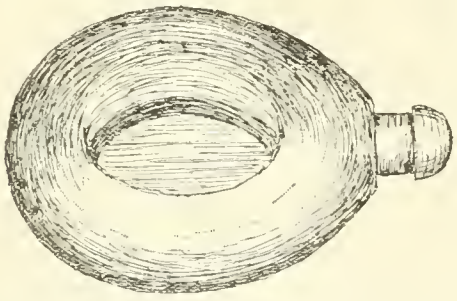
By O. W. PHELPS, M.D.,

Warren, Mass.

I have had under my care a woman over seventy years of age, who within a year and a half had undergone three capital operations for removal of carcinoma of the generative pelvic organs. At the first operation the left ovary was removed; eighteen months later the other ovary having become diseased was removed, also considerable cancerous tissue from the abdominal wall starting from the scar of the first incision. The uterus was also cancerous, but on account of the patient's condition it was not deemed prudent to remove it at this time, but about two weeks later it was removed. The operation proved very serious, and left the patient with a vesico-vaginal fistula, for which an operation is at present impracticable. Although there was good recovery from the other operations, still age, the dread of ether, and the possibility of a return of the cancer were elements against a fourth operation. But the constant dribbling of urine night and day seri-

ously disturbed sleep and kept the external parts constantly wet, and the skin irritated and tender to an extent that rendered life almost unbearable. The general health was suffering seriously from the physical discomfort and mental depression for which there seemed to be no relief.

A rubber bed-pan and soft-rubber urinal gave but little relief; in fact, the latter seemed entire impracti-

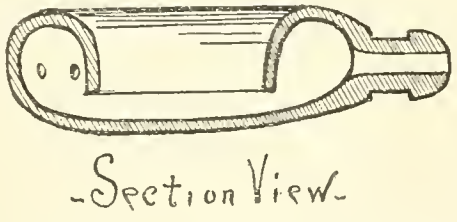


cable, nor could I find any other device in the catalogues of surgical supplies that promised any better.

Under these circumstances I conceived a plan by which to collect the urine in the vagina and conduct it out into some convenient receptacle without its coming in contact with the external parts.

This I have accomplished by a vulcanized rubber instrument, shown in the cut. It is perhaps best described as an oval snuff-box with a hole cut in the top and the edges bent down in to about one-eighth inch of the bottom, and a nipple for a rubber tubing to be attached on one end. This is worn like a pessary. It has three or four small perforations at the upper end, but most of the urine is supposed to get in over the top. The opening in the top is filled with a pledget of absorbent wool or other material to prevent the soft parts settling into the opening, and thus being irritated and at the same time obstructing the water. The urinal presses more firmly against the lower part, where it comes against the sphincter vaginæ, than upon the upper and softer portion, so the urine is not so likely to come out beside the tubing as to get within the ring and thus be conducted by the three-eighth inch tubing which connects the urinal with the receptacle. For the latter I use the bag belonging to an ordinary soft-rubber urinal; this is strapped to the leg just at the bend of the knee, and completes the instrument.

Of course the urinal requires to be removed daily and thoroughly cleansed, and the pledget of wool to be replaced by a fresh one. This the husband does,




or it may be done by a nurse or even the patient herself.

In twenty-four hours after this urinal was introduced, my patient, who was before haggard and worn, and to whom life seemed hardly worth living, was relieved of the external irritation; the mental depression gave place to a cheerful countenance and a general appearance of well-being.

She can go about the house with comfort, doing light work and entertaining company, can sleep nights and find herself dry and rested in the morning; and in fact, whereas she was repulsive to herself and in constant fear of becoming so to others, she is now enjoying reasonable comfort and enabled to minister to the happiness and pleasure of those about her.

## MODIFIED BIVALVE VAGINAL SPECULUM.

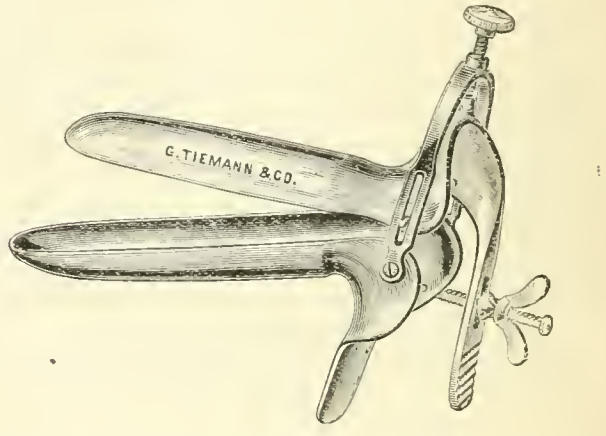
By J. J. MONTGOMERY, M.D.,

LUZERNE, N. Y.

I believe that every physician doing a general practice in the country, and out of the reach of skilled assistants, has recourse more or less to the use of the bivalve speculum in his vaginal work. I believe also that most patterns of this instrument that have as yet been devised are faulty in many respects.

In the accompanying cut is shown a speculum in which the aim in its construction has been to retain all the good qualities of the older instruments, to eliminate their defects, and add new and improved features. I have used it in my daily work for nearly two years, and find that it comes nearer meeting the requirements of a bivalve vaginal speculum than any other I have seen. It is aseptic. It is self-retaining.

The orifice is dilatable and is regulated by a thumb-screw on top, instead of below as in most other specula. It can be used with the patient lying in any position, especially the dorsal, and there is no long shank to reach downward over the perineum and rest upon the bed, couch, or table on which the patient is lying. The mechanism is so balanced that the upper




thumb-screw controls the upper blade, while the lower thumb-screw and lever control the lower blade. The instrument was made for me in two sizes by Messrs. George Tiemann & Co., of New York City.

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**Inequality in the Inheritance of Health.**—There is, it is true, as great an inequality in the inheritance of health as in the heirship of wealth or brains. Some are born with a fortune of vigor and soundness so large that not a lifetime of eager squandering will leave them poor, and others enter the world paupers of need so dire that no charity from medicine can ever raise them to comfort; but most of us have just that mediocre legacy of vitality which renders us undistinguishable units in the mass. It lies in the hands of each to improve or waste that property as he chooses, for there are self-made men physically as well as financially; those who because of ancestral wastefulness have only a sixpence of health and turn it into a fortune; and there are spendthrifts of health who come to as sorrowful cases as spendthrifts of gold. The body is a realm where a wise and frugal ruler brings happiness as surely as a foolish one insures distress, and wisdom here as elsewhere lies in learning and obeying natural laws.—Elizabeth Bisland, *North American Review* for April.

**Vaginal Hysterectomy.**—I believe that a judicious combination of clamp and ligature will ultimately become the usual method adopted.—A. Martin.

## Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending July 1, 1899:

| | Cases. | Deaths. |
|---|---|---|
| Tuberculosis | 140 | 139 |
| Typhoid fever | 30 | 8 |
| Scarlet fever | 93 | [illegible] |
| Measles | 278 | [illegible] |
| Diphtheria | 191 | 31 |
| Laryngeal diphtheria (croup) | 11 | 7 |
| Cerebro-spinal meningitis | 0 | 5 |
| Chicken-pox | 19 | [illegible] |
| Smallpox | 7 | [illegible] |

**A Medical Rear-Admiral.**—Through the action of the naval personnel bill passed by the last congress, Dr. Van Reypen, the surgeon-general of the navy, in common with the other bureau chiefs receives the rank and pay of a rear-admiral.—*Sanitarian.*

**Damages for Typhoid Fever.**—A man in Philadelphia has been awarded $1,500 damages for an attack of typhoid attributed to contamination of his water supply by the overflow from a sewer left uncompleted by the city.—*Sanitarian.*

**"Osteopaths, Take Notice."**—Under this heading *The Medical Fortnightly*, May 15th, writes: "One of the amusing features of the tornado which caused such sad havoc at Kirksville, Mo. (the home of the osteopaths), is to be noted in the following item, which appeared in the Associated Press dispatches the following day: "All business is suspended, and only stores open for business are those dealing in drugs."

**Oxygen in Pneumonia.**—Of the value of oxygen in the relief of dyspnœa and cyanosis it is difficult to give a final judgment. The opinion is slowly but surely gaining ground among the great clinicians that oxygen has been much overrated in the treatment of pneumonia.—Morris Manges.

**French Naval Death Rate.**—Professor Vincent, in his report to the French Academy of Medicine, stated that, according to his statistics, drawn up from 1888 to 1897, about half the deaths—viz., 46.8 per cent.—in the French navy resulted from tuberculosis. The chief victims are, Professor Vincent states, those who are compelled to live in the interior of the ship—the machinists and stokers and lower-grade officers. On that account he urges stringent prophylactic regulations for the naval as well as the land forces. Another authority, Rey de Méricourt, calls attention from a hygienic point of view to the overcrowding on board ship.

**Coffee.**—In 1896–97 the amount of coffee, raw and manufactured, upon which duty was paid in our custom houses was only about 12,000 tons, whereas according to *Le Bulletin de Statistique et de Législation Comparée*—a French official publication—the total amount consumed in Europe and the United States was no less than 623,320 tons. Holland, we learn from the same authority, is the country where the drinking of coffee is most in vogue, the quantity disposed of per head per annum being upward of ten kilogrammes. Denmark and Belgium come next with seven and five kilogrammes respectively, while in France the allowance per inhabitant is no more than one and a half kilogrammes. On the Continent it is apparently the sum levied as duty which determines the amount consumed. In Holland coffee is entirely untaxed. In Denmark and Belgium the charge is insignificant, but in France it amounts to the almost prohibitive rate of 156 francs per one hundred kilogrammes, or about 7d. a pound avoirdupois. The tax with us is only 1½d. a pound for the raw article and 2d. when it is manufactured, so our trifling consumption of about a third of a kilogramme per head cannot well be due to fiscal causes. The production of coffee is said to be increasing rapidly in South America and to be assuming large proportions in Central Africa. In the Rio districts alone the augmented output for the four years ending 1897 was equal to 4,000,000 sacks, or about 240,000 tons. Writing in the *Revue des Deux Mondes* for July, 1898, M. de Castries says: "They are planting at least 600,000 coffee plants every year in the Congo Free State, and everything favors the hope that in a few years the output will have risen to upward of 26,000,000 kilogrammes." If this is the case the price of coffee should soon fall, when in all probability our consumption of six pounds of tea per head per annum will suffer a diminution. There can be no doubt that coffee affects the human economy in a peculiarly agreeable and beneficent manner. It is fairly cheap, easily prepared, although less so than tea, an admirable calorifacient, and there is nothing whatever to forbid its habitual use in moderation whether with meals or at other times. On the whole, it would seem that its more extended utilization is highly to be desired.—*The Lancet.*

**Ovaries: Results of Complete Extirpation.**—(1) The woman becomes absolutely sterile. (2) Menstruation ceases in about ninety-five per cent. of the cases. (3) The uterus and to a less extent the vagina and vulva undergo a process of atrophy. (4) The nervous symptoms of the menopause appear abruptly and violently—viz., heats and flushes, perspirations, palpitations, giddiness, depression of spirits, and a generally unstable condition of the nervous system. (5) In a considerable majority of cases there is a diminution or total abolition of the sexual instincts. (6) The patient has a tendency to obesity.—Christopher Martin.

**The Decreased Birth Rate in France.**—One hundred years ago it was reckoned that the Great Powers of Europe numbered about 98,000,000 inhabitants, and of these 26,000,000, or 26.5 per cent., were French; to-day, out of about 300,000,000, only 38,000,000, or about 12.6 per cent., belong to France. As Dr. Henry May has shown, the English birth rate is also declining, though at a much less rate, and it is probable that the same causes as are at work in France are making their influences felt in England also. The principal of these causes is undoubtedly one which is well described by a recent writer on the subject in the *Journal de Médecine de Paris*: "The dearth of children in France is due to the fact that the French people do not choose to have families. This defective natality cannot be laid to the charge of poverty. The richer a Frenchman, the fewer children he has. This is equally true in town and country. . . . Grenoble, one of the poorest parts of Paris, heads the list for births, while the Champs Elysées is at the foot." That the above view is correct is borne out by a consideration of the fecundity of marriages. The number of legitimate births annually per 1,000 married women is 115 in France, 184 in Italy, 186 in Norway, 190 in England, 202 in Germany, and 205 in Scotland. According to the 1891 census, there were in France 22 families out of every 100 which had only 2 children living, and 24 out of every 100 families which had only 1 living child. The so-called neo-Malthusianism is principally responsible for the above disastrous conditions. Malthus and his disciples, in their zeal to pre-

vent an over-population—which is, to say the least, a very remote danger—have "o'erleapt" themselves, and the French will have them to thank if ever she suffers eclipse as a military nation.—*Medical Magazine.*

**The Signs and Tests of Death.**—(1) Cessation of respiration—(*a*) Mirror test; (*b*) feather test; (*c*) water or mercury test; (*d*) stethoscopic test; (*e*) rhythmic traction of the tongue. (2) Cessation of circulation—(*a*) Stethoscopic test; (*b*) ligature test; (*c*) scarification and cupping; (*d*) opening of an artery; (*e*) needle test (Cloquet's); (*f*) fluorescine test; (*g*) injection of ammonia (Monte Verde's test); (*h*) diaphanous test (Carriere's); (*i*) Roentgen ray. (3) Changes in the eye—(*a*) Test by bright light; (*b*) test by mydriatics; (*c*) test by ophthalmoscope; (*d*) test by ophthalmatonometer. (4) Loss of animal heat—Temperature test. (5) Loss of sensation and of motion—(*a*) Electric test; (*b*) heat test; (*c*) caustic test. (6) Muscular flaccidity and contractility. (7) Cadaveric ecchymoses, lividity, or hypostases. (8) Cadaveric rigidity, cadaveric spasm, rigor mortis. (9) Putrefaction.—J. HEROLD.

**Meat and Cancer.**—Verneuil, some years ago, said that he and other hospital surgeons in Paris had been struck by the much greater number of cases of cancer of the tongue and other visible parts that came before them than had been the case thirty or forty years before. He attributed the fact to the increasingly carnivorous habits of the population. The vegetarians naturally hailed this suggestion with enthusiasm, till it was pointed out that cancer is just as prevalent among the mild Hindus, to whom the flesh-pot is an abomination, as among the "cow-eaters" whom they despise. Among ourselves there seems to be a widespread popular belief that the pleasant and harmless if not exactly necessary tomato has something to do with the production of cancer. Whenever the question of cancer is touched upon in the lay press, this tomato theory is sure to be brought forward with a gravity worthy of a better cause.—*Practitioner.*

**Mosquitoes and Malaria.**—The Italian observers, Grassi, Bastianelli, and Bignami, who are associated in carrying out a series of investigations at the hospital of Santo Spirito, with the object of throwing light upon the etiology of malarial fever, have again met with success in their inoculation experiments with mosquitoes. On this occasion only one species of these insects was employed in the experiment, namely, Anopheles claviger, captured as before in the adult stage in the malarious region about Maccarese. The subject of the experiment was a young man who had never suffered from malarial fever, and who was received into the hospital of Santo Spirito for hysteria about four years ago, during which time he has been constantly under observation and has had no kind of fever whatever. This man for nineteen days slept in a room in which were set at liberty from time to time numerous specimens of Anopheles claviger. On December 2d (eighteenth day) he began to feel unwell, and on December 3d the blood on examination was found to contain the parasites of malarial fever, exclusively of the common tertiary type (the spring tertian of Italian writers). This form of fever is prevalent at Maccarese. Considerable difficulty is experienced in continuing these experiments on account of many of the mosquitoes dying and others refusing to feed. This is probably due to the lateness of the season.—*Scientific American Supplement.*

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, plague, and leprosy have been reported to the surgeon-general of the United States Marine-Hospital service during the week ending July 1, 1899:

SMALLPOX—UNITED STATES.

| | | Cases. | Deaths. |
|---|---|---|---|
| Indiana, Evansville | June 10th to 17th | 1 | |
| Kansas, Kansas City | June 16th to 23d | 2 | |
| Louisiana, New Orleans | June 10th to 17th | 1 | |
| Massachusetts, Boston | June 24th | 2 | |
| Fall River | June 21st | 34 * | |
| Minnesota, Appleton | June 16th | 12 * | |
| Worthington | June 16th | 5 | |
| Missouri, Farmington | June 19th | Reported | |
| St. Joseph | October 26th to April 29th | 36 | 1 |
| St. Louis | June 19th | 9 | |
| Nebraska, Omaha | June 10th to 17th | 2 | |
| New York, New York | June 17th to 24th | .. | 2 |
| Pennsylvania, Philadelphia | June 24th | 2 | |
| Pittsburg | June 10th to 17th | 1 | |
| Porto Rico, Ponce | June 10th | 1 | |
| Ohio, Cleveland | June 2d to 17th | 13 | 1 |
| Columbus | June 16th to 23d | 1 | |
| Massillon | June 17th | 1 | |
| South Carolina, Greenville | June 10th to 17th | 1 | |
| Virginia, Newport News | June 24th | 683 * | 14 |
| Norfolk | June 22d | 822 * | 14 |
| Portsmouth | June 22d | 344 * | 5 |
| Washington, Spokane | June 17th | 4 | |

* Total to date.

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Belgium, Antwerp | June 3d to 10th | 3 | 1 |
| Brazil, Rio de Janeiro | May 5th to 19th | 60 | 3 * |
| Cuba, Nuevitas | June 16th | 1 | |
| Egypt, Cairo | May 22d to June 3d | .. | 4 |
| England, London | June 3d to 10th | 1 | 1 |
| Greece, Athens | June 3d to 10th | 18 | - |
| India, Bombay | May 23d to 30th | .. | 9 |
| Madras | May 13th to 24th | .. | 3 |
| Russia, Moscow | May 27th to June 3d | 34 | 7 |
| Odessa | June 3d to 10th | 6 | 3 |
| St. Petersburg | May 27th to June 3d | 25 | 3 |
| Warsaw | May 27th to June 3d | .. | 1 |
| Scotland, Glasgow | June 3d to 10th | 1 | |
| Turkey, Smyrna | June 3d to 10th | .. | 1 |

YELLOW FEVER.

| | | | |
|---|---|---|---|
| Brazil, Rio de Janeiro | May 6th to 19th | 34 | 17 |
| Cuba, Havana | June 8th to 15th | .. | 1 |
| Matanzas | June 20th | 1 | |
| Santiago | From outbreak to June 26th | 25 | 11 * |
| Mexico, Tampico | June 3d to 9th | 2 | |
| Vera Cruz | June 8th to 22d | .. | 79 |

* All but four were among troops.

CHOLERA.

| | | | |
|---|---|---|---|
| India, Bombay | May 23d to 30th | .. | 2 |
| Madras | May 20th to 26th | .. | 8 |

PLAGUE.

| | | | |
|---|---|---|---|
| India, Bombay | May 23d to 30th | .. | 124 |
| Madras | May 20th to 26th | .. | 1 |
| Persia, Hunshir | June 8th | 1 | |

LEPROSY.

| | | | |
|---|---|---|---|
| Texas, Eagle Pass | June 30th | 1 | |

## Books Received.

*While the* MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

LA GUERRE GRÉCO-TURQUE. ACCOMPAGNÉ DE NOTES MÉDICALES. Par le Dr. Edmond Lardy. Royal 8vo, 348 pages. Illustrated. Attinger Frères, Neuchatel, Switzerland.

ELECTRO-HÆMOSTASIS IN OPERATIVE SURGERY. By Dr. A. J. C. Skene. 8vo, 173 pages. Illustrated. D. Appleton & Co., New York.

TRANSACTIONS OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION, May 16, 17 and 18, 1898. 8vo, 279 pages. Illustrated. D. Appleton & Co., New York.

TRANSACTIONS OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS. Vol. xi., 1898. 8vo, 372 pages. Illustrated. William J. Dornan, Philadelphia.

TEXT-BOOK OF OPHTHALMOLOGY. Second American Edition. By Dr. E. Fuchs. Translated by Dr. A. Duane. 8vo, 860 pages. Illustrated. D. Appleton & Co., New York.

A SYSTEM OF MEDICINE. By many writers. Edited by T. C. Allbutt. Vol. vi. 8vo, 944 pages. Illustrated. The Macmillan Company, New York. Price, $5.

INTERNATIONAL CLINICS. By many writers. Edited by Dr. J. Daland. Vol. i., 1899. 8vo, 303 pages. Illustrated. J. B. Lippincott Company, Philadelphia.

THE DISEASES OF THE NERVOUS SYSTEM. By Dr. L. Hirt. Translated by Drs. A. Hoch and F. R. Smith. Introduction by W. Osler. 8vo, 715 pages. Illustrated. D. Appleton & Co., New York.

ANNUAL REPORT OF THE BOARD OF HEALTH OF THE CITY AND COUNTY OF SAN FRANCISCO. 1898. 8vo, 202 pages Illustrated.

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 56, No. 3.
Whole No. 1497.

New York, July 15, 1899.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### SOME POINTS IN THE SYMPTOMATOLOGY, PATHOLOGY, AND TREATMENT OF DISEASES OF THE SINUSES ADJACENT AND SECONDARY TO THE ORBIT.[1]

By CHARLES STEDMAN BULL, A.M., M.D.,

NEW YORK.

The subject of this paper may be said briefly to be the "Orbital Symptoms and the Treatment of Sinus Disease." The location and extent of sinus disease adjacent to the orbit, and involving it secondarily, frequently decide not only the question of operative interference, and the nature and extent of the operation itself, but also the point whether any operation is justifiable.

The frontal sinus, the ethmoid cells, the sphenoidal sinus, and the maxillary antrum are often the seat of disease which subsequently extends to the orbit. It is a well-known fact that tumors of the bones of the skull, or of the sinuses contained within these bones, may extend in every direction from one sinus or labyrinth to another, and often exist for a long time and reach a large size before appearing in the orbit. The growth of these tumors is usually slow and insidious, though occasionally very rapid. Extensive disintegration of the ethmoid, sphenoid, and superior maxillary bones, from tumors starting in their respective sinuses, may have already occurred before the presence of such a growth is manifested in the orbit by the usual signs of displacement or protrusion of the eyeball, pain on pressure along the orbital walls or directly backward, and the visible or tangible presence of the growth itself within the orbit.

**The Frontal Sinus.**—With the exception of the true osteoma, the frontal sinus is rarely the seat of tumors primarily. The most frequent diseases met with here are of an inflammatory character, viz., mucocele and empyema, the latter being the more common of the two. Both of these diseases may be acute or chronic, the latter type forming the great majority of the cases. The symptoms are practically the same in both, as a chronic mucocele usually becomes an empyema.

Abscess of the frontal sinus is usually an affection of adult life, and does not occur in childhood, as the sinuses are not developed at this period of life. It is met with oftener among men than among women, probably because the sinuses are more developed in men than in women, the infundibulum is wider, and communicates more directly with the external air through the nasal fossæ, and hence are more exposed to the entrance of infectious agents. The left frontal sinus is more frequently attacked than the right, but the reason for this is unknown. The suppurative process may begin in one sinus, perforate the bony septum between the two sinuses, and involve the other sinus secondarily.

[1] An address delivered before the combined sections of ophthalmology and of otology and laryngology of the American Medical Association, June 7, 1899.

Symptoms: In chronic empyema there may or may not be supra-orbital pain, which is sometimes intense. There are, however, many cases in which there is never any pain during the development of the abscess. In the acute form of the disease there is always severe pain over the eyebrow. If the process is confined to the frontal sinus, there is usually no other symptom until late in the disease. If there is sensitiveness on pressure over the frontal boss, swelling along the lower surface of the supra-orbital margin and inner wall of the orbit, and displacement of the eyeball downward and outward, it is probable that the disease has extended to the ethmoid cells. If there are coryza, ozæna, and a purulent discharge from the nostril, the nasal meatus has become involved, and the diagnosis is certain. Distention of the frontal sinus can generally be easily recognized by the site of the swelling. It is higher up and farther back than the site of the lacrymal sac, and it has hard, resisting walls. Occasionally a spontaneous opening occurs by absorption of the bony walls, and the symptoms are then those of a cyst. The orbital symptoms usually advance slowly, though occasionally we meet with a very rapid progress. But there are cases in which a sort of intermittence in these symptoms appears. If the swelling of the mucous lining closes the fronto-nasal canal temporarily, a violent supra-orbital pain will be suddenly produced by the accumulation of fluid within the sinus. Sometimes violent neuralgic attacks occur, usually at the same hour in the morning. These attacks are characterized by continuous pain with severe exacerbations, radiating around the orbit and within the zone of distribution of the ophthalmic branch of the trifacial. They are accompanied by injection of the conjunctiva, lacrymation, and photophobia. After several hours the attack subsides. These patients have usually had "grippe" with rhinitis and profuse secretion. At other times I have seen the attack accompanied at its height by paresis of accommodation.

Empyema of the frontal sinus is very frequently preceded or followed by suppuration of the maxillary antrum. The pus from above may flow into the middle nasal meatus, into which opens the "ostium maxillare," and there set up a similar suppurative inflammation, and the flow of pus from the antrum with the attendant symptoms may often be the first signs of disease of the frontal sinus. In rare cases, however, it would seem as if the disease began in the antrum and extended upward to the frontal sinus. These cases are generally due to an attack of "grippe."

Etiology: The etiology of suppuration of the frontal sinus is somewhat obscure. The predisposing causes are syphilis, tuberculosis, erysipelas, typhoid fever, scarlatina, influenza, inflammatory lesions and polypi of the mucous membrane of the nasal fossæ, and wounds of the superior orbital margin. Both syphilis and tuberculosis may produce an osteo-periostitis of the frontal bone, followed by extensive caries and necrosis and profuse suppuration, and the frontal sinus may be invaded by the pus from without. In erysipelas, the disease process extends through the mucous membrane of the nasal fossæ to the infundibulum, and thence to the frontal sinus. But in order that suppu-

ration should occur in a frontal sinus, there must be an entrance and proliferation of pyogenic microbes in the sinus. The latter may penetrate directly into the sinus through the nasal fossæ, with or without infection of these fossæ, either by way of the infundibulum or by the lymphatics. The mucous membrane of the sinus swells and becomes thicker, and thus the calibre of the infundibulum is narrowed and eventually obliterated, and then the pus collects in the sinus and gives rise to the usual symptoms. When a mucocele becomes an abscess, there must have been present a second element of an infectious nature.

Some assistance in diagnosis is occasionally gained by exploration of the sinus by transillumination with an incandescent lamp, the lamp being applied just beneath the orbital arch. The diagnostic value of this method is, however, *nil*, unless it prove positively the presence of pus in the sinus. If the latter exist, the area corresponding to the extent of the sinus, which should appear illuminated, is in shadow, owing to the presence of pus. Transillumination is of much less value as a means of exploration of the frontal sinus than it is for the maxillary antrum. This method of examination as an aid to diagnosis is very uncertain. It is well known that the sinuses vary in size and shape in the same individual. One sinus may be completely wanting, or entirely filled by a bony tumor. The dimensions of the frontal sinus are very variable, and they sometimes communicate with each other, or with the ethmoid, or with the orbit. All these facts contribute to the uncertainty of the results obtained by transillumination and to the possibility of a faulty diagnosis.

Treatment: An abscess of the frontal sinus having been recognized, the indications are to open it as soon as possible, drain it carefully, inject bactericidal solutions, and put a stop to the suppurative process. In some rare cases of acute empyema, it may be possible to open the sinus internally by enlarging the infundibulum through the nose with a curette, and thoroughly irrigating the sinus by means of a catheter. But this is an extremely difficult procedure, as every one knows who has tried it, and never entirely satisfactory. Moreover, the opening of the ethmoid cells, which is often necessary in these cases, through the nasal meatus, is a difficult and dangerous undertaking. Hence it seems fair to state that the attempt to cure an empyema of the frontal sinus by enlarging the infundibulum in the nose, and by irrigation of the sinus from the nasal fossa through the fronto-nasal canal, is justifiable only in very recent cases and where the natural conformation of the nose admits of such interference.

In all chronic cases, and in most of the acute cases, the frontal sinus should be opened externally by the Ogston-Luc method. The region of election is at the lowest part of the anterior wall of the sinus, immediately above the root of the nose. The external incision should be from an inch and a half to two inches in length, and should extend far enough toward the opposite side to facilitate an opening into the other sinus, if such a procedure prove to be necessary. The operation is entirely devoid of danger, and if properly done always succeeds in effecting a cure. Luc prefers to open the sinus by means of the gouge and mallet, and advises that after the removal of the first splinter or scale of bone, the deep or posterior wall of the sinus be protected by a metal shield against any possible danger of injury from the further use of the gouge. I have found it equally easy to use at first a small trephine, half an inch in diameter, and then to enlarge this opening by the gouge. The dimensions of the opening into the sinus depend somewhat upon the extent and chronicity of the lesion, but should always be large enough to admit of free exploration of the entire sinus. After evacuation of the pus, all fungosities and osteophytes should be thoroughly removed by the curette. To this end it is better to take away the entire anterior wall of the sinus. The septum between the sinuses should then be examined, and if found perforated, it should be removed by the gouge, and the cavity of the opposite sinus thoroughly curetted. To do this, it may be necessary to open through the anterior wall of this sinus, which can be done in the same way by extending the external incision beyond the median line.

In view of the somewhat frequent occurrence of abscess of both sinuses, some operators have advised opening the frontal bone in the median line, and extending the opening toward each sinus, and I have done this recently with very satisfactory results in one case.

In most of the chronic cases it will be found necessary to open freely into the ethmoid cells, and in every case a large, free opening must be made through the fronto-ethmoidal canal into the nasal fossa of the corresponding side. The whole cavity is then to be washed out with a solution of mercuric bichloride (1 : 1,000), the irrigation being kept up until the fluid runs freely from the nose. A rubber drainage tube is then introduced and carried from the nasal cavity well up to the bottom of the frontal sinus, and the irrigation again repeated. The external wound is then to be completely closed by sutures going through the entire thickness of the skin, and the usual antiseptic dressings are to be applied. The immediate closure of the external wound shortens the period of healing and reduces the ultimate cicatricial deformity to a minimum.

In some cases it will be found that nature has caused a fistulous opening, which is usually found just beneath the superior orbital arch, at the supero-internal angle of the orbit. Luc states that the presence of this fistulous tract should not contraindicate the performance of the above operation. After the latter has been done and the sinus completely cleaned out, the fistulous tract may be treated in the usual way by incising the tract throughout its entire length, and then freshening the edges and stitching them together. This seems sound advice, though I have had no experience with fistulous openings into the frontal sinus.

All attempts to relieve or cure chronic empyema of the frontal sinus by intra-nasal treatment alone should be regarded as futile. In view of the frequency with which both frontal sinuses are involved in the process, Moure suggests making a horizontal incision in the usual place, but extending across the glabella to the opposite side, and then making a vertical incision upward in the median line, thus admitting of the dissection of two flaps of skin, and exposing the anterior wall of both frontal sinuses, which may then be opened in the usual way.

**Tumors of the Frontal Sinus.**—The only tumor originating in the frontal sinus which is encountered with any degree of frequency is the osteoma or ivory exostosis. By its pressure it causes absorption of extensive portions of the bony wall, and eventually an opening not only into the cavity of the orbit, but also into the anterior fossa of the skull. Its etiology is extremely obscure. It has been attributed to syphilis, gout, rheumatism, and traumatism, but it is well to look for the predisposing cause at least in an abnormal embryonic condition of the bone cells.

Symptoms: Osteomata always grow very slowly and painlessly. They are never sensitive on pressure, and when they cause pain it is either from pressure on some nerve or from some localized inflammation. As the tumor grows, the eyeball is displaced, and there may even be such extreme exophthalmos that the eyelids cannot be closed over the eye, and the cornea ulcerates. There may be marked disturbance of vi-

sion, and the usual ophthalmoscopic evidences of neuro-retinitis and atrophy of the optic nerve. The diagnosis is made from the location of the tumor, its extreme hardness, its immobility, and its direct connection with the bone. It may be confounded with distention of the frontal sinus or of the ethmoid cells. The prognosis is favorable if the tumor has not encroached upon the anterior fossa of the skull.

Treatment: This consists solely in its operative removal. Owing to the extreme hardness of the tumor, its removal is very tedious and a matter of considerable difficulty. If the tumor is of great size and has probably involved the anterior cerebral fossa, it may be wiser not to attempt its removal, owing to the danger to life. The periosteum must first be incised and carefully stripped from the tumor for some little distance beyond its base in all directions. Then a narrow groove should be cut with a chisel or gouge and mallet around the base, the blows with the mallet being made gently and somewhat rapidly until the tumor is loosened. Then a gentle rocking to and fro will usually suffice to detach it. If the tumor be found of ivory hardness, small holes may be drilled in it by means of a dental engine, and the operation subsequently completed with the chisel and mallet. The usual antiseptic dressings are then applied, and suppuration rarely occurs.

**The Maxillary Antrum.**—Diseases of the antrum are by no means so rare as has been supposed, and this is probably due to the fact that the antrum has not always been carefully examined. The inflammatory diseases most frequently met with here are mucocele and empyema, the latter being by far the more common. The subjective symptoms are practically the same in both.

**Empyema of the Antrum.**—Pus may collect in the antrum as a consequence of inflammation extending from the nose, or of empyema in the sphenoidal antrum, ethmoid cells, or frontal sinus, or it may originate in the antrum itself. If the collection of pus be considerable, it may flow into the nasal meatus through the ostium maxillare, and out through the nostril or back into the pharynx. The most common source of purulent inflammation in the antrum is disease of the teeth or caries of the alveolar arch, especially of the posterior molars, forming first subperiosteal abscess, and then abscess of the antrum.

Symptoms: Pain is the most constant symptom, though, if drainage be free, it may be slight or entirely absent. It is located in the cheek, is frequently periodic in character, and is often accompanied by an unpleasant odor from the decomposition of retained secretions. The escape of pus from the antrum is positive evidence of disease. The orbital symptoms are more or less displacement or protrusion of the eye, orbital cellulitis and chemosis, loss of vision from neuro-retinitis or atrophy, due to pressure on the optic nerve and obstruction to the return circulation, and panophthalmitis from strangulation of the tissues. Many cases of empyema are so slow and insidious in their progress and so slight in their symptoms, that their existence is ignored by the patient, until some violent retro-ocular or orbital inflammation or some grave cerebral complication demands a careful investigation of the cause. There are other cases in which, in the course of a maxillary empyema of dental origin, are manifested symptoms not due to any visible involvement of the cellular tissue of the orbit, such as narrowing of the visual field, atrophy of the optic disc, and irido-choroiditis with opacities of the vitreous. This makes it necessary to consider how intimately connected are the maxillary antrum, the sphenoid antrum, and the ethmoid cells with each other, and how comparatively near each other in the nose are the openings of these sinuses. Masked by the readily recognizable symptoms of empyema of the maxillary antrum, a similar condition in the sphenoid and ethmoid may be overlooked. Lesions in these sinuses may explain a certain number of orbital complications which have hitherto been attributed to reflex action. It is necessary to exclude disease of the sphenoid or ethmoid sinuses before we can make a positive diagnosis of empyema of the maxillary antrum alone. Owing to the ostium maxillare being the lowest of the three openings, the antrum may frequently become the receptacle for pus coming from the other sinuses, and guided into it by a semilunar fold of mucous membrane in the nose.

The extension of the disease from the antrum to the orbit may take place theoretically in three ways, viz.: (1) By direct propagation through the bony roof of the antrum. (2) By means of the lymphatics. (3) By means of the veins. The first and by far the most frequent channel through the floor of the orbit occurs by osteo-periostitis. The second would affect the eye and orbit by means of a retro-ocular inflammation. The third would cause an orbital cellulitis without any periostitis. In the great majority of the cases the orbital cellulitis is the result of an osteo-periostitis of the orbital floor, which is very thin and often shows openings, through which the infection is propagated directly from the antrum to the orbit. If the case pursues an acute course, we have a train of symptoms which is easily followed, beginning with dental caries, inflammation of the sinus, closure of the ostium maxillare, symptoms of pus retention, necrotic osteitis of the roof of the antrum, orbital cellulitis, and then, if the case is not radically treated, osteitis of the roof of the orbit, abscess of the brain, and death. If the inflammation is a chronic one, its course is much slower and more insidious, until a marked failure of vision reveals an optic neuritis or atrophy due to retro-bulbar neuritis.

We are sometimes aided in our diagnosis of antrum disease by employing the method of transillumination. This method has very marked limitations, but is more useful and gives more real diagnostic aid in disease of the maxillary antrum than in affections of any of the other sinuses adjacent to the orbit. Certain possibilities should not, however, be forgotten. The typical triangular pyramidal form of the antrum is exceptional. The floor of the sinus may be on a lower plane than the nasal fossa, by excessive absorption of the alveolar border. The antrum of the other side may be higher, and the illumination might lead us to diagnosticate an abscess in the antrum which stood higher. One sinus may be entirely absent or filled by a solid exostosis.

The examination of the antrum by illumination must be made in a dark room. The method devised by Heryng, improved by Vohsen, and still further improved by Luc and Escat, is probably the best. A four—or five—candle-power lamp, connected with a battery and a rheostat by means of ordinary insulated wires covered with rubber tubing is placed in the mouth, the lips are closed over the connecting rubber tubes, and connection is made. If the antrum is normal, the face takes on a ruddy glow, the brightness differing in spots according to the thickness of the solid parts of the face. The brightest spot will be at the lower margin of the orbit, where the wall is thinnest. If the light encounters pus, or polypi, or solid tumors, there will be more or less darkening of the corresponding side of the face. Burger attaches much importance to the illumination of the eye by the transillumination, the signs of which are a red glow from the pupil. The Heryng method of illumination is valuable only when the corresponding nasal fossa is perfectly healthy, and contains nothing to intercept the luminous rays. The method of Escat, the

retro-maxillary illumination, when carefully and properly done, is a much better way of lighting up the maxillary antrum, for it does away with any possible impediment to the passage of the rays through the nose. This illumination "by contact" requires a special lamp of about 3.50 to 4 volts, enclosed in a cylindrical metal capsule, which is open on one of its sides, and fixed at the level of the antrum by a metallic arm. The apparatus in the form of a pipe is fastened to the handle of the galvano-cautery, which connects it with a battery of two accumulators, provided with a rheostat. To illuminate the sinus, the lamp must be carried into the retro-maxillary fossa, the posterior extremity of the superior gingivo-buccal furrow, behind the last molar. The furrow is open below and closed behind by a reflection of the mucous membrane from the maxillary tuberosity to the internal surface of the ascending ramus of the inferior maxilla. To give this retro-maxillary fossa its greatest dilatation the mouth should be half open and the dental arches separated anteriorly about one centimetre. The cheek is pushed away from the jaw by a tongue-depressor, so as to expose the last upper molars, and the lamp is passed along the alveolar arch as far as the last molar, the stem being horizontal and the lamp open upward until beyond the malar prominence. The handle is then raised and the lamp enters the retro-maxillary fossa. The cheek is then relaxed, the handle of the instrument is lowered about 45°, the mouth is gently closed, and a slight rotation is given to the arm so as to turn the lamp toward the posterior face of the superior maxilla. The current is then turned on and the examination made. If the sinus is normal it is illuminated, which is indicated by two luminous red spots; a crescentic patch corresponding to the lower lid, and a lower, larger, but less brilliant patch corresponding to the "face jugale" of the antrum. If disease of the antrum be present the illuminated patches are absent.

Treatment: The diagnosis of empyema having been made, the only method which promises a cure is to open the antrum, carefully remove its contents, employ frequent irrigation with an antiseptic solution until pus ceases to be secreted, and then endeavor to close the artificial opening. The best method of operating is that suggested by Luc, and consists in making a large opening in the sinus at the level of the canine fossa. The sinus is then curetted and irrigated with a strong solution of zinc chloride. This large opening is, however, only temporary, and is made to serve a double purpose: first, to empty the sinus of its contents and facilitate the curetting, and secondly to allow of the formation of a free opening between the antrum and the nasal fossa for the purpose of drainage. The latter step of the operation is done as follows: The cheek is pulled away from the superior maxilla; a circular perforator, run by a motor, is introduced and directed against the inner or nasal wall of the antrum anteriorly and immediately above the level of the floor of the antrum. This perforator or trephine has a diameter of 9 mm. In some cases the opening is better made with gouge and mallet. The opening having been made in the inner wall, a curette is introduced through this hole into the nasal cavity, so as to clear away any floating folds of mucous membrane. A short, bulbous-pointed style is then introduced through the same opening, and, its point being guided by the little finger in the nose, it is pushed into the nasal fossa. A strong silk cord is then fastened to the eye of the style, and the instrument is then drawn out in the reverse direction. This pulls the silk cord from the nose into the antrum, and thence out through the buccal opening. To the buccal extremity of this silk cord a drainage tube is attached, and the cord is then again drawn through the antrum and through the opening into the nasal fossa, and out through the nose, and draws the drainage tube after it. This is pulled through until one end of the drainage tube is in the antrum and the other in the nasal fossa. The cavity of the antrum is then wiped dry and powdered with iodoform. The lips of the wound opening into the antrum from the mouth are then closed from behind forward by fine catgut sutures. The antrum should be irrigated several times daily, after the wound in the buccal cavity has throughly healed, with a solution of mercuric bichloride (1:2,000), or a saturated solution of boric acid. The drainage tube may be removed from the fourteenth to the twenty-first day. When the patient uses a handkerchief the antrum is generally emptied during the act. All suppuration from the antrum usually ceases in about six weeks. It is easy to irrigate the antrum, even after the withdrawal of the drainage tube, by means of a short curved catheter. Unless the nasal meatus is kept perfectly healthy, empyema of the antrum is obstinate in healing.

**Tumors of the Maxillary Antrum.**—Pathological neoplasms of the antrum are difficult to recognize if they have not already caused distention of the cavity. The symptoms are pain in the teeth of the upper jaw, a dull ache in the region of the antrum, discharge of pus and blood from the nose in lying down, and more or less epiphora. The pain, which may be in the region of distribution of the infra-orbital nerve, is not apt to appear until the tumor has attained considerable size, and has more or less completely filled the antrum; the distention of the walls of the cavity causing the pain by pressure on the nerve twigs. As the tumor grows, the walls of the antrum are gradually absorbed, and the tumor extends into the nose by extensive enlargement of the ostium maxillare, or through the roof of the antrum into the orbit, or in rare cases through the anterior wall of the antrum into the buccal cavity. When the growth enters the orbit through its floor, the eyeball is displaced upward and outward or upward and inward. These tumors of the antrum gradually extend into all the neighboring cavities. They early involve the nasal meatus, thence extend into the spheno-maxillary and palatine fossæ and pharynx, and finally perforate the base of the skull. They usually involve the orbit later, and sometimes extend into it from the ethmoid cells, even before the floor of the orbit is perforated. In no case is it possible to diagnosticate a tumor of the antrum early in its development.

The treatment of these tumors consists either in extirpation of the growth or in complete resection of the superior maxillary and other bones which may be found diseased.

**The Nasal Meatus.**—The intricate nature of the nasal meatus, with its many folds of mucous membrane, its spongy bones, its intimate connection with all the adjacent sinuses, and its proximity to the orbit, is sufficient cause for the extension of disease from this region to the orbit, and render necessary a thorough examination into the condition of the meatus in all cases of suspected morbid growths. The most common affection met with here is a purulent rhinitis, either independent in itself or secondary to empyema of the maxillary antrum or of the ethmoid and sphenoid sinuses. Prompt curetting of the entire nasal meatus, with removal of the spongy bones in whole or in part, is the only treatment which will lead to a cure. Unfortunately a purulent rhinitis is secondary usually to a purulent process in the ethmoid cells or the sphenoid antrum, and the treatment must be primarily directed to these cavities.

Polypoid growths in the nose may extend into the ethmoid cells and produce secondarily many of the symptoms of orbital disease. These growths ofter

possess a partly cartilaginous consistence. It has never been definitely determined whether all the visual defects met with in connection with polypi of the nasal meatus are caused by pressure of the after-growth on the optic canal or in the ethmoid cells, and thence against the inner wall of the orbit. Whatever the cause, the loss of vision is due to pressure on the optic nerve.

**Tumors of the Nasal Meatus.**—Tumors of the nasal and pterygo-palatine fossæ may enter the orbit through the infra-orbital fissure. They cause neuralgia of the infra-orbital or posterior alveolar nerves. The orbital portion of the tumor may divide into two branches; one involving the orbit, and the other extending into the cranial cavity through the supra-orbital fissure. They eventually extend into all the neighboring cavities.

In the treatment of these growths, it is absolutely necessary that they should be completely extirpated early in their development, together with all the surrounding tissues, including the bony walls of the cavities involved. If a malignant tumor has already invaded the deep bones of the face and base of the skull, including the cavities contained within them, the case may be regarded as hopeless, and while an operation may relieve the patient temporarily, it undoubtedly hastens the fatal termination.

**Diseases of the Ethmoid Cells.**—The cells of the ethmoid form a pneumatic labyrinth which increases in width from above downward. The ethmoid anteriorly is connected with the lacrymal bone, and posteriorly often with the orbital portion of the palate bone. The posterior ethmoid cells and the sphenoid antrum open into the superior nasal meatus. In rare cases the ostium maxillare is absent, and the maxillary antrum communicates with the ethmoid cells and sphenoid antrum. Occasionally the lateral ethmoid cells project markedly toward the orbit.

The symptomatology of disease of the ethmoid labyrinth is always perplexing, and a diagnosis is thus rendered extremely difficult. In inflammation of the ethmoid cells, positive subjective symptoms are wanting. In mucocele the symptom is a gradual, painless development of a tumor on the inner wall of the orbit, which later shows signs of fluctuation, and the eyeball is displaced forward, outward, and sometimes downward. Until fluctuation appears, it may be confounded with an osteoma growing from the inner wall of the orbit. Puncture or incision of the tumor will decide the diagnosis. Ectasia of the ethmoid cells occurs mainly in young persons. From a cosmetic standpoint these cases should be treated early in their course, before the ectasia becomes too large; for in the latter case the posterior part of the orbital wall cannot be replaced, and there is more or less deformity. In empyema of the ethmoid cells, whether acute or chronic, the periosteum suffers also, and this may lead to necrosis. In caries of the lamina papyracea, the subjective symptoms are dull pain, increased by pressure in the neighborhood of the diseased bone and vertigo. Redness of the lids at the inner canthus may be present. A hard tumor may be felt at the inner canthus, and later occur fluctation, strabismus, diplopia, exophthalmos and limitations of motility of the eye, and impaired vision. Pus found in the region of the middle turbinated bone must come from the posterior ethmoid cells. If the empyema is of an acute character, symptoms will appear in the nasal fossæ and orbit, such as difficulty of respiration through the corresponding nostril, a nasal tone to the voice, more or less epistaxis, and headache. If no relief is given by way of the nasal fossæ, the disease will invade the orbit and cause the symptoms above mentioned. If the empyema be chronic, the ectasia of the labyrinth may be confounded with a neoplasm in the ethmoid.

The etiology of empyema of the ethmoid is obscure, sex and age seeming to exert no influence. The nasal fossæ contain a large number of microbes, which may easily enter the ethmoid cells and there multiply and set up an inflammatory process. Traumatism of the nasal and orbital bones may also set up an empyema. The primary cause of such inflammation is the presence of some infecting agent, which sets up an irritation, and causes a thickening of the mucous membrane of the labyrinth, which subsequently ulcerates and exposes the bone. This becomes carious, with the formation of sequestra, and the labyrinth is destroyed, or, if the process is not destructive, neoplastic tissue is formed with thickening of the wall of the ethmoid cells and exostosis.

Transillumination as a means of diagnosis in disease of the ethmoid cells is uncertain and perhaps dangerous. It is uncertain because anatomical anomalies exert an effect on the transmission of light. It is dangerous because it may lead to unjustifiable operations. The sinuses may vary both in shape and dimensions, not only in different individuals, but also from one side to the other in the same person. As abnormal sinuses are more numerous than typical cases, transillumination cannot here render any great service. It may help to confirm a diagnosis already made, but it should not be relied upon.

Treatment: In all cases of empyema, the cells should be opened, the pus evacuated, and all fragments of carious bone should be removed. A free opening should be made through the nasal meatus into the ethmoid cells with a curette, and if the swelling has presented in the orbit, it should be freely incised through the conjunctiva, and free irrigation from the orbit through the ethmoid and into the nose should be carried out. A drainage tube should then be introduced from below upward into the ethmoid cavity, and daily irrigation should be kept up until all discharge ceases.

**Tumors of the Ethmoid.**—Neoplasms of the ethmoid are usually of the sarcomatous or myxo-sarcomatous type, though occasionally other varieties are met with. A morbid growth confined within the ethmoid cells gives rise either to no symptoms at all, or merely to headache, paroxysmal in character. The orbital symptoms are the same as those of tumor of the orbit. The motility of the eyeball is limited. The vision may be slightly affected, or there may be complete blindness. The visual field may not be involved. If the tumor has entered the nasal meatus, the mouth is more or less open, the speech is nasal, and later there is loss of the sense of smell. There may be more or less dropping of clear fluid from the nose, even in the case of solid tumors, owing to a communication between the upper wall or roof of the ethmoid cells and fissures at the base of the skull. There may also be orbito-palpebral emphysema, and hemorrhage from the nostrils on one or both sides.

Enchondroma of the ethmoid is very rare, and always starts from the base of the skull.

Polypi originating in the ethmoid cells and confined within these limits are relatively rare, but nasal polypi usually start from the ethmoid. Polypi of the nasal meatus may conversely penetrate into the ethmoid labyrinth.

Fibroma originating in the ethmoid has been observed but once.

Osteoma of the ethmoid usually begins in some neighboring cavity, and the first objective symptom is a very hard tumor just behind the inner canthus, which is followed by exophthalmos and diplopia. The tumor also usually involves the nasal meatus. The vision may be normal or impaired. There may be papillitis of the optic nerve, and suppuration of the cornea from inability to close the lids completely

over the eye. If an osteoma be encapsulated, it may easily be separated from its bony attachments. These osteomata never tend to penetrate the cranial cavity, and their operative removal is not, as a rule, difficult. The only treatment for tumors of the ethmoid bone and cells consists in their radical removal. Further remarks upon the kind of surgical interference and its prognosis will be found at the end of this paper, to which special attention is invited. The surgical attack should always be made through the orbit.

**Diseases of the Sphenoid Antrum.**—Some curious anomalies are often met with in the sphenoid bone. The anterior, posterior, and lateral walls of the antrum are sometimes very thin. The anterior wall may be entirely wanting, and then the sphenoid antrum opens into the ethmoid cells. The anatomical relations between the ethmoid and the sphenoid are so intimate that any chronic process starting in either bone is almost certain to involve the other at a comparatively early date.

The subjective symptoms of empyema of the sphenoid antrum are the same as those of empyema of other neighboring cavities, though the headache is located at the back of the head, and the ocular lesions are either purely functional or affect the optic nerve back of the eyeball. Disease of the body of the sphenoid, whether ending in caries or not, may cause not only exophthalmos but also disturbance of vision, on account of the close proximity of the optic canal. Pain occurring in the course of disease here may show itself in a totally different part of the area of influence of the trifacial nerve, and thus lead to a faulty diagnosis. Attempts have been made to treat the interior of the sphenoid antrum through the nose, but the position of the opening into the nose is so variable, and the use of the rhinoscopic mirror is so unsatisfactory, that such attempts have usually been abandoned. Transillumination is of no practical value here in assisting us in a diagnosis. Inasmuch as the ethmoid cells are usually involved in abscess of the sphenoid antrum, if entrance through the nose proves futile it is better to open the ethmoid through the orbit, clean out the contents, and then penetrate the sphenoid antrum and thoroughly curette its interior.

**Tumors of the Sphenoid.**—So long as a new growth is limited to the sphenoid antrum, either the subjective symptoms are entirely absent, or there may be severe pain in the head, usually in the occipital region. If the process extends to the adjacent structures, symptoms arise which point to the probability that the sphenoid bone is the seat of the disease, such as blindness due to compression of one or both optic nerves, and the visible or tangible presence of the growth in the nose, ethmoid, orbit, or skull. The entrance of the growth into the cranial cavity may occur without any subjective symptoms, or there may be sudden, severe headache. If the progress of the growth is very rapid, meningitis or cerebral abscess will result. The ophthalmoscopic symptoms are either papillitis or atrophy of the optic nerve due to perineuritis and pressure of the swollen nerve-sheath on the optic nerve fibres. In some cases the pressure is exerted on the nerve in the optic canal. Tumors here may perforate the middle fossa of the skull without causing blindness. If an orbital tumor rapidly causes blindness, and the latter starts from the temporal side of the field and leaves the region of the macula lutea unaffected to the last, and if at the same time a growth appears in the nose, it is probable that the tumor began in the sphenoid antrum.

Polypi may develop in the antrum independently, and may penetrate the roof and enter the middle fossa of the skull, and even cause meningitis, without giving rise to any disturbance of vision.

Osteomata of the sphenoid are sometimes developed from the embryonic remains of cartilage. They tend to penetrate the cranial cavity, and by compression of the optic nerves in the optic canals early lead to blindness of both eyes. The same symptoms may also be produced by hyperostosis and exostosis of the sphenoid.

Enchondroma and carcinoma of the sphenoid are exceedingly rare diseases.

Sarcoma is by far the most frequent morbid growth met with here. In sarcoma of the base of the skull it is exceedingly difficult to determine the point of origin. The general symptoms are loss of sight, hearing, and smell in the order named; facial paralysis and neuralgia, vertigo, somnolence, vomiting, loss of memory, hemiparesis, and loss or impairment of speech.

A few words in conclusion in regard to neoplasms of the deep sinuses of the face. Extra-orbital tumors originating in the bones or sinuses adjacent to the orbit form a class of cases which are the most serious and desperate of all. The prognosis in these cases must be regarded as absolutely bad from the beginning. No matter where the growth originated, all the deep bones of the face and their communicating sinuses eventually become involved. By emptying the sinuses and extensive exsection of the diseased bones, we do not succeed in arresting the progress of the malady, and subsequent operations become necessary, which sap the strength of the patient and weaken his powers of resistance. The tendency of these malignant tumors is to grow forward or outward rather than inward or backward, and this fact probably explains why patients afflicted with such tumors live as long as they do, and why they usually die from exhaustion rather than from extension of the growth to the brain. The tendency to extension outward and forward of these tumors may perhaps also explain the increased rapidity of their growth after exenteration of the orbit, or after the more radical operation of exsection of the diseased bones. The empty orbit is a free space toward which there is no resistance to the extension of the neoplasm, while backward or upward its progress is hindered by a bony wall of varying thickness, in which absorption goes on slowly, even when the periosteum has been removed. Three years ago I presented to the American Ophthalmological Society the following conclusions on this branch of the subject, and my experience since has led me still further to emphasize their importance:

1. The prognosis of all forms of malignant orbital tumors is unfavorable; and if the tumor is primarily one of the deep facial bones or their sinuses, the prognosis is positively bad.

2. With the single exception of encapsulated tumors of the orbit, surgical interference is almost invariably followed by a return of the tumor, and the growth of the secondary tumor is more rapid than that of the primary lesion. With each succeeding operation the period of quiescence in the return of the tumor grows shorter and the rapidity of the growth increases.

3. The patient's family, and in certain cases the patient himself, should in the beginning be told of the serious nature of the trouble, and be warned that complete removal of all the diseased parts is a hopeless task. The burden of the decision as to surgical interference must rest upon the shoulders of the patient.

4. Repeated operations in these cases undoubtedly shorten the life of the patient. While it is our duty, therefore, to operate in all cases in order to relieve severe or unbearable pain, we should be slow to operate merely for the sake of relieving temporarily physical disfigurement or deformity, especially if we are convinced that by so doing we shorten the life of the patient, even if that shortened life is rendered more bearable.

# SOME REMARKS ON CHRONIC BRIGHT'S DISEASE.[1]

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THE term "chronic Bright's disease" in its full generic sense includes several more or less distinct pathological states. When the term is applied as a specific appellation to denote a single diseased condition it is chronic interstitial nephritis that is meant in preference to its congeners, chronic parenchymatous nephritis, and amyloid or cyanotic kidney, these latter states being in the main associated with antecedent or coincident morbid processes. In this manner the name "chronic Bright's disease" has been employed in the title of this paper to denote chronic interstitial nephritis or granular kidney, the latter a term much in vogue among English clinicians, although less frequently used in America. Some question may be raised against the use of the two as synonymous terms, the name "granular kidney" denoting a process purely cirrhotic in nature, while "interstitial nephritis" implies the occurrence of inflammatory changes. This distinction is of greater theoretical than practical interest, for the end product of the two is the same, the clinical history is almost identical, and I believe it rare indeed for a purely cirrhotic process to run its course without the occurrence of incidental inflammatory changes.

Chronic interstitial nephritis is a disease of frequent occurrence, a frequency by no means adequately recognized. Various statistics have been compiled from post-mortem records, which go to show, according to West, an occurrence of from eleven to eighteen per cent. This is largely in excess of its clinical recognition. Goodhart's statistics compiled from the records of Guy's Hospital yield fifteen per cent., while the records of the Birmingham General Hospital are represented by Saundby as revealing a frequency of eighteen per cent. The observations published by Samuel West in the last Lettsomian lectures are still more striking and suggestive. Under his direction an investigation was conducted to show the cause of death in persons brought into St. Bartholomew's Hospital dead or dying, a total of seventy-nine cases being examined, in all of which a post-mortem examination was made. The results of this inquiry revealed the remarkable fact that in forty-eight per cent. chronic interstitial nephritis was present. In 16.8 per cent. it was the only demonstrable cause of death, and in 21.6 per cent. more it played its part either in producing death or causing the lesion which led to death—that is, together 38.4 per cent. If greater weight of evidence was necessary to establish the frequency of this lesion, it is furnished by the table compiled by Mahomed in an endeavor to determine the relative frequency of granular kidneys to healthy kidneys at different age periods; three hundred and thirty-six cases were examined, fifty-seven of which were over fifty years of age:

| Ages. | Granular Kidneys Found in— |
|---|---|
| 10–20 | 2.3 per cent. |
| 30 | 3.0 " |
| 40 | 12.0 " |
| 50 | 38.5 " |
| 60 | 43.0 " |
| Over 60 | 50.0 " |

Could more striking proof be furnished of the frequency and hence the importance of this affection? Its interest does not depend upon its frequency only, but its insidious course and elusive manifestations render it one of the most interesting clinical problems. It is a common cause of sudden death, and, as shown by West, is often found post mortem when not suspected. It is many times overlooked in cursory examination of patients, and may as frequently be unexpectedly revealed by careful examination. Moreover, by virtue of its great frequency it is often associated with other diseases, and it introduces a grave element into their prognosis. I shall make no attempt to consider this interesting condition in anything like a thorough or co-ordinate manner, but shall simply touch upon a few of its aspects which an increasing experience has impressed upon me.

Granular kidney has been called a disease of middle life. It is true that it is most often recognized during that epoch, but it may have existed for years and have had its origin in early life. It is an essentially chronic process, indeed one of the most chronic of all affections, extending over a period of years often ten, fifteen, or even twenty in number. In the vast majority of cases it is not during its early stages that its presence is discovered, but only after the morbid changes have so far advanced as to interfere decidedly with the functional capacity of the kidneys. This is mainly due to the fact that until that point is reached no symptoms referable to the kidneys as the seat of trouble are apparent, and also partly, I am satisfied, to an insufficient appreciation of the elusive early symptoms of the disease, for at no time in its progress will careful examination fail to elicit evidence of its existence. A beneficent nature has endowed the human organism in essential places with organic provision sufficient to meet any reasonable degree of strain above the physiological level that may be imposed upon us by the exigencies of life. Accordingly we are provided with lung tissue largely in excess of the capacity for aeration necessary in ordinary physiological living, so that we are enabled without difficulty to meet emergencies, and so it is that extensive organic impairment of lung tissue is compatible with a fair degree of health and usefulness. We see this admirable arrangement duplicated in the kidneys —organs which are even more abused than the lungs, even more frequently called upon to protect the system from the results of our excesses. It is certain that there is a far greater supply of renal gland tissue than is ever required in physiological living, and which can be dispensed with without discommoding the individual so long as ordinary conditions prevail. The degenerative changes which are the special feature of the granular kidney advance very slowly and may exist months and even years before the renal tissue has been so far encroached upon as to render the organs incapable of the proper performance of the work demanded by normal conditions. It is then only that a distinct and unequivocal symptom complex becomes apparent. Ralfe indeed states that it is only when two-thirds of the kidney substance has been destroyed that toxæmic symptoms become prominent. When this point is reached the symptoms of a chronic advancing uræmia combined with distinct urinary abnormities render the condition very easy of recognition, but, unfortunately, by this time the period for usefulness has to a large extent gone by, and all that remains is to compromise with existing conditions, conserve the badly damaged organs, and prolong an existence often miserable enough. Such a point is not usually reached until years after the degenerative lesion was first originated. If by good fortune the disease is discovered in its incipiency, before the organs are greatly hampered, a very promising field is open to our endeavor, and by judicious management further advance may be arrested or so far retarded as to enable the patient to live in comfort and usefulness many years. Our attitude toward the disease must not be one that regards it as a purely renal lesion. Pri-

[1] Read before the Illinois State Medical Society, May 16, 1899.

marily it may be so, but it soon becomes much more than that. The changes accompanying its development are widespread, seriously involving the circulatory organs and disturbing many of the systemic functions.

It is not too much to say that the majority of cases of chronic interstitial nephritis are never discovered, and that apoplexy and heart disease frequently usurp its rightful place upon mortality records. This is not because the diagnosis is difficult, but because there is little in the symptoms to draw attention to the kidneys. The initial stages of the disease present the greatest difficulties to a precise diagnosis, and it is this phase I would discuss. The early symptoms are indefinite and not such as to excite the alarm of the patient, so that the physician is seldom consulted until the disease is well advanced. If the patient seeks early advice it is usually for the relief of some symptom not referable to the kidneys. Opportunities will always exist and frequently arise that will enable us, if our attention is awake to the significance of certain alterations, to discover the disease. Thus granular kidney is the special condition which is likely to be accidentally revealed by examination of the urine for life insurance. Likewise the systemic disturbance of acute febrile disorders may intensify latent symptoms so as to lead to its discovery. Many an obscure nervous, circulatory, or digestive condition in the middle-aged will become easy of interpretation in the presence of a thickened artery, heightened tension, and polyuria. The frequency of this degeneration during the latter half of life certainly warrants an invariable analysis of the urine whenever obtainable, although there may seem no special indication for it.

The symptoms of chronic interstitial nephritis fall into two groups; those referable to the kidneys and those arising from alterations in the circulatory apparatus. The renal symptoms are as a rule much more tardy and latent than the cardio-vascular. When present during the earlier stages they consist of a moderate polyuria principally nocturnal, an inconstant albuminuria, and reduction of urinary solids. The only urinary symptom at all constant during the early stages is polyuria. This is not excessive or troublesome, and is usually more noticeable at night-time, compelling the patient to rise one or more times to relieve the bladder. This symptom is of easy and gradual onset, and, unless extreme, is accepted without concern by the patient, who usually does not regard it as peculiar, but on the contrary may look upon it as favorable to pass so much urine, and it may require close questioning to determine its duration. When no vesical or prostatic cause exists to account for the symptom, its presence as an acquired habit in people of middle age is extremely suggestive of commencing granular nephritis. Aside from this manifestation, the renal symptoms are the latest to develop, and we must perforce depend upon physical signs for our diagnosis. These are referred to the circulatory apparatus, and are the evidences of cardiac enlargement, thickened arteries, and high arterial tension. Cardiac hypertrophy is a pretty constant accompaniment of granular kidney, Goodhart's post-mortem average being 89.6 per cent., Ewald's 84 per cent., and Kanthack and Holmes' 90 per cent. A displaced and forcible apex beat together with alterations in the cardiac sounds usually furnish an easy clew to the ventricular hypertrophy, although it is by no means uncommon for it to exist in moderate degree and yet be impossible of demonstration. The vascular condition is more easily demonstrable as a rule and is perhaps more constant. The arteries are felt to be hard and not easily obliterated by pressure, full between the beats, and feeling like fibrous cords underneath the examining finger. At the same time the arterial tension is persistently raised, as can be readily perceived by the finger, or demonstrated by means of the sphygmograph. Accentuation of the second cardiac sound in the aortic area is an invariable accompaniment of increased arterial tension. A persistently raised arterial tension is one of the most suggestive evidences of interstitial nephritis, and when combined with thickened arteries is most frequently the earliest manifestation of the disease. Mahomed's view, since supported by Goodhart and recently agreed to by West, was that these were the early initial stages of granular kidney. This combination of conditions occasionally gives rise to a symptom which may be the first positive declaration of the disease, and its occurrence is full of suggestiveness. I refer to hemorrhage. This most often takes the form of an obstinate epistaxis arising spontaneously or following exertion such as coughing, lifting heavy weights, or straining at stool. Less frequently apoplexy, subconjunctival hemorrhage, hæmatemesis, hæmoptysis, and hæmaturia occur. Within my recent experience the discovery of the renal lesion has been due in three instances to epistaxis, in one to hæmoptysis, and in another extremely interesting case to severe spontaneous renal hæmaturia. Although hemorrhage may constitute the symptom that first leads to diagnosis, in the majority of such cases the disease is well advanced. Hemorrhage occurs most frequently in patients beyond middle life in whom some degree of arterio-sclerosis is present, but even in the young granular kidneys must not be disregarded as a cause of repeated epistaxis.

During the initial stage of the disease the changes in the urine, although characteristic, are in the majority of instances extremely difficult of satisfactory demonstration. Albuminuria is slight, often amounting to but a faint trace with the most delicate tests, or it may be absent altogether. When present it may vary much in amount at different times, or may disappear entirely for considerable periods. It may be so elusive as to require the analysis of several specimens to discover it, and in rare instances it may be absent during the entire progress of the case. It frequently assumes a cyclic character, appearing in the urine of activity or after eating, and entirely disappearing in the urine of quiescence and recumbency. It is clearly evident from its inconstant character that too much significance is not to be attached to its absence. We must not, however, allow its occasional absence to detract too greatly from the value of albuminuria in the diagnosis of interstitial nephritis. It will always be a symptom of such import, especially when found in the urine of patients of middle age, even if its amount is slight and its occurrence irregular. The specific gravity is in most instances persistently reduced several points below the normal, and, curiously enough, conditions such as vomiting, diarrhœa, and profuse perspiration, which ordinarily cause concentration of the urine, do not have the effect of raising the density to the normal standard. Volumetric analysis of the collected twenty-four hours' urine will reveal a diminution of urinary solids, especially of urea. The microscopic findings are singularly elusive, and it may require the most painstaking search of the urine sediment to reveal anything abnormal. Hyaline casts can usually be detected if the centrifuge is used and proper illumination is employed. They are sparse in number, exceedingly light in texture, and extremely difficult of detection except in highly centrifugalized sediments. With a urine so nearly negative in comparison with the usual standard of pathological variation, many instances of the disease must inevitably escape detection unless we depend upon other means than the urine for our diagnosis, or combine with our urinary findings the information elicited by physical examination. We must dismiss from our

minds the belief that the presence of albumin and casts in the urine is essential to a diagnosis of nephritis, and cease from attaching any negative inference to the results of the analysis of a single specimen. We must impress firmly upon our minds the value of a thickened artery, and be alive to the significance of a heightened tension. In general but two things can result in thickened vessels and increased tension, and they are atheroma and interstitial nephritis. If the former element can be eliminated we should search well to confirm the latter; indeed, we should investigate all cases, for atheroma and granular kidney frequently coexist. With our consciousness awake to the special significance of such manifestations even if present in but moderate degree, and with our minds disabused of belief in the overwhelming importance of urinary findings, I am sure much greater certainty of conclusion will result, and many more cases of granular kidney will be revealed and at a period while still amenable to treatment.

I have been much impressed by the influence of the hereditary element upon the prognosis of this affection. The hereditary character of interstitial nephritis has attracted the attention of many observers, and numerous records have been made of cases occurring in different members of families. The annals of every one's practice will sooner or later furnish instances of this hereditary association. Curiously enough, the risk to the offspring of those who have died of Bright's disease is practically ignored by insurance companies. This hereditary predisposition as an etiological factor is regarded in a very conservative manner by writers upon the subject. I believe it to be a much more important element than is generally credited, and a far more frequent one. It is true that it is impossible save in a few instances to elicit a direct history of Bright's disease, but it must be borne in mind that many, perhaps the majority of cases, of granular kidney are never identified as such, and that apoplexy, heart disease, gout, dropsy may be the various aliases under which the disease in former generations has masqueraded. I believe it a significant fact to elicit a history of any one of these as a family complaint. It may seem but a matter of clinical interest thus to trace a relationship between a present nephritis and a former apoplexy, but it has far greater importance than the satisfaction of clinical curiosity. My experience leaves me in no doubt that an inherited vice of constitution plays a most insidious and disastrous part in the progress and termination of interstitial nephritis. Such cases bear no mark of identification to distinguish them from others save in their more rapid downward course and greater resistance to treatment. Not only will the clinical manifestations in cases marked by an inherited taint be found more unyielding, but our utmost efforts may fail of the happy results obtained in the non-hereditary type, and comparatively little influence be exerted in staying the progress of the degenerative changes. I do not mean to imply that the course of such cases is a rapid one toward a fatal termination, but rather that they are much less readily influenced in a favorable way by dietetic and other measures, and that their course is more unfortunately eventful and more uniformly progressive.

The obstinacy to treatment that these cases present is all the more remarkable because we are dealing with a disease which in its early stages responds in a flattering manner to treatment. It is surprising that so little note has been taken of this influence in prognosis, for I can find no reference to it in the literature at my command. Our forecast must be a conservative one when it is a feature of the case.

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**The Water Supply of Brooklyn** is so short that it has been found necessary to stop the public fountains.

## PREPARING FOR THE KNIFE IN EUROPEAN HOSPITALS.[1]

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SINCE the rise of the present dynasty of micro-organisms, surgery has been revolutionized and perhaps more greatly benefited than any branch of medical art. Nowhere has this change been so pronounced as in the preparation of patient, operator, instruments, and surgical accessories, all of which is more elaborately done in Europe than America—England excepted.

I shall here relate in part how I found these things done in twelve cities of Europe, every one of which is noted for achievements in surgery, and some are pre-eminently medical centres of Europe.

My longer sojourns were in Vienna, Berlin, and Paris; while London, Brussels, Heidelberg, Munich, Budapest, Prague, Dresden, Leipsic, and Hamburg were more briefly visited—all done within a year, and including the teaching and operating season, 1897–98.

The positions in hospitals are radically different from ours when under government control and support. The operator-in-chief is usually spoken of as director of the clinic. He is paid a salary, and often given a residence specially built for him, attached to the hospital or detached, but in the hospital grounds, with telephonic communication whereby he may be called at any hour. This is especially true of directors of hospitals for diseases of women, in which there are always obstetric wards, constituting indeed the larger part of the hospital. The provision for these doctors is not unlike that of ours at insane asylums, except that the European's tenure is not subject to mutations of politics.

Internes and assistants are in evidence galore, all being provided for within the building. The former depend upon excellence at competitive examination for their position, while the latter are said to have a "pull" with the director. All are paid salaries, but assistants receive from three to eight times as much as internes, thus: If the first assistant gets 800 gulden per annum, the second assistant is paid 600, the third assistant 400, the ungraded assistants 300, while the internes have 100 gulden. On the professional card of every assistant is stated his position, to whom he has the honor of being assistant, though the grade is omitted except in case of the first assistant, when that is also set forth on the card.

Graded assistants are permitted to give special courses to students and doctors, which at Vienna pays in some cases 2,500 gulden or more yearly. Assistants when in the hospital two years begin operating, and those having grades take turns at filling the place of the director when the latter is absent. Some of these have served under the same director ten or twelve years, and not only carry out his technique, but even excel him in dexterity at the knife.

Directors usually enjoy the favor of royalty, and if the patient happens to be a gravid empress or queen, the doctor is required to keep from contact of any and all other patients for thirty days before and after partura, and make daily visits to the palace, where at times even the sacred larder is thrown open and he dines and wines with H. R. H. But we must return to the hospital, though the director is often away!

It is claimed for these hospitals, with their ample material, commonwealth support, and life-tenure scientists, that they lead in the development of things of the greatest value to medical progress. It is true, the Teuton is by temperament toilsome—patient in the tedium of the most minute detail of research, and accurate in the employment of methods by which he dis-

[1] Read before the Medical Society, District of Columbia, Washington, D. C., April 19, 1899.

covers that a thing is and what it is, be it never so microscopic. But what to do about it, to turn it to practical account is not always best determined by him, more especially if he is a life tenure. The practical features of the private hospitals abroad suggest that the motto, "Private enterprise superior to public management," may obtain in other things than ownership of railroads.

At Hamburg the Eppendorf [1] is the public hospital. It has eighty buildings, eighteen hundred beds, more than two hundred nurses, twenty-six internes, and seven directors. Of the latter, Kümmel, Sick, and Graff are surgeons. There are three operating-rooms in the operating-building: one for males, one for females, another for laparotomies. The first case in this, the first European hospital visited, was a shapely young girl, wheeled into the rear of the operating-room, farthest from instruments and the light. She had a folded towel over her eyes, and was clad in a single garment, fashioned somewhat like a bath robe, which was thrown back, giving the effect of a white sheet, on which she lay nude, except the sleeved arms, while the examination was made by Kümmel and two assistants. When she was interrogated by the doctors she would take hold of one end of the towel and gradually lift it while assistants brought the edges of the garment together, but the answer from her came not until this had been snugly done and the towel completely lifted from the eyes. She spoke only when looking her interlocutor fully in the eyes. When questioning ceased she herself placed the towel over the bridge of the nose, and the examination proceeded as before. She was chloroformed before being moved forward to where the instruments and light necessary for the operation were. It was an Alexander operation, and the only one I witnessed while in Europe.

Patients for abdominal section are given a bath the day before operation, then shaved and scrubbed, after which a cloth saturated with sublimate solution, 1 to 1,000, is applied over the abdomen by bandage until the time of operation, when it is removed and green soap with sand applied with a handful of wooden fibre. This soon gives an excellent lather, and has the merit of being used but once, when it is thrown away. After the soap is washed off, alcohol is applied, and lastly sublimate, 1 : 1,000.

The hands of the operator and those assisting are prepared in the same way, except that individual brushes are used, all having separate stationary wash-bowls. When in doubt about whose brush it is, it is thrown away and a new one brought. Five-minute sand-glasses are at the hydrants, indicating the required time for scrubbing the finger nails with soap, though these are no longer used strictly as formerly. Next, alcohol from a large vessel is forced into a small glass tray by pressing a rubber bulb with a pedal attachment, this being the measure for each one assisting, and is used without the hand touching anything except alcohol. Lastly, sublimate solution is used with a brush.

Kümmel uses chloroform almost entirely; ether rarely; and mixture of one with the other, or any drug whatsoever with either, never. Bad effects from iodoform have been witnessed, and Kümmel is chary of its use. Sulphonal is a constituent of the new drug, loretin, which has replaced iodoform, being used in septic cases, while sterilized gauze is used in cases surely clean. Chromicized catgut is tabooed; Kümmel assures me it is not absorbed. Catgut is placed in a four-per-cent. formalin solution for twenty-four hours, then boiled one-half hour before being placed in alcohol, where it remains until used. Fine silk sutures, I am told, are absorbed almost as readily as catgut, and are freely used intramurally. Animal sponges are completely replaced with gauze. Instruments, lying in their solutions, are at the side of the operator, who reaches his instruments and threads his needles himself, the needles having springs instead of eyes. Drainage is by glass tubes with lateral openings, when gauze is not suitable—no rubber. Short rubber boots easily kicked off after operation, without the use of the hands, cover the shoes of all assisting at operations, who are further clad in linen overalls, short-sleeved undershirts, and long rubber aprons; no covering over head, hands, or arms.

Visitors are required to wear long linen gowns, reaching to the feet and buttoned from the chin down. Surgeons and internes wear these same white robes in walking around over the grounds to the various pavilions and through the wards.

Prochownik has a large, three-story building of his own in the centre of the city for a gynæcological clinic. It has twenty-four beds, two resident and two volunteer assistants. It has pathological and bacteriological rooms, and separate operating-rooms for major and minor operations. Having a large practice in Hamburg, he has regular hours only for this hospital. Cleaning is much as was seen at Eppendorf, but he has wash-bowls fixed in iron frames on casters, which he shoves around with his foot, and by pedal attachment turns water off and on, hot or cold, without use of the hands. Likewise the various fluids, sterile or chemical, and hot water for plastic operations, are controlled by the foot of the operator. Large glass tanks on shelves have rubber tubes, metallic bars clamping the tubes with springs near the surgeon, which open when the foot presses the pedal. I saw Prochownik do a Hegar operation with the assistance of only one person in the room, and that a female nurse. He maintains that before he can make an assistant understand what he wants he can help himself. He seldom gives a general anæsthetic for plastic operations on the perineum or pelvic tracts, because of the danger of strain on the sutures from vomiting. He infiltrates with Schleich's solution, having a piston syringe holding an ounce, and uses all of this before beginning with the knife. The vagina is cleansed with soap, douche, gauze, and the use of the hand; no brushes are used for this purpose at Hamburg.

At Berlin v. Bergmann is easily the foremost surgeon. He is professor in the university and director of the largest clinic; more than twenty thousand surgical cases being treated annually in the public hospital over which he is chief. Of these, perhaps three thousand come to the department under his personal visitation. Only the grave or difficult cases are selected for this great surgeon. The material is not from the city of Berlin alone, but from the kingdom of Prussia, which supports and is benefited by this charity. He operates in an arena of an amphitheatre seating about two hundred students, with usually half as many more standing behind the seats and seated down the aisles. There are usually eighteen assistants cleaned for action and lined up in the shape of a V, with its base a little in advance of the operating-table and on either side; and when one is of the favored few admitted to the arena, one is reminded of a football team when entering from the rear toward which the apex of the lines point.

After the cutting and most important part of the suturing have been done by v. Bergmann, the table containing the patient is shoved back, where the suturing is finished, and the drainage and bandages are adjusted by assistants in waiting, guided by at least one of the more advanced ones, who has had a hand in the operation from the beginning and has been given points from v. Bergmann as to finishing. Some days six or eight op-

[1] *Vide* "The Different Fields of Operative Surgery and Gynæcology in Europe," by the author, MEDICAL RECORD, March 12, 1898.

erations are done, when the whole line of assistants is utilized. The hours are from 2 to 4 P.M., but usually extend a half-hour or more beyond the time fixed.

Cleansing the field of operation is done with ordinary white soap, shaving, washing off the soap, then with alcohol, and lastly sublimate solution, 1 : 1,000. The operator and all assisting apply the same process, except razor, on the hands and arms. Sterilized gauze is handed out of tin sterilizers by female attendants, with long, white, cotton gloves, sterilized. All other hands and heads are uncovered. Iodoform gauze is freely used in all septic cases; the sterilized in aseptic ones. Catgut is prepared after v. Bergmann's method, as given in any modern work on surgery.

Female nurses attend at hernia operations on the male the same as at tracheotomies, and find them of such absorbing interest that their eyes are not always on the instruments which they hand to the operator. I remember alarming results occurring to Bergmann one day, when a scalpel was handed him point foremost, when the operation had been well along, his hands covered with blood and inflammatory exudate, the instrument going deeply into his finger. Though Bergmann immediately used surgical measures to prevent serious results, we received daily reports that he was suffering from blood poison, creating widespread and deep concern, until we saw him again about ten days later.

Olshausen is director of the Königliche Frauenklinik, with its immense material. Cleansing here does not differ materially from Bergmann's system. Iodoform is dusted over surgical wounds within the abdominal cavity, as everywhere else, as soon as the sewing is completed and the surface dried; being applied with a powder blower. Iodoform gauze is freely used, and catgut prepared after Bergmann's method. There is a separate room for laparotomy. Chloroform is the preferred anæsthetic.

Nagle conducts the woman's clinic in the great Charité, with no wide difference from Olshausen. Catgut is everywhere used in Berlin, and I believe is always prepared according to Bergmann.

Schleich, Dührssen, Mackenrodt, Landau, and Martin all have interesting private clinics, but less elaborate in the number of assistants, and having much in technique that differs from what we have seen.

Martin is noted for the fixed flat table named after him — opposed to Trendelenburg. In this I found him without following among German surgeons—Zweifel and Winckel excepted. Martin no longer uses the spray as formerly on visitors as they enter the operating-room, then continuing its use over the door while the operation lasts. The patient is shaved and washed outside the operating-room. The entire perineum is shaved for laparotomies, while other operators of Berlin shave only the pubes and then cover the perineal and pubic regions with antiseptic or sterile cloths. Martin's patient is entirely nude. The operator sits at the foot of the table, and brings the patient to him until the perineum is quite even with the edge of the table, if not projecting, the legs unsupported and dangling. He wears a rubber apron, which frequently presses the perineum during laparotomies, which he does sitting. During operations he reaches around and moves his stool with his own hands, and places them on the table and other furniture without cleaning before continuing the operation, but this furniture looks as if it had been scrubbed with sand that morning, being all wood. He has only one assistant at the operation, besides one female nurse; the former is occupied chiefly in preventing protrusion of the intestines, while the nurse brings things within arm's length of the operator, who reaches for what he wants himself. The patient, having been chloroformed outside, is brought in and laid upon the table, when she is seldom given chloroform during the operation. Tumors two or three times the size of a man's head are not unusual. In three minutes from the time Martin's knife touched the skin of the patient the tumor was in a bowl on the floor by the side of the table, when I timed him at the first operation I saw him do. He sews up the cavity with one long suture, as if continuous, but his assistant follows with the scissors, cutting proper lengths for tying without delay to the operator. Martin depends more upon the speed with which he closes his wounds than strict compliance with modern requirements of asepsis, ten to fifteen minutes being the average time that the abdominal cavity is open.

In the business part of the city, the first floor occupied by shops, I found Mackenrodt operating on the second floor, his private hospital consisting of the three upper "etagen." He says: "Have only one operating-room, and that always aseptic—make it so before every operation of whatsoever kind." In preparing, he washes the hands in hot water and potash soap with a brush, five minutes, and wears a long rubber apron over sterilized underclothes. He then walks to the opposite side of the operating-room, where he has three porcelain vessels in a row—the first containing a soda solution of two per cent., the second pure alcohol, and the third sublimate. To each he gives about two minutes in the order named, soaking and washing the hands. Before commencing at the porcelain vessels, he places a sterile white linen apron over the rubber one, and this apron is replaced with one of clean linen over the rubber apron before each operation.

The patient is given a bath the day before, shaved, scrubbed, and sublimate solution applied by bandage over the field of operation, which bandage is removed before operating and the same solutions are applied, in the same order as on the hands of the operator. The vagina is scrubbed with a long-handled ivory brush, having bristles on two sides.

Landau has a separate room for operators to wash and prepare before going into the operating-room, and his is the only clinic at Berlin in which I saw ether given. In none of the clinics are the hands or arms covered, and the heads almost never.

At Leipsic, Trendelenburg has the University clinic for general surgery, and Zweifel for women, Sänger having a large private hospital. The preparation is usually with soap, ether, and sublimate, in the order named, Zweifel and Sänger using green soap with sand, and the latter alcohol next after soap. Fine silk takes the place of catgut at Berlin. Trendelenburg boils the silk immediately before using, and leaves it in the bowels, muscle, or peritoneum. He says when properly prepared it becomes encysted like iron wire in bone, if not absorbed, and is harmless. Iodoform is freely used. Excepting by Sänger, chloroform is the anæsthetic preferred.

Neat-fitting covers of very thin rubber over index and middle fingers—one for the vagina, the other for the rectum—are much used in Zweifel's clinic, both digits being used simultaneously at examinations. While operating, one cover is often placed over the thumb, the other over the index finger. These are washed and scrubbed on the fingers the same as other fingers with soap and chemicals, and before being removed they are dried with a towel, thoroughly dusted with rice flour, rolled on themselves down to the tip and placed on a dry plate for the next day, one being used a half-dozen or more times.[1]

Zweifel is having a separate operating-room built for laparotomies, believing this to be necessary. Trendelenburg is having the same thing done, but tells me he does so in deference to public opinion and not because he believes in it.

[1] Specimens were handed around for members of the society to examine, with the explanation that they were thinner than those made in America for the same purpose.

At Dresden, Leopold, of the public Frauenklinik, does not shave and scrub the patient the day before operating, maintaining that she would not be surgically cleaner, and further that the element of dread begins sharply with these previous-day preparations. Prolonged dread is a factor which receives further consideration from Leopold; he very seldom does more than one laparotomy the same day, and that early, usually 7 A.M., for the reason that the second patient would suffer from prolonged dread after waking that morning. His aversion to a second laparotomy is further supported by the thought of possible infection from some of the things pertaining to the operation—room, instruments, operators, etc.—which require considerable time to render safely aseptic. He shaves and prepares the patient in the operating-room after the anæsthetic. Like Sänger, he prefers ether to chloroform.

Of the two hundred and fifty beds in the Carola House at Dresden, about half are surgical, including those for women; and Hofrath Credé is the surgeon. Except washing the patient and the hands of the operator, there is no compliance with the requirements of modern asepsis. Cotton wool and gauze are not even sterilized, though used in cleansing and dressing surgical wounds. No iodoform, corrosive sublimate, or formalin is used. In eighteen months more than fifteen hundred operations were performed by the above methods without surgical sepsis; silver alone being relied upon and applied on wound, gauze, and suture. Pyogenic cavities he washes out with sterilized water, blows into them the powder, or packs in silver gauze, then applies either or both over the wound. These wounds remain absolutely free from inflammatory process; there is no eruption around the border, no swelling, no redness, not even tenderness to the touch.

In the laboratory Credé developed the fact that pyogenic germs cannot live near pure, unminted silver. From this metal he made citrate and lactate, and found them still more potent germicides, differing from other chemicals of this class in being harmless to man. Commercially these drugs are styled "itrol" and "actol." Since my return to America, I am advised that in this country these silver preparations are to be had only through a firm dealing exclusively in proprietary goods, and chiefly those of foreign brand. This is most regrettable, as it will probably prevent the most potent and practical antiseptic discovered from coming into general use. It had impressed me as the most important new thing seen by me while abroad.

The University of Prague, founded 1347, is the oldest now in Europe. It has two official languages—Bohemian and German—every chair having two professors, one for each language. The same arrangement obtains at the clinics. In surgery Mydla and Wölfler are at the head, as are Pawlik and Rothorn in gynæcology; the former of each branch being Bohemian.[1] The regulation linen clothes, rubber aprons, and careful cleansing alike of patient and operator observed at German clinics are seen at Prague. The shaving is confined more to the line of the proposed incision. Pawlik has replaced sublimate with lysol in two-per-cent. solution, having himself experienced very unpleasant symptoms on using sublimate three and four times preceding as many operations the same morning.

Wölfler carries asepsis further than any surgeon I have seen in any country. Under a wide dome of glass roof over the entire amphitheatre, he presents a military aspect as the glaring light rests on his long, clean, white buckskin gauntlets, with his dark blue suit; but Wölfler never lectures before his class without being thus clad. He makes all examinations, even of the nose, mouth and throat, with gloved hands. He requires the same of his assistants, and the gloves are changed for each patient, unless used on unbroken skin or mucous membrane, when washing takes the place of new gloves. After using, the buckskin gloves are sterilized and placed in closed glass jars containing pure glycerin with five-per-cent. carbolic acid. Before using, they are put on the hands, and rinsed clean of carbolic acid, when the examination is proceeded with. This for assistants is the same at examinations as at operations. Wölfler himself leaves the left hand in buckskin, but the right hand has precisely the same kind of rubber cover on thumb and index finger as worn by Zweifel, having these two fingers of the glove cut short, through which the rubber-covered digits project. The hand thus clad removes breast, tumors, bones, and does laparotomies; but in all rectal and vaginal examinations he wears rubber gloves, and sometimes in operating through these channels. Here I may mention were the only occasions when I saw rubber gloves used, and by the only surgeon who used them in my presence in Europe. The operator and all assisting wear white linen caps, alike at removing a breast or doing a laparotomy.

After lecturing and before operating, Wölfler removes the clothing and puts on something like a combination suit of white linen, fastened apron fashion around the neck and body; over this he wears a long apron of pure rubber; and lastly, an apron of sterile linen. The sleeveless arms are covered with white stocking legs down to and within the gloves.

Before the gloves are donned, the field of operation is shaved and otherwise prepared the same as the hands of the operator and those assisting:

1. Hands and arms are washed in hot water and soap, three minutes.
2. Nails are scrubbed, two minutes.
3. Hands and arms are washed and scrubbed in ninety-five-per-cent. alcohol, five minutes.
4. They are then placed in sublimate, 1 : 1,000 solution, for three minutes.

His instruments, like those of Mydla and Pawlik, after sterilization lie in solutions of one-half to one per cent. of carbolic acid until used. Iodoform is replaced with a bluish-gray powder, which is dusted into wounds, and also used in gauze. Wölfer tells me it is prepared from bismuth, and he claims for it superiority to iodoform in three important counts—it is more potent, free from danger, and without odor.

At Vienna there is not much before the knife new to this narrative. I have already described the great hospital, wealth of material, etc.[1]

Chrobak, Schauta, Wertheim, Gussenbauer, and Albert, all leaders, follow the usual rules of cleanliness of German surgeons. Chrobak, of thirty years' continuous service within the same building, is alone in requiring aseptic linen over-garments to be worn by all visitors and attendants within the operating-room; also head coverings for those at operations of laparotomies. No gloves are worn at Vienna. Hot water and soap followed with alcohol, usually fifty per cent., and sublimate, 1 : 1,000, is the rule for the patient and the hands of the surgeon. The newer hospitals have separate rooms for operating on septic and aseptic cases. Gussenbauer is lavish in the use of sterile towels over the patient, table, backs of chairs, around the operating-table, or anything on which operating hands might by accident or need be placed. Instruments for the operator are placed in trays lined with sterile towels, moist and steaming hot. Some operators fill these with sterilized water.

Schauta has his cutting-instruments washed in hot water and soda, then sterilized in carbolic acid before placing them in porcelain trays, submerging the instruments in pure alcohol, from which they are handed

[1] *Vide* a paper by the author in the MEDICAL RECORD, March 19, 1898.

[1] *Vide* "The Different Fields of Operative Surgery and Gynæcology in Europe," MEDICAL RECORD, May 14, 1898.

to the surgeon. He tells me sterilizing by heat spoils the edges of cutting-instruments. Iodoform is generally employed at Vienna, and chloroform is in universal use.

Dollinger, Kézmárszky, Tauffer, and Herzel, of Budapest, wash and scrub with the same solutions used at Vienna; Tauffer devoting ten minutes to soap and brush, one-half minute to alcohol, and one minute to sublimate. In vaginal cases the pubic hair is not shaven. In hysterectomies Tauffer does the regulation scrubbing the day before and binds on sublimate cloth, which is removed and the cleansing repeated before operation next morning. For vaginal operations a bath and a sitz bath are given the previous day, and the sitz bath is repeated preceding the operation. The vagina is douched the day before with hot water containing two per cent. carbolic acid. This is repeated before the operation under chloroform, and after the canal has been washed with soap and gauze. The brush is not used in the vagina. Linen garments are provided only for those engaged at the operation. Kézmárszky is chary of iodoform, placing it sparingly on gauze and using as little of this gauze as possible.

Pus pans, trays for instruments, and such wash-bowls as are to be used by the surgeon after the operation is begun, have the inside rinsed with alcohol which is then ignited, the flame being fed for a minute or two by a small amount of alcohol left in the bowl. Dollinger remarks facetiously: "We do this to make the spirits—evil spirits—disappear." This being done immediately before use, the pus pans are too hot to be placed hard against the skin of the patient, the assistant protecting his own hands with towels. Instruments when taken from the sterilizer are placed in these hot trays, dry, as needed by operator.

At Budapest the hospitals are new and so ideal that I find my daily notes on the details of their construction would require more space than this entire paper. They are not the most expensive nor do they excel in elegance, though they are of respectable size and appearance for a town of six hundred thousand people; but in the application with good sense of the best methods known to us in hygienic science for the safety, health, and comfort of patients, these public hospitals in my belief are unequalled in the world. I have in mind isolated places where all women brought to the hospital with temperature above the normal and of doubtful diagnosis are placed until that is decided. If they are septic from abortion or other cause, as soon as fully understood there are separate buildings where they are kept carefully apart from each other and still farther from all other patients. Other points of distinction are ventilation, which in summer is by air screened, washed, and cooled, through wire and sprays of cold water; conduits from the hospital empty into reservoirs to prevent communication with sewers. These and many other excellences I had seen nowhere else. But to confine myself more strictly to the scope of this paper: There are usually four rooms exclusively for the use of the surgeon—one for septic, another for aseptic cases, a third in which to chloroform and prepare the patient, the fourth for sterilizing instruments and surgical accessories.

Tauffer's operating-room for aseptic cases is on the second floor, and non-communicating except by door to the hall. Next to it is a small room, also non-communicating except one door to the hall. It contains a fine bath tub, also a sitz bath. In this room the patient is given bath, scrubbing, chloroform, and everything preparatory for the knife; then is wheeled out through the hall into the operating-room. Between these two rooms there is a circular hole in the wall, glass covered, through which observations are made and directions given for the convenience of the operator, as successive cases are prepared for his hands. If by accident an impure case is operated on, the room is again made pure by washing from four pipes coming perhaps a foot below the ceiling, widening out saucer-shaped at the bottom. These are such distances from the corners and each other, that the spray from them plays over the entire surface of the ceiling and runs down in part over the four walls of the room, leaving the mopping up of the floor the only part requiring manual aid. These pipes are supplied with a tank, in which any chemical desired can be mixed in the water, all heated to any temperature desired. The floor, walls, and ceiling are of glazed tiling or cement, the latter heavily painted.

Professors Angerer and Winckel, of Munich, do shaving, scrubbing of the patient and surgeon, also preparing material for operation, much as observed at Berlin: Angerer, however, being the only general surgeon I have met among the German race who prefers ether to chloroform. Winckel operates on a Martin table, he does not let the legs of the patient hang down at the foot of the table, however, but has them supported on foot-stools.

At Heidelberg, Czerny is the general surgeon, following in German orthodoxy of asepsis all that pertains to preparations, but a brilliant leader at operations themselves—the latter are outside the limits of this paper.

Kehrer has the Universität Frauenklinik. He is most scrupulous in shaving and cleansing after the more usual strict process already described, using additionally a fine quality of cognac for rinsing the teeth, mouth, and throat, requiring the same of those immediately assisting at laparotomies. Kehrer places great stress on the importance of thus disinfecting the mouth and throat, and is certain that cognac is best for this purpose; and while he explains with energetic gesture and language that none but an inveterate inebriate would swallow cognac or any stimulant before commencing a grave surgical operation, I notice the assistants swallow theirs with evident zest.

In major cases he desires that the patient be in her ward five days, and insists that she be there three days before operation; deeming it important that she become acquainted with her nurses, doctors, and general surroundings, thus reducing the element of fear—of great value in these cases. He washes out the colon, and gives bath and sitz bath daily for several days before operation, but abstains from giving a cathartic on the previous day.

Between the clinics of Paris and those we have seen among the Germans there are great contrasts. In German clinics I had generally perspired without my coat, while in the French clinics I was often uncomfortably cold wearing an overcoat. French surgeons tell me they do not like a temperature below 18° C., but I was present at laparotomies when the thermometer registered 14.5° C. In German operating-rooms placards on the wall forbid conversation, while the brow and scowl of the professor are more forbidding than the placards; the French surgeon usually enters the place of operation with buoyancy and wit, and delights in evoking laughter by his chat. He manifests distress when not surrounded with the same cheery atmosphere. He smokes his cigarette while assistants are preparing the patient, and each time "between acts" is thus resting, chatting, and smoking, while patients are brought in, anæsthetized, shaved, and scrubbed. The surgeon smokes over the operating-table and patient, merely laying aside his cigarette a moment before taking the knife, but always scrubbing the finger tips after putting away the cigarette.

In the German clinics, when special courses are given, placards tell in the strongest language that finger nails and all projecting roots of nails or skin must be clipped absolutely short; the French surgeon, and

more especially his assistants, cultivate long finger nails as an ornament. In German clinics, before the incision in plastic operations in the vaginal tract, a piece of rubber is sewed to the skin of the nates below the field of operation, but covering the anal orifice apron-fashion; or, instead, a bit of cotton wool on a string, lubricated with vaseline, is passed into the rectum to prevent impurity from that source. In Paris all this is disregarded, but the perineum is fully shaven alike for abdominal and vaginal operations, and after the proposed line of incision is shaved this is cleansed the same as are the hands of the operator, which is more elaborate than with the German. After the long finger nails are scraped with a piece of steel, brush and soap are used for a long time with hot water; second, pure alcohol; third, potassium permanganate solution, 1 : 100; fourth, sodium bisulphate saturated solution—this removes the stain of permanganate; fifth, corrosive sublimate, 1 : 1,000.

At vaginal hysterectomy or any operation through that tract, Segond is easily the most clever I have seen in any city of any country. He begins with a hot douche, using a thick nozzle of glass, introducing next a large oval cake of soap, which is so manipulated with hand and gauze as thoroughly to distend and cleanse the canal for operation, no brush being used. Alcohol is burned in trays just as at Budapest. Iodoform is freely used. Segond prefers ether to chloroform, except in cases of diseased lungs or in the aged.

Richelot scrubs and cleanses the same as Segond, but uses a brush in the vagina. In the uterine canal, after washing with douche, he uses pure glycerin containing thirty-per-cent. creosote before and after scraping or cutting. Chloroform is the anæsthetic.

Pozzi also uses chloroform, but no brush for the vaginal canal.

In none of the Paris clinics did I see any covering over the fingers, hands, arms, or heads, and heads often came together over an open abdomen. At one laparotomy I counted five sweat drops as they fell into the abdominal cavity. There was no untoward sequel, and that hospital had no worse record than others as to sepsis.

At Brussels, Jacobs has one operating-room of great length, with an operating-table at each end—one for abdominal, the other for vaginal operations. Both are entirely of brass, and each is surrounded with brass railing. Well back from the foot of the table, for vaginal work, are perpendicular supports on either side, adjustable to any desired lengths, which hold the legs up and quite out of the way of the operator without the aid of assistants, a device first suggested by Sänger. The top of the table consists of two long plates moulded to fit the back and hips comfortably, and so elevated that antiseptic fluids may distend and keep the vaginal tract filled. The opening between the plates in the middle of the table permits débris from the operation to pass down over a glass plate into a large brass bucket.

The room has abundant light; the ceiling, walls, and floor being finished with cement and glazed tiling, painted and polished in spotless white.

There are only two assistants. One gives chloroform, the other threads needles and hands instruments. All wear white cloth gaiters with rubber soles, and a suit of white underwear, and a low-necked apron, leaving the breast and arms bare.

Though French and Flemish are the languages and habits of Brussels, Jacobs is a native of Germany, also educated there, and has his finger nails cut absolutely short. He uses no iodoform, carbolic acid, or corrosive sublimate at all. The patient is chloroformed and shaved in the operating-room, then scrubbed the same as the hands of the surgeon: first, green soap and hot water; second, saturated solution equal parts biborate of sodium and carbonate of ammonium; third, alcohol; fourth, formalin solution, 1 : 1,000 to 1 : 2,000; fifth, ether.

The vaginal canal is cleansed by using, first, a saturated alcoholic solution of green soap applied with sterilized cotton; second, a saturated solution of equal parts of borax and ammonia solution as above, is freely poured into the vagina, dissolving the soap as well as any oily secretion the canal may contain; third, alcohol; fourth, formalin solution the same as above.

For laparotomies, shaving does not extend below the pubic bone, but the washing includes the perineum, over which moist, close-fitting, sterilized cloths are then placed, others over the pubes and thighs, and a sterile towel above the umbilicus. Over these a sheet, from sternum to knees, is placed, with an oval opening a few inches wide and perhaps a foot long, through which the section is made. Ligatures are silk, and sutures silkworm gut; both are boiled in glycerin, which requires a higher temperature than water to boil. Since doing this, he has had no more fistula, though both ligature and suture are left in the abdominal cavity, also buried under mucous membrane or skin. He uses the iron-dyed silk made in Philadelphia, U. S. A. Like Segond, he burns alcohol in vessels used at operations.

At London my observations were confined to the St. Thomas,[1] St. Bartholomew, Samaritan, London, King's, and Guy's hospitals.

Operating-rooms here are yet colder than at Paris, and some of them with open grates burning soft coal fill the operating-room with suffocating smoke and no perceptible heat. Floors of wide boards and soft wood with dirt-filled joints, and picture frames everywhere on the walls containing biblical mottoes, are further adornments of some of the best-known operating-rooms. On cool mornings it was interesting to watch steam rise from the hands of the operator as he turned from the wash-bowl, and the next moment the same emanation from his incision, and again from neoplasms as they were placed about in vessels.

Ether or the A. C. E. mixture is the accepted anæsthetic. Old wooden operating-tables are the rule; the Trendelenburg position is not believed in. Finger nails are worn long, and less pains taken to clean them than at Paris. The surgeon generally removes his coat, often his vest, and sometimes even his shirt before putting on an apron. But asepsis as practised on the continent is practically disregarded at London.

Since my first observation of illustrious surgeons while sitting on hard benches of dingy amphitheatres in Philadelphia, twenty-six years ago, under the spell of the great master of didactics, the elder Gross, whose tongue and pen were the most lucid known in our language; then dozing while Joseph Pancoast lectured, the latter's tongue being as lubberly as the former's knife—but Pancoast wielded a scalpel with the deftest hand I have yet seen—the lesson was still the same in my further studies and observations at Cincinnati and other cities of the West, South, and East, viz.: Great authors and teachers are not the most clever at the knife, and, conversely, the most dexterous surgeon seldom writes, and he is singularly void of charm in diction, whether in the arena of speech or author. To measures his value or profit thereby, we must go to him and observe his work, or learn how and what he does from our better-travelled neighbor.

2621 Fourteenth Street, N. W., May 2, 1899.

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**Carbolic Poisoning.**—Magnesium sulphate, alcohol, chloride of sodium, or vinegar. The last two have the advantage of always being at hand in the household.

[1] *Vide* Medical Record, July 2, 1898, communication by the author.

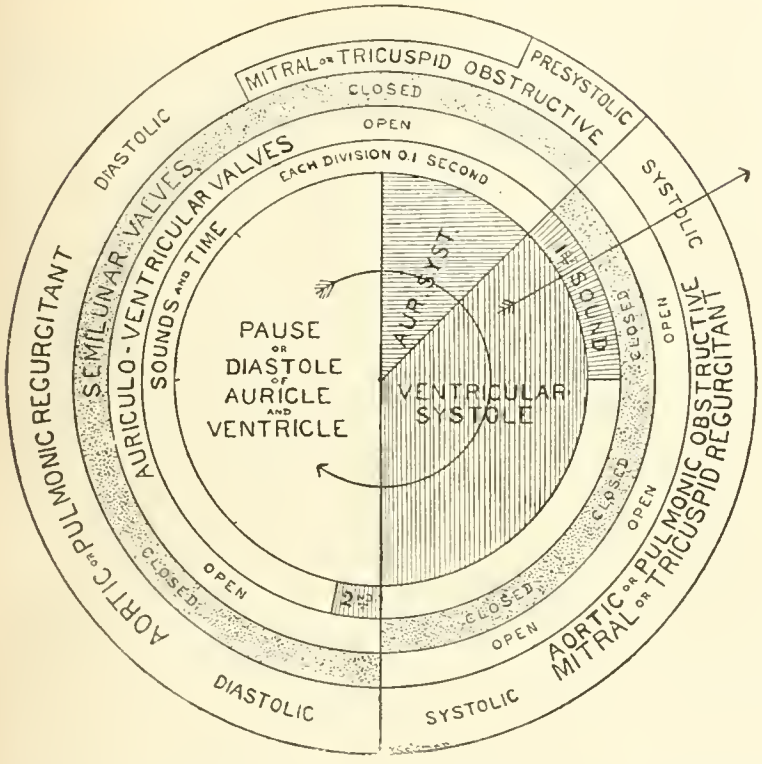
## THE RELATIONS OF CARDIAC MURMURS TO THE EVENTS OF THE NORMAL CARDIAC CYCLE.

By WARREN COLEMAN, M.D.,

INSTRUCTOR IN CLINICAL MEDICINE AND MATERIA MEDICA IN CORNELL UNIVERSITY.

The difficulty often encountered in determining the time-relations of cardiac murmurs has induced me to publish the accompanying diagram. It is an amplification of the older diagram of Sharpey and Gairdner, and includes not only the events of the normal cardiac cycle but their association with murmurs. It consists of a series of concentric circles, representing in order from within outward the chambers of the heart, sounds and time, valves, and murmurs.

The duration of the different phases is based on Foster's computation: thus, the duration of the auricular systole is 0.1 second; of the ventricular systole, 0.3 second; and the pause of the whole heart, during




which neither auricle nor ventricle is contracting, 0.4 second; the entire cycle occupying, at the normal rate of heart-beat, 0.8 second.

The first sound is represented as occurring during the first part of the ventricular systole, as occupying 0.1 second, and with an interval of 0.2 second between it and the second sound. The second sound is heard at the close of the ventricular systole, and is of shorter duration than shown in the diagram.

The valves are represented as open and closed. The murmurs are divided into presystolic, systolic, and diastolic, and are given the usual names.

By following the direction of the curved arrow the proper sequence of all normal and pathological events may be found. By starting at the centre of the diagram and reading peripherally, one will find the normal and pathological events which occur synchronously at any period of the cycle.

The diagram has been constructed chiefly with regard to simplicity, that it may be used for clinical and didactic purposes generally.

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**Grand Duke George of Russia,** brother of the Tsar and heir apparent to the throne, has died of tuberculosis.

## TREATMENT OF A SUPPOSED "KISSING-BUG" WOUND, FOLLOWED BY PROMPT RECOVERY.

By F. A. BURRALL, M.D.,

NEW YORK.

A MIDDLE-AGED gentleman called at my office on the evening of July 6th, to ask treatment for an eruption which had appeared on his left forearm. I found on examination that near the capitulum ulnæ was an elevation of about the diameter of a silver three-cent piece, resembling in shape a small nasturtium. On this were four distinct longitudinal vesicles, the longest about the eighth of an inch in length. The wrist and back of the hand were swollen, and flexion and extension of the fingers were accompanied with pain and stiffness. A diffused red, erysipelatoid eruption extended from the wound to the bend of the elbow, covering nearly half the circumference of the forearm, at its upper part. There was no pain on pressure in the axilla. The patient did not complain of great pain nor was there much constitutional disturbance.

On the day before my patient said he had been driving on Long Island, and had been bitten by an insect which he had supposed to be a "kissing-bug," although he had not seen it. He had done nothing for the bite, thinking it would heal spontaneously.

My treatment consisted in painting the inflamed area with the tincture of iodine and directing the patient to take a one-tenth-grain tablet of the sulphide of calcium every two hours. He was also directed to apply carbolic-acid ointment upon the parts and cover this with a linen cloth.

This treatment was followed by rapid improvement. The next day the eruption had retreated to within two inches of the wrist, and now the fingers move freely and painlessly, and the eruption has almost entirely disappeared. The patient called but once at my office, but I followed the case, as I was interested in its course. The tincture of iodine was applied only once.

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**The Nervous System in Gonorrhœa.**—Dr. Leleneff (*Vratch*, No. 4) states that the following changes have been observed: (1) Changes in the sensory nerves causing anæsthesia, hyperæsthesia, paræsthesia, and pains in the nerves, in the skin, in joints, in muscles, and in internal organs; (2) changes in the vasomotor nerves causing hyperæmia, anæmia, paralysis of vessels, and dermographism; (3) changes in the secretory nerves causing increased or diminished sweating, local sweating, an increase in the flow of mucus from the urethra, etc.; (4) changes in the trophic nerves causing some forms of skin disease, atrophy of the testicle, and muscular atrophy; (5) changes in the motor nerves, causing paresis, paralyses, and twitchings; (6) changes in the skin reflexes and tendon reflexes. Gonorrhœal affections of the central nervous system give rise to a variety of symptoms, such as asthenic neuropsychosis, neurasthenia, hemiplegic phenomena, etc.

## Progress of Medical Science.

**To Render the Hands Aseptic** for operative purposes Paul (*Philadelphia Medical Journal*, May 13, 1899) recommends washing them with a mixture of fifteen parts of acetanilid and one hundred of pure ground castile soap. The same method may be applied to ulcers and superficial wounds.

**The Cancer Parasite.**—Dr. Curtis, of Lille (*La Presse Médicale*, 1899, No. 20), reports totally negative results in his search for a cancer parasite. His deductions are drawn from a series of experiments now in progress for over four years. He calls particular attention to the fact that tissues derived from superficial epitheliomata are not the best to use in experimental work, since they are so liable to be contaminated with various outside organisms. He used carcinomata of the breast and testicle. In a carefully conducted series of experiments with eighteen of such cases, he was unable to obtain any parasites that would grow on any media, and was unable to produce any contagion in other animals. The author believes that the positive results obtained by other observers are due to defective technique.

**Multiple Primary Carcinoma.**—Dr. Aldred Scott Warthin, in *The Journal of the American Medical Association*, May 6th, says: The known cases of multiple carcinoma emphasize the relations between carcinoma and chronic inflammation of epithelial surfaces, and are not explained by the theories of Cohnheim or Ribbert, but lead to a wider application of Thiersch's theory of local predisposition. It does not necessarily follow that multiple primary carcinoma arising in some individual should have no connection with each other, if the cause of the new growth could be shown to be a living parasite. Unfortunately, we are not yet in a position to give positive proof of this, and the study of the cases of multiple carcinoma does not give us any furtherance in this direction. Our present knowledge concerning the etiology of multiple primary carcinoma may be expressed as a theory of multiple seats of a cell anomaly consisting in removal of the normal inhibition of the cell leading to atypic overgrowth, and that in any production of this cell anomaly parasitic, physical, or chemical irritants may play the rôle of a primary exciting factor. Finally, the missing link in our knowledge, be it a parasite or an inherent quality of the cell itself, is yet to be discovered.

**Pancreatic Cysts.**—Kussow (*Deutsche Medizinal-Zeitung*, May 1st) states that cysts of the pancreas are relatively rare. Oser has collected from the entire medical literature one hundred and thirty-four cases. According to their origin we distinguish retention cysts, proliferating cysts, and apoplectic cysts. Cysts which arise through plugging of the pancreatic duct in its passage through the intestines cause a longitudinal dilatation of the duct and form the so-called pancreatic ranula; inflammatory cysts are small and occur secondarily in the smaller ducts. The most frequent size of the cysts is that of an orange; pancreatic cysts the size of a child's head and even still larger are, however, occasionally observed. The walls of these cysts are composed of thick connective tissue, 3–4 mm. thick, and have but few cells; the inner wall is smooth and lacks epithelium. The localization is more frequent at the tail than at the head. The amount of fluid contained within these cysts varies; occasionally it reaches twenty quarts. The contents are rarely clear and transparent, being for the most part cloudy, mucoid, or gelatinous; the color is generally brown. The reaction is alkaline; specific gravity, 1.007 to 1.020. A pancreatic cyst is most frequently due to retention of the pancreatic secretion; this retention is due to: (1) chronic indurative inflammation; (2) stones, catarrh of the ducts, compression of the ducts by tumors of the surrounding organs; (3) trauma. The symptoms consist of vague signs of a gastro-intestinal disturbance, transient or constant headache, dyspepsia, vomiting, occasionally hæmatemesis, diarrhœa or constipation, dejecta which contain considerable fat, undigested proteid in the fæces, glycosuria, albuminuria, and emaciation. Traumatic cysts develop rapidly, those of an inflammatory nature very slowly. Pancreatic cysts occasionally shrink in size; sometimes they open into the bowel. The treatment is surgical. Of the one hundred and thirty-four cases collected by Oser, one hundred and one were subjected to operation, with eighty-one successful results.

**The Causes of Bronchitis.**—In this year's Lumleian lectures, delivered by Dr. Samuel Gee at the Royal College of Physicians in London, the following closing remarks were made: "We have found it to be highly probable that most catarrhs are due to a specific infection, and they often depend upon contagion spreading from man to man. This doctrine has very important bearings upon medical practice. It leads us to believe that the means by which we may prevent catarrh are to be found in ventilation and cleanliness, if, indeed, ventilation be not a kind of cleanliness. Experience confirms this belief. When epidemic catarrh prevails, where do we find most of our patients? In those houses which are obviously the worst ventilated, even though they be the spacious houses of the rich. And where do our patients catch their catarrh? Either in houses of the kind which I have mentioned or in buildings where men most do congregate, especially in offices, shops, and churches. Large shops and stores, public museums and libraries, are ventilated as little as possible for fear of their contents being spoilt by smoke and dust. Many churches both in town and country are never properly aired for another reason—namely, because their architecture does not admit of it. Those 'rich windows which exclude the light' do worse than this—they exclude fresh air. The revival of Gothic architecture has been, from the sanitary point of view, a great mistake. Our despised forefathers of the eighteenth century erected plain and simple buildings which could at least be well aired, well lighted, and kept warm and comfortable; nay, even the much-ridiculed churchwarden, with his brush and pail of whitewash, was a praiseworthy minister of health. Modern dwellings are no better than the churches. In the matter of domestic sanitation people have fixed their attention too exclusively upon the drainage and the water supply; light and air are not reckoned. Many of the large red-brick houses which have been built in great numbers at the West End of London and elsewhere during the last twenty-five years cannot be properly ventilated. The well of the staircase ought in every house to be a reservoir of pure air, and to have an independent supply from without. But in many houses the staircase cannot be ventilated except through the rooms, and, in fact, it never is ventilated. Nor are the rooms themselves much better off: their heavily mullioned windows are designed with small regard to the transmission of light and air. The subsidiary and merely ornamental arts, which do no more than please the eye, are studied to the neglect of that far greater art which promotes the happiness and welfare of the whole man—the art of preserving health."

MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 51 Fifth Avenue.

New York, July 15, 1899.

## THE WATER SUPPLY FROM RIVERS.

THE city of Providence, R. I., is at present discussing the important subject of an improved water supply from a standpoint which must necessarily appeal to all municipalities having like needs. As is proper under the circumstances mentioned, the physicians of the locality are actively interested in the project, and are determined if possible to secure good water at any price.

It would appear that there are many difficulties in bringing the matter to a practical consummation, but these latter, applying as they do to thousands of small cities obtaining their supplies from contiguous rivers, have such a practical bearing upon the general question that they can be discussed on a broader basis than would otherwise be warrantable.

Providence, like other prosperous localities, has thriven and expanded itself. The present water supply, which is mostly from the Pawtuxet River, is insufficient and more or less contaminated by mills and surface drainage up-stream. One proposition is to increase and purify the present supply by sand filtration alone or by the addition of alum, and another to tap the river at its source above the mills and control the watershed by purchase.

There is no question that the latter plan is the best as insuring absolute purity for all time, but the objections appear to be the great expense of the plant and the large outlay for damages to the mill owners whose water power would be curtailed. This, however, is of small moment considering the great good to be accomplished in the end.

Dr. F. H. Peckham, Jr., a leading physician of Providence, voicing the opinion of his professional brethren, takes becomingly strong ground on this point:

"A supply of pure water if obtainable for a municipality is cheap at any price. Other cities take measures to obtain it. In the near future it will be more costly than now, and the present supply will become more polluted, and we may have the experience which Philadelphia is now having in defending itself against suits for damages from typhoid fever directly traceable to the impure water supply."

It is difficult to understand, if filtration is adopted as a compromise, why anything more than the use of sand for the purpose is necessary. Everything that filtration can accomplish can be done by such means. Alum, aside from theoretical assumptions, is not only useless, but may be harmful. We heartily indorse what Dr. Peckham says on this point:

"I have no doubt by the use of the alum process of filtration in the laboratory and on a small scale, supervised by skilled workmen, all the alum can be removed, but the process is no more effectual in removing disease germs than sand or natural filtration, and it is said to be the rule in the use of alum 'to be sure and use enough.' There will always be the suspicion among its consumers, if it is used, that some of the chemical may exist in the water and produce a deleterious effect, imaginary if not real. It is but a few years ago that the newspapers were full of the dangers of using baking-powders containing alum, and medical men are unanimous in the opinion that the use of this chemical is injurious to the human system. Wisconsin and Minnesota have passed laws that all baking-powders containing alum shall have the fact conspicuously printed on the wrappers to warn the consumer of their true character. In the District of Columbia the authorities had, under the direction of Congress, adopted regulations to prohibit the use of alum in bread altogether. By the use of chemicals our water might become so changed as to unfit it for use in many industrial branches."

Looking at the subject in its broad aspect, there is no doubt that the whole question of water supply for our cities needs thorough supervision in view of the new theories regarding disease propagation. The old idea that water purifies itself after flowing a certain number of miles may be tenable enough as regards readily oxidizable products and easily deposited débris, but it is by no means the case with pathogenic bacteria, which can be transported unchanged for very long distances. The conclusion of the whole matter would then appear to be that the only guarantee for safety rests in the absolute title for a perfectly clean watershed beyond all possible chances of pollution.

## THE TREATMENT OF LEPROSY.

DR. ISADORE DYER was recently requested by the Orleans Parish (La.) Medical Society (June 9th), to review the subject of snake venom in the treatment of diseases, particularly its use in cases of leprosy. Snake venom, he said, has been used in the treatment of many diseases in an attenuated and dried form for one hundred years. It was supposed at one time to be most efficacious in yellow fever. About March, 1892, a Jamaica physician reported an instance of unusually rapid recovery of a case of leprosy in a man bitten by a viper. The case, one of tubercular leprosy, was cured in six weeks. The idea occurred to Dr. Dyer to procure an attenuated form of serum and try it systematically in leprosy cases. After a study of the results of Fraser, Calmette, and others, who were preparing serums to be used in cases of snake bite, some of Calmette's antivenene was procured and treatment was commenced in five cases. One to three cubic

centimetres was the daily dose and this was continued for three months. The results, which were reported in detail in the New Orleans *Medical and Surgical Journal* for October, 1897, were striking. Of the five original cases, one, a policeman, who had marked trophic changes, is now (eighteen months later) without evidence of the disease and is working steadily. A carpenter, who was hardly able to dress himself owing to contractures of his hands, is at work and presents only a slight bluish scar; two fingers have remained stiff owing to the nerve having been destroyed. In three other cases, all of atrophic type, the lesions quickly disappeared and no new developments have occurred.

The serum was given subcutaneously and dermatically, the dose varying from 1 to 11 c.c. The injections were made every second day at first; subsequently every day. For the most part they were made in the gluteal regions. Wherever local injections were made into individual lesions the lesions disappeared. Sloughs sometimes occurred, but healthy scars invariably resulted.

Dr. Dyer said that he is now using chlorate of potassium with gratifying results, and he makes it the basis of all treatment. The initial dose is gr. x. daily, which is increased to gr. cxx. or ccc. The latter dose is very seldom required. No serious effects have resulted from the large doses. A systematic treatment in this way of leprosy cases under hygienic conditions will result in a large percentage of cures. This can be arrived at only in special institutions, but the results would certainly justify any outlay in the direction.

## INSURANCE HOSPITALS IN GERMANY.

Germany has taken the initiative in introducing hospitals of a somewhat novel nature. These establishments, which are said to be becoming popular, are erected by insurance companies for the benefit of their sick clients. At the time of the war with Spain, the suggestion was made from many quarters that similar institutions should be founded, so that wounded policy holders might be attended by the physicians connected with the insurance companies rather than by the regular army surgeons. The difficulties in the way of bringing this plan into effect were thought at Washington to be insurmountable, and the idea was abandoned. In Germany, however, hospitals established on these lines have been in working order for some time, and now it has been resolved that special institutions for the care of consumptives should be erected. The *London Insurance*, referring to this determination on the part of life companies, and quoting from the report of the central committee for the erection of consumptive hospitals held some time ago in Berlin, says that: "Three more societies for the establishment of hospitals are being formed, and that eight societies, including the Berlin People's Hospitals Society of the Red Cross, have institutions of their own. Ten societies, including the Berlin and Brandenburg Hospital Society, will establish similar hospitals during the year, and twelve are collecting money for the purpose. Twenty hospitals, including some private ones, take in consumptive patients at low rates. By far the greater number of the beds are intended for men, and the lack of accommodation for women is increasingly felt. It is, however, satisfactory that contributions for free beds are coming in rapidly, especially from the insurance companies, for the sick and aged, which already have three hospitals of their own and are building three more. The largest will be the property of the Berlin Insurance Company. Those companies that have not yet started hospitals of their own support the efforts of others by loans at reduced interests, and the large employers, as well as municipalities everywhere, are co-operating in the effort to combat consumption methodically."

## IMPORTANT DECISION IN REGARD TO THE PRACTICE OF DENTISTRY.

The Supreme Court has recently made a decision in reference to the registration of dentists in Rhode Island which closely affects the medical profession. A physician of Newport was indicted for contravening the law in that he practised dentistry without having first obtained a certificate from the board of registration in dentistry, and without first having caused his name and place of business to be registered with the board. The defence was that at the time mentioned he was qualified to practise medicine and surgery by reason of the possession of a diploma from a reputable and legally chartered college, indorsed by the board of health, and therefore he had the right to practise medicine and surgery in all its branches upon all parts of the human body, including the teeth. Judge Tillinghast upheld this evidence, and in his opinion handed in to the Supreme Court ends with the following words: "It has always been the custom in this State, and probably everywhere else, for physicians to treat ailing teeth, to extract teeth, and to perform various other professional services which technically come within the purview of dentistry. Physicians who reside in the country towns especially have always been called upon to a greater or less extent for the performance of such services, and to now prohibit them from thus treating their patients would be a source of great inconvenience and in many cases of extreme hardship and suffering to the latter, as well as an interference with the proper and legitimate functions of the former."

**Gifts to Hospitals.**—Mr. Henry W. Maxwell, president of the board of trustees of the Long Island College Hospital in Brooklyn, has given $10,000 to the institution for the erection of a new front to the building. Mr. Maxwell has made other gifts to the hospital. Mr. Russell Sage has given $50,000 to the Woman's Hospital in the State of New York, for the new building to be added to the group now belonging to the hospital between Park and Lexington avenues and Forty-ninth and Fiftieth streets.

## News of the Week.

**Scurvy in Alaska.**—Some twenty persons are said to have died of scurvy at Wind City, Alaska. Among those who are reported to have died were Dr. J. B. Mason, a physician, and Dr. Martin, a dentist, both of Chicago.

**St. John's Guild.**—The floating-hospital excursions of St. John's Guild were begun last week. Daily trips will be made by the *Helen C. Juilliard* from East River piers, and by the *Emma Abbott* from landings on the North River.

**Poisoned by Water.**—About fifty railroad-tie cutters near Fort Smith, Ark., have been prostrated, it is thought, as a result of poisoning by water. The men affected drank from an old well which had not been used in several years, and soon every one in camp was seized with fever. Three deaths occurred before medical assistance reached the camp.

**A Suit to Recover Medical Charges.**—A physician in a village of this State has brought suit against a patient for $10,000. The physician made ten visits to the defendant's home during a recent illness of the latter, charging him $1,000 per visit. The defendant has refused to pay, on the ground that the charges are exorbitant. It is not stated in the published report what was the nature of the medical services rendered.

**Smallpox** is said by officials of the Indiana State board of health to prevail more or less all over the State, breaking out continually at most unexpected places. It is feared that an extensive epidemic will appear next winter unless the people can be persuaded to submit to general vaccination. The antivaccinationists are particularly rampant in Indiana, and the present alarming condition is due in large measure to their misleading teachings.

**Yellow Fever in the Harbor.**—A transport arrived from Santiago last week having several cases of yellow fever on board. The vessel and passengers were detained at quarantine, the sick being sent to the hospital on Swinburne Island. In one of the cases, that of Mr. Oscar F. Lackey, a civil engineer of Baltimore, injections were made of the yellow-fever antitoxin, described in a recent issue of the MEDICAL RECORD. The patient was in the third day of his illness when the orrhotherapy was begun, and three injections of the serum were given. At the present writing he is reported convalescent.

**Yellow Fever** continues at Santiago, though the number of cases is growing smaller. Up to July 11th, there had been 142 cases with 29 deaths, of which 122 cases with 24 deaths were among the United States troops. General Wood arrived in the city on Monday of this week, and at once instituted measures looking to the suppression of the epidemic. Two cases were recently reported at Havana, but in one of them the disease was later proven to be typhoid fever. At Vera Cruz, Mexico, the disease still prevails, but the epidemic on the Isthmus is decreasing. On last Saturday there were but eight cases at Panama and none at Colon. The Bishop of Panama died of yellow fever on Sunday.

**Quarantine of a Hospital.**—The Willard State Hospital, situated at Willard, N. Y., is quarantined as a result of an epidemic of diphtheria, with which both patients and employees alike are afflicted.

**The "Kissing Bug"** is causing more or less distress to sundry inhabitants of this city and its environs. The insect does not always kiss its victim, but bestows its favors indifferently on any exposed part of the body. The resultant symptoms are those of acute phlegmon.

**Dr. Mazzoni,** who recently performed a slight operation on the Pope, has been appointed consulting surgeon to His Holiness. The Pope has also given him a full-length portrait accompanied by an autograph dedication.

**A Cemetery Restaurant.**—There is a difference of opinion between the owners of a cemetery near Coney Island and the board of health as to the propriety of having a restaurant within the walls of the graveyard. The health board asserts that an eating-house in such a place is unsanitary, but the proprietors of the graveyard claim that the cemetery belongs to them, and they can let people eat and drink in it if they please.

**A Model Tenement on a New Plan.**—A tenement house, constructed after the plan of Professor Fairchild, of Hartford, Conn., is to be erected in this city. The building will be a fireproof structure eleven stories high and covering an entire block. This house will have a single entrance leading to a court, whence separate entrances will lead to the several elevators. In the basement of the house will be baths, laundry, heating and lighting apparatus, and a cold-storage plant, this last to cool refrigerators in each flat.

**The Plague** still prevails at Alexandria. Three cases were reported there on July 9th, and the usual trouble has followed upon the attempted enforcement of sanitary regulations, two physicians having been set upon and roughly handled by infuriated natives. A serious outbreak is reported at Mauritius, where during the first week in July there were thirty cases of the plague and twenty-four deaths. According to advices received at the State Department at Washington, from the United States legation at Monrovia, Liberia, a disease somewhat similar to the bubonic plague is raging at Grand Bassam, French Ivory Coast Colony. Between two hundred and three hundred persons, including three European physicians, have fallen victims. This colony adjoins the British Gold Colony on the west, and Liberia on the east.

**Another Cancer Theory.**—According to a dispatch in *The Sun*, "Dr. Lambert Lack, a London surgeon, after long investigations, has established the theory that cancer is not attributable to a germ, but is always due to a specific injury to the basement membrane of the mucous membranes and allied structures. Dr. Lack produced cancer in animals by inflicting such

injury. A select committee of the Pathological Society which examined the results of Dr. Lack's investigations declares that they are practically conclusive." Dr. Harry Lambert Lack entered the profession of medicine in 1890 and was formerly resident surgeon of the Hospital for Diseases of the Throat, in Golden Square. Just what his theory of cancer production is, or in what respect it differs from the ordinary theory of traumatism, it is difficult to say from the above description. The question of the treatment of cancer was brought up a few days ago in the House of Commons, and Mr. Broderick, parliamentary foreign secretary, promised to ask the British embassy at Washington to procure the reports of the Buffalo laboratory on the study of cancer in that institution.

**Tapeworm in a Fish.**—Dr. H. E. Douglass, of Independence, Iowa, reports the finding of a tapeworm, measuring twenty-seven feet in length, in the intestines of a pike.

**Italian Medical Society of the City of New York.**—An association with this title was incorporated in Albany in May. The incorporators were Drs. A. Casella, A. Pisani, M. Luzzatto, J. Aquaro, and J. B. Corziglia. Dr. John Aquaro is the secretary of the newly incorporated society.

**Assassination of a Roman Physician.**—Dr. Enrico Bondi, chief of the medical clinic at the Santo Spirito Hospital, was stabbed by a discharged patient on June 13th. The instrument, a sharpened nail, penetrated the large vessels of the neck, and the victim died in about an hour after the assault. Dr. Bondi was forty-two years of age.

**Gift to a Hospital.**—Mrs. C. Knaupp, of this city, has given $10,000 to the new German Hospital in Brooklyn, the sum necessary to complete the building so that it can be opened in the early part of August for the reception of patients. The gift was made on condition that the donor should, if the necessity ever arose, be received and treated at the German Hospital free of charge.

**Surgical Instruments Free of Duty.**—A decision was handed down by Judge Colt of the United States circuit court in Boston on July 7th, reversing the decision of the board of appraisers which held that surgical instruments brought to this country by a medical man for his personal use were dutiable. The court holds that the instruments are not dutiable, being "scientific instruments" within the meaning of the law.

**The Tuberculosis Congress.**—The report of Dr. de Schweinitz, the official delegate to the Berlin Tuberculosis Congress, has been made public by the State Department. It says that the papers presented were thorough reviews of the present knowledge of tuberculosis, from both the scientific and the practical standpoint. The special object for which the congress was called, namely, to arouse interest in the erection of sanatoria for poor sufferers from tuberculosis, will be greatly advanced. According to the present German laws, each laborer and each employer of labor is required to pay a small tax, which is used for this purpose. In this way a large fund has been secured, and at the present time there are fifty sanatoria in the German empire in which the poor can be treated. Dr. de Schweinitz thinks that many practical results will follow the work of this congress. Dr. Boyd, of the United States navy, was the other delegate from the United States. The official name of the congress, translated into English, was "The International Congress for the Restriction of Tuberculosis as a Disease of the Masses."

**Professor of the Diseases of Metabolism.**—Dr. Heinrich Stern, of this city, has recently been appointed professor of the diseases of metabolism in the St. Louis College of Physicians and Surgeons.

**The Hague Peace Conference** has gradually drifted into a discussion of the best means for mitigating the horrors of war. As bearing upon this the following proposals in regard to the Red Cross have been introduced: (1) All wounded to be declared neutrals; (2) a decision to be come to on the question whether wounded when taken prisoners should after their recovery be treated as prisoners of war or sent back to their homes; (3) the convention to be applied to naval warfare; (4) the identity of prisoners of war, of the dead and of the wounded, to be established with the greatest care; (5) knowledge of the Geneva Convention to be compulsory on soldiers; (6) a special campaign police to be created whose duty it shall be to seek for and protect the wounded on the battlefield; (7) ambulances to be established at a sufficient distance from the battlefield in order to avoid contagion; (8) Red Cross Societies to be officially recognized; their *personnel* and appurtenances to be declared inviolable. The adoption of these rules would be welcomed by humanitarians, but it would not tend toward peace. The only effective measure of promoting peace is to increase in every way the horror and wretchedness and destructiveness of war, until the nations pause for very fright.

**The New Mount Sinai Hospital.**—Ground has been broken for the new buildings of this hospital at One Hundredth Street and Fifth Avenue, and it is expected that the work of laying the foundations for the new buildings will begin within a few weeks. The buildings will be of limestone and brick, in the Renaissance style. The main buildings are to be five stories high. The main entrance will be on One Hundredth Street, through the Administration Building. On one side of this building will be a pavilion containing the medical wards, and on the other side a similar structure containing the surgical wards. The Administration Building will contain, besides a main hallway and staircase, the executive offices and all the rooms required for the details of administration. This building will also contain accommodations for the physicians and the operating-rooms. The Fifth Avenue front will be devoted entirely to the private hospital. The Dispensary and the Nurses' Home, two separate buildings, will front on

Madison Avenue. The kitchen, laundry, etc., are to be on One Hundred and First Street, and on the extreme northeast end of the block will be the morgue and the contagious-disease wards, both entirely separate from the rest of the system. The roofs of the buildings are to be flat and partly inclosed, so that they may be used as roof gardens in summer and as sun parlors in winter.

**Fire in Bellevue Hospital.**—A small fire occurred Monday night in the infants' pavilion of Bellevue Hospital, starting when the canopy over a bed caught fire from a candle carried by a nurse. The blaze ran from crib to crib, but an ambulance driver and several nurses worked successfully at pulling down the burning netting.

**Scarlet Fever at West Point.**—Nine cases of scarlet fever have occurred at West Point, seven of the cadets and two enlisted men in the band being ill.

**International Antivivisection.** — An antivivisection booth is planned for the Paris Exposition, and several excited individuals purpose to carry on a vigorous campaign against scientific pursuits in Paris. Each of the societies is to send a beautiful banner to adorn the booth, and within these will be a real chamber of horrors, consisting of an exhibit of instruments used in vivisection and also wax figures of animals in the process of being cut up alive. We would suggest an improvement in the way of a phonograph to reproduce the agonized cries of the victims of man's cruelty.

**Diminishing Malaria in Norfolk.**—The city of Norfolk, Va., has been unusually free from malarial poisoning the past spring. Whether this improved condition will continue depends in great part doubtless upon the city's water supply, which is now undergoing many improvements, chief among which is the construction of a filter.

**Northeast Missouri Medical Association.** — The annual meeting of this society was held in Unionville, Mo., July 11, 1899. The following are the officers of the association: *President*, Dr. J. T. Jones, Queen City; *Vice-President*, Dr. W. E. Dicken, Kahoka; *Secretary*, Dr. E. E. Parrish, Memphis; *Treasurer*, Dr. O. F. Pile, Memphis.

**Physical Defects in Would-be Recruits.**—The officials at the naval recruiting office in Norfolk are in somewhat of a quandary regarding applicants for position in the United States navy. Within the past two months something like thirty-five applicants have been examined, but only about one-seventh have been admitted. They do not come up to the physical requirements. Just why this is remains a question. Apparently the men are well developed, but they fall short when they are measured by Uncle Sam's tape.

**The Famine in Russia.**—According to reports from Odessa there promises to be no relief to the famine which has prevailed the past winter in southern Russia. The summer crops in large areas have been so badly damaged by drought that they will not be worth reaping. The reports also state that there will be no hay and very few vegetables. Coming on top of the failure of the winter crops, the situation promises extreme misery for the people. In addition to the distress in this region, the correspondent of the London *Times* at St. Petersburg writes that the condition of the seven provinces of east European Russia is worse than it was during the famine of 1891 and 1892. "Quite half a population of eleven million," he says, "are undergoing terrible suffering, starvation, and disease, and the authorities everywhere appear incapable and unprepared to deal with the calamity. Money is squandered in absurdly high pay to relief agents, and, owing to the high prices which the Government charges for seed corn, no encouragement is given to the peasants to till the ground."

**Another Medical School Threatened.**—It is rumored that a number of Norfolk physicians contemplate the erection of a medical college there. Norfolk being very accessible and a growing city, the projectors believe that a medical school there would prove a paying investment.

**A Small Baby.**—It is reported that the Graz Hospital, in New Haven, Conn., has in its custody a girl baby, a week and a half old, and weighing three pounds. She is about ten inches long. At birth she was put into a hastily improvised incubator, and has been thriving ever since.

**Another Medical Mayor.**—Dr. John C. Fahey was on June 3d elected mayor of Wilmington, Delaware. He is a graduate of Jefferson Medical College in the class of 1883, and has been county physician, coroner's physician, a member of the board of education, and a member of the board of health.

**Harlem Medical Association.**—At the meeting of the Harlem Medical Association, on June 12th, the following officers were elected to serve for the ensuing year: *President*, Dr. Henry W. Mooney; *Vice-President*, Dr. Montrose R. Richard; *Secretary*, Dr. Joseph E. Lumbard; *Treasurer*, Dr. William F. Farrell.

**Drugging Recruits.**—Two physicians were recently arrested in Elberfeld and Remscheid, towns of Rhenish Prussia, on the charge of drugging recruits, who sought thereby to be exempted from military service. Four of the persons thus treated are said to have died from the results of the drugs administered to them.

**International Conference upon Syphilis.**—An international conference to discuss the prophylaxis of syphilis and venereal diseases will be held in Brussels in September. The secretary is Dr. Dubois-Havenith, No. 19 Rue de Gouvernement Provisoire, Brussels.

**How to Keep Mosquitoes Alive.**—A writer in *The British Medical Journal* says that mosquitoes can be kept alive for a long time by feeding them sherry and sugar. If he had told how to exterminate them, his prescription would be more popular.

**The Red Cross in Japan.**—The total number of the members of the Japan Red Cross Society at the end of April last throughout the country was 590,341, of whom 24 were honorary members, 1,851 special members, 572,040 ordinary, and 16,426 associate members.

**Jewish Hospital, Philadelphia.**—Dr. J. C. Knipe has been elected ophthalmic and aural surgeon, and Dr. David Riesman consulting physician.

**Navy Department, Bureau of Medicine and Surgery, Washington, D. C.**—Changes in the medical corps of the United States navy for the week ending July 8, 1899. June 30th.—Assistant Surgeon Ralph W. Plummer appointed assistant surgeon from June 17, 1899. July 3d.—Medical Inspector J. C. Wise granted sick leave for three months.

**A Physician Pleads Guilty of Murder.**—Dr. C. S. Murray, a young physician, on March 12th, shot his negro coachman, at his father's home in Sewickley. Upon being arraigned in court, he pleaded guilty to murder.

**Dr. E. N. Brush,** superintendent of the Sheppard and Enoch Pratt Hospital, has been elected professor of mental diseases at the College of Physicians and Surgeons. Dr. W. F. Lockwood, former member of the Maryland State board of medical examiners, has also been elected to a professorship at the college.

**The Philadelphia Pædiatric Society.**—At a stated meeting, held June 13th, Drs. J. C. Gittings and C. F. Judson presented a communication on "Pheumonia in Children." Dr. L. C. Peter reported a case of rumination in a boy of seven years old, in which good results were secured through suggestion and administration of bromide. Dr. Peter reported also a case of muscular pseudo-hypertrophy in a boy about six years old, who presented enlargement and hardness of the muscles of the calves and of the rhomboid muscles, with general muscular weakness. There was a strong neuropathic family history, but no other case of the same disease in the family. Dr. Albert Woldert reported a case of urticaria pigmentosa in a child aged two years, and exhibited the patient. Dr. Stretch reported a case of scurvy in a child. Dr. T. P. Twaddell reported a case of Henoch's purpura in a child.

**A Memorial to Dr. Stickler.**—It is announced that a public library building will be erected in Orange, N. J., in memory of the late Dr. Joseph W. Stickler.

**Sir Alexander Armstrong,** K.C.B., formerly director-general of the medical department of the British navy, died July 4th. He served five years in the Arctic regions, searching for Sir John Franklin, and was on the *Investigator* when the Northwest Passage was discovered. During the Crimean war he served on the Baltic. He wrote "A Personal Narrative of the Discovery of the Northwest Passage." In 1869, he became director-general of the medical department of the navy, from which office he retired in 1880.

**The Late Dr. Francis E. Noble.**—At a special meeting of the committee on necrology of the District Medical Society of the County of Hudson, held in Jersey City, July 1, 1899, to take action on the death of Francis E. Noble, M.D., the following resolutions were formulated and will be presented at the next meeting of the society:

"*Whereas*, We have learned with deep regret of the death of that worthy man, eminent scholar, and humanitarian physician—Dr. Francis E. Noble; and

"*Whereas*, The District Society of the County of Hudson feels with unalloyed sorrow the loss it will sustain in Dr. Noble's death—

"*Resolved*, That we thus publicly express our appreciation of the man, our admiration for his character, and our individual loss in the death of Dr. Francis E. Noble; and

"*Resolved*, That we tender our condolences to his family and friends, ever reminding them that as the brightness of Dr. Noble's intellect has been always a lamp unto our feet in times past, so shall his memory be as a luminous star beckoning us onward toward manliness, truth, and virtue; and

"*Resolved*, That a copy of these resolutions be sent to the bereaved family of Dr. Noble and be printed in the New York medical journals, the New York *Evening Journal*, and the *Evening Journal* of Jersey City, and spread in full upon the minutes of the District Medical Society of the County of Hudson."

Committee: Charles K. Law, M.D., *President;* H. H. Brinkerhoff, Jr., M.D., *Treasurer;* G. W. Shera, M.D., *Secretary.*

**Obituary Notes.**—Dr. William Howard Neilson, of New Rochelle, N. Y., died on July 6th, following an operation for appendicitis. He was born in New Brunswick, N. J., in 1858, and was a graduate of the Bellevue Hospital Medical College in the class of 1891. He was a member of the Westchester County Medical Society and of the New Rochelle Medical Society, and was a Democratic member of the board of aldermen in New Rochelle at the time of his death. His widow and one daughter survive him.—Dr. Robert A. Linendoll, of Fort Edward, N. Y., died suddenly of heart disease July 9th, aged forty years. He was graduated from the Albany Medical College in 1879. He leaves a widow and two daughters.—Dr. James E. Graham, of Toronto, died at Gravenhurst, Ontario, on July 7th. He was graduated from the medical department of Toronto University in 1870, and later served a term as resident physician in the Brooklyn City Hospital. He was ill when the Ontario Medical Association met recently in Toronto, but a resolution of sympathy was passed by the members present and he was unanimously elected to the presidency. He was one of the founders of the association in 1881. He was a member of the American Dermatological Association, and in 1889 was its president.—Dr. Mary Edmonds, of San Francisco, died on July 9th of fright caused by the accidental setting off of a burglar alarm in her house. Mrs. Edmonds was a homœopathic physician, a graduate of the Hahnemann Hospital College of San Francisco in 1885. She was the widow of Judge Edmonds, late of the superior court, and leaves a daughter and two sons, one of the latter a physician.—Dr. James A. Ziegler died suddenly at Philadelphia on July 7th at the age of seventy-two years. He was graduated from Jefferson Medical College in 1849, but after fifteen years' practice of his profession he took up mercantile pursuits

# Reviews and Notices.

TWENTY-SEVENTH ANNUAL REPORT OF THE MANAGERS OF THE MIDDLETOWN STATE HOMŒPATHIC HOSPITAL, AT MIDDLETOWN, N.Y., TO THE STATE COMMISSION IN LUNACY, for the year ending September 30, 1897.

THIS sets forth in an accurate and well-arranged manner the working of the hospital. The volume abounds in excellent illustrations of the various parts and surroundings of the Homœopathic Hospital.

CHEMISTRY: GENERAL, MEDICAL, AND PHARMACEUTICAL, INCLUDING THE CHEMISTRY OF THE UNITED STATES PHARMACOPŒIA. A Manual of the Science of Chemistry, and its Applications in Medicine and Pharmacy. By JOHN ATTFIELD, F.R.S. Sixteenth Edition. Philadelphia and New York: Lea Brothers & Co. 1899.

THIS work has for over thirty years been a classic. We hope that it may be in use thirty more, for as a general manual for students we believe that it has no equal. Most of the general chemistries devised for the medical and pharmaceutical student are miscarriages of this parent, and it must be confessed few of them get beyond mid-term. The present edition has been consistently revised. The changes are not many, but they reflect the gradually changing views that are incident to any growing branch of knowledge. In mechanical get-up the work conforms to its previous good standard.

DIE NEUERE GESCHICHTE DER MEDICIN. Kurz dargestellt von O. v. BOLTENSTERN, in Bremen. Leipsic: C. G. Naumann. 1899.

TO those to whom a certain amount of retrospect is enjoyable, the ideas gained from a good history of medicine are salutary, if not positively inspiring. The present small volume sketches in bold outline the general progress of medicine since the sixteenth century. It also develops the history of the specialties in a popular and readable manner. It is to be thoroughly recommended.

THE MEDICAL COMPLICATIONS, ACCIDENTS, AND SEQUELÆ OF TYPHOID OR ENTERIC FEVER. By HOBART AMORY HARE, M.D., B.Sc., Professor of Therapeutics in the Jefferson Medical College of Philadelphia; with a special chapter on the Mental Disturbances Following Typhoid Fever, by F. X. DERCUM, M.D., Clinical Professor of Diseases of the Nervous System in the Jefferson Medical College. Philadelphia and New York: Lea Brothers & Co. 1899.

RECENT experiences have served to accentuate the need of just such a treatise as Dr. Hare has given to the medical public. In six chapters he discusses the general features of the disease, the variations in the mode of onset, the aberrant symptoms, the states or complications of the developed stage of the disease, the many complications of the period of convalescence, the conditions which ape typhoid fever, and the immunity enjoyed from further attacks and the conditions which affect the duration of this immunity. Dr. Dercum contributes a seventh chapter on the mental complications. It is impossible critically to analyze the many points of excellence in this volume; it should be read to be appreciated at its true value.

MEDICAL AND SURGICAL REPORTS OF THE BOSTON CITY HOSPITAL. Tenth Series. Edited by H. L. BURRELL, M.D., W. T. COUNCILMAN, M.D., and C. F. WITHINGTON, M.D. Boston: Published by the Trustees. 1899.

IT has given pleasure to commend the reports of the Boston City Hospital, because they exemplify a high type of work which unfortunately is rare in this country. This, the tenth series, presents a number of interesting and valuable contributions to medical science. The fifteen studies respectively are: "Scarlatina," by J. H. McCollom; "Scarlet Fever: Its Bacteriology and Gross and Minute Anatomy," by R. M. Pearce; "Observations on the Weight of the 'Normal' Heart in Adults in Two Hundred and Sixteen Cases," by H. D. Arnold; "Bone Tumor in the Human Brain Surrounding Encysted Coccidia Oviformia," by J. J. Thomas; "Two Cases of Infection with the Bacillus Capsulatus Mucosus Friedländer," by L. W. Strong; "Secondary Infection of the Skin and Subcutaneous Tissues by the Bacillus Typhosus," by J. H. Pratt; "Actinomycosis," by D. H. Walker; "The Blood in Diphtheria," by J. L. Morse; "A Review of the Diseases Contracted in the Cuban Campaign of 1898," by H. Jackson; "Coincident Malaria and Typhoid Infections as Seen among our Returned Soldiers," by C. F. Withington; "Observations on Pneumohydrothorax and Pneumothorax," by F. H. Williams; "Syringomyelia; Glioma of the Spinal Cord; Laminectomy," by W. N. Bullard; "Cases of Acute Abdominal Inflammation," by J. C. Munro; "An Apparatus for Maintaining Position in Fractures of Both Bones of the Leg," by R. W. Lovett; "A Case of Cantharides Poisoning, with a Study of the Urine," by R. E. Stevens.

Reports of this style are preferable to the statistical tables doled out by numerous other institutions.

CLINICAL LECTURES ON NEURASTHENIA. By THOMAS D. SAVILL, M.D., Physician to the West End Hospital for Diseases of the Nervous System, London. London: H. J. Glaisher. 1899.

THE author has collected together in book-form lectures delivered as a part of a post-graduate course given at the Welbeck Street Hospital for Diseases of the Nervous System. The several chapters treat of: Pathology of Functional Diseases of the Nervous System; On Nervousness or Neurasthenia; The Diagnosis of Neurasthenia, its Pathology and Relations to Gastric Disorder, and its Treatment; The Mental Symptoms of Neurasthenia and Neurasthenic Insanity, with an Addendum of bibliographic interest.

ALBUMINURIA AND BRIGHT'S DISEASE. By NESTOR TIRARD, M.D., F.R.C.P., Physician to King's College Hospital, and Senior Physician to the Evelina Hospital for Sick Children; Professor of Materia Medica and Therapeutics at King's College. With original illustrations. London: Smith, Elder & Co. 1899.

IN seventeen chapters the following story is told: Structure and Functions of the Kidneys and Tests for Albumin; Albuminuria, Extrarenal and Renal; Hæmaturia; Hæmoglobinuria; Renal Casts; Acute Nephritis; Scarlatinal Nephritis; Chronic Nephritis; Cirrhosis of the Kidney; Puerperal States; Retinal Changes; Lardaceous Disease; Congestion of the Kidney and Renal Embolism; Renal Calculus; Hydronephrosis, Consecutive Cirrhosis, and Suppurative Nephritis; Uræmia; General Diagnosis of Albuminuria; General Prognosis of Albuminuria, etc. In giving this brief outline, the skeleton only of this excellent treatise is laid bare. The work is essentially one for the clinician, and is full of practical suggestions on diagnosis and treatment. It may be considered less thorough from the chemical side, since one finds little discussion of the many proteids which more recent research has found in the urine. While many of these albumin products are still of theoretical interest only, they are daily becoming understood in a practical manner.

RECHERCHES SUR LES MATIÈRES COLORANTES DU FOIE ET DE LA BILE, ET SUR LE FER HÉPATIQUE. Par MM. A. DASTRE, Professeur de physiologie à Paris, et N. FLORESCO, Docteur en sciences. Paris: Steinheil. 1899.

FOR the physiological chemist this is an extremely interesting, small monograph of about two hundred pages. The authors first discuss the general biliary pigments, and then take up the separate isolated products and the bile pigments as found in various animals, including the bile of birds, reptiles, and batrachians; a second part of the study is devoted to the study of the iron compounds of the bile, and the determination of iron in the liver and the tissues of vertebrates and invertebrates; a third part deals with hepatic pigments in all classes of animals in which such coloring matters are found.

LABORATORY WORK IN BACTERIOLOGY. By FREDERICK G. NOVY, Sc.D., M.D., Junior Professor of Hygiene and Physiological Chemistry, University of Michigan. Second edition. Ann Arbor, Mich.: George Wahr. 1899.

THIS is really a very excellent book on the general subject of bacteriology, though meant for a laboratory guide. The different chapters discuss the form and classification of the bacteria, size and structure of the bacterial cell, life history and environment of the bacteria, and their chemistry; the microscope, the hanging drop, and methods of staining; the

different media and methods of cultivation; non-pathogenic bacteria; the relation of bacteria to disease, and the special pathogenic bacteria; yeasts, moulds, and streptotrices; examination of water, soil, and air, and special methods of work. The work is well illustrated, and is to be recommended to laboratory workers.

NEWER REMEDIES, including their Synonyms, Sources, Methods of Preparation, Tests, Solubilities, Incompatibilities, Medicinal Properties and Doses as far as Known, together with sections on Organo-Therapeutic Agents, and Indifferent Compounds of Iron; a Reference Manual for Physicians, Pharmacists and Students. By VIRGIL COBLENTZ, A.M., Phar.M., Ph.D., F.C.S., etc., Professor of Chemistry and Physics in the New York College of Pharmacy; author of "Handbook of Pharmacy"; member of the Chemical Societies of Berlin and London; Fellow of the Society of Chemical Industry, etc. Third edition. Philadelphia: P. Blakiston's Son & Co. 1899.

THIS muslin-bound volume of one hundred and forty-seven pages represents an enlarged and revised edition of a useful work of reference. The print is small; in fact too fine for the good of the reader's eyes, and for the best and most attractive presentation of the writer's valuable material.

TRANSACTIONS OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNÆCOLOGISTS. Vol. XI. Philadelphia: William J. Dornan. 1898.

THIS report of the meeting held in Pittsburg covers three hundred and seventy-two pages, contains a number of illustrations, and is well printed and bound. "The Evolution of Specialism" is the title of President Reed's address. Following this are papers and discussions upon a wide range of subjects connected with the association's work. The many friends of the late Dr. George H. Rohé will doubly prize the volume for the biographical sketch, written by Dr. Potter, and the excellent portrait of this versatile and gifted physician.

NERVOUS AND MENTAL DISEASES. By ARCHIBALD CHURCH, M.D., Professor of Clinical Neurology and of Mental Diseases and Medical Jurisprudence in the Northwestern University Medical School, etc.; and FREDERICK PETERSON, M.D., Clinical Professor of Mental Diseases in the Woman's Medical College, New York. With 305 illustrations. Philadelphia: W. B. Saunders. 1899.

IN these works, for in reality they are separate treatises, we have two model text-books. It is unquestionably a difficult matter to gather together a large number of facts belonging to any field of knowledge, and be able, among the many uncertainties and conflicting views, to put them into such didactic shape that they can be made a foundation for students and yet not do violence to many of the facts. A general philosophical treatment of the subject-matter would take into consideration the many inconsistencies pertaining to the science, but would be unavailing to the student who does not possess enough of the facts to make the philosophical relationships of value. A terse, didactic, *ex cathedra* method, so universally employed by most of our text-book writers, while serving the purpose of examination-passing, gives the student no true insight into the general methods of study, nor does it open up his mind to questions which must be solved. We believe that the present volume presents a just medium between these two extremes. The larger part of the work (six hundred pages) treats of the diseases of the nervous system, and is the work of Dr. Church; the remaining (two hundred pages) is from the pen of Dr. Peterson. In Part I. the following is the outline of the subjects treated: Examination of the Patient; Diseases of the Cerebral Meninges and Cranial Nerves; Diseases of the Brain Proper; Diseases of the Spinal Meninges and the Spinal Nerves; Diseases of the Cord Proper; Diseases of the General Nervous System with Known Anatomical Basis, including Multiple Sclerosis, Syphilis, etc.; Diseases of the General Nervous System without Known Anatomical Basis, including Trophoneuroses, Motor Neuroses, Fatigue Neuroses, Neurasthenia, Hysteria, Epilepsy, etc. The second part of the book, on Mental Diseases, is divided into thirteen chapters. These treat of Definition and Classification of Insanity; General Etiology of Insanity; General Symptomatology of Insanity; Examination of the Patient; General Treatment. Then follow chapters on the special types—Mania; Melancholia; Circular Insanity; Epileptic Insanity; Dementia and its Varieties; Paralytic Dementia; Paranoia; Idiocy.

For the subject-matter of both authors we have unqualified praise. The publisher has done his part in the work, and we believe that the treatise will merit a wide circle of friends.

EXPERIMENTAL STUDY OF CHILDREN, INCLUDING ANTHROPOMRETICAL AND PSYCHO-PHYSICAL MEASUREMENTS OF WASHINGTON SCHOOL CHILDREN; WITH BIBLIOGRAPHY. By ARTHUR MACDONALD. Report of Commissioner of Education. Washington: 1899.

SUCH a large number of careful and complete measurements of school children have not been made for some time, and the author of this report is to be congratulated upon his achievement. From a strictly scientific point of view such statistics are of inestimable value, and it is rare to find an investigator with patience enough to undertake the task. It is one of the fundamental principles of general science that a knowledge of individual factors is necessary for the forming of correct generalizations. In sociological science, in ethics, and in many related domains such careful individual studies have yet to be made. The present study will prove of service to the educator, and we hope the author may continue his work.

TREATISE ON HUMAN PHYSIOLOGY. For the use of Students and Practitioners of Medicine. By HENRY C. CHAPMAN, M.D., Professor of Institutes of Medicine and Medical Jurisprudence in Jefferson Medical College, Philadelphia; Chairman Board of Curators, Academy of Natural Sciences of Philadelphia; Member of the College of Physicians, of the Zoölogical Society, Philadelphia, of the American Philosophical Society, and of the American Physiological Society. Second Edition. Illustrated with 595 engravings. Philadelphia: Lea Brothers & Co. 1899.

WHILE not to be classed with such more pretentious works as those of Schaeffer or Landois and Stirling, the present treatise is well worthy of a place in the foremost ranks of American physiological literature. The author has not made the mistake of allowing his volume to grow to a size making it impossible for the average student to compass it in the time ordinarily allotted to the subject in medical colleges, while at the same time nothing of importance has been omitted. In this second edition the principal changes are to be found in the sections on chemistry and the nervous system, these being the provinces in which the greatest progress has lately been made. Too much cannot be said in praise of the illustrations, which are unusually numerous and excellent, while the whole volume is a fine example of modern book-making.

DIE ZUCKERKRANKHEIT. Von DR. MED. OTTO HEZEL, pract. Arzt in Wiesbaden. Leipzig: Druck und Verlag von C. G. Naumann.

THE author has accomplished in a very commendable way his purpose of presenting to the profession in compact form what is at present known about the etiology, course, and therapy of diabetes. The discussion of the disease itself is preceded by a chapter on the chemistry and physiology of the carbohydrates in general, and by another on the glycosurias of other than diabetic origin. The chapter on symptomatology is classified according to the various systems of the body and the pathology of each described at the same time. In considering the disease from a theoretical standpoint, the author makes numerous forms of the disease in accordance with the varying clinical pictures presented, but from the practical ground of treatment he reduces them all to the three degrees of mild, moderately severe, and severe. The chapter on diagnosis will be found of especial value by the practitioner. All the remote symptoms which indicate the possible existence of the disease are tabulated; the differential diagnosis between ordinary glycosuria and diabetes is given, as are also the symptoms indicating threatened diabetes; and, finally, a very detailed account of the most serviceable reactions for the clinical determination of glucose in the urine. The last chapter is devoted to the treatment, and in the main adheres closely to the tenets of Naunyn and v. Noorden. An appendix gives valuable tables of the percentage composition of food stuffs with their equivalents in calories, and a fairly good bibliography is appended to each section of the book.

# Society Reports.

## AMERICAN SURGICAL ASSOCIATION.

*Twentieth Annual Meeting, Held in Chicago, May 31, June 1 and 2, 1899.*

THE association met in the hall of the Chicago Medical Society, and was called to order by DR. W. W. KEEN, of Philadelphia. PROFESSOR DE LASKIE MILLER, of Chicago, delivered an address of welcome, which was responded to by the president. The first vice-president, Dr. Albert Vander Veer, of Albany, then took the chair, and President Keen delivered his address. He selected for his subject:

**The Technique of Laryngectomy.**—He began by saying that he had been ill satisfied with the usual technique of laryngectomy, and as in a recent case he had adopted a method which rendered the operation one of simplicity, caused but little loss of blood and little shock, and avoided the danger of aspiration pneumonia, he ventured to bring it before the association, in the hope that it would be tested by others so as to determine its real value. Instead of being a very severe and dangerous operation, as it had hitherto been regarded, he hoped this mode of procedure would place it in the category of safe operations. Nearly all authors, whether surgeons or laryngologists, spoke of the operation as an extremely severe and dangerous one, and this view was warranted by its past high mortality. Thus Rutsch speaks of the recovery as "very doubtful." Sendziak states that up to 1881 thirty cases had been operated upon with seventeen deaths, a mortality of 56.7 per cent., and that in all the thirty there was only one definitive cure—that is, in which three years or more had passed without recurrence. Later statistics, fortunately, had proved progressively more favorable. Thus Sendziak tabulated from 1873–1894 188 cases of laryngectomy for carcinoma. The results were thus given: (1) Recurrence, 32.45 per cent.; (2) Relative cure (less than three years), 6.9 per cent.; (3) Definitive cure (three years or more), 5.85 per cent.; (4) Deaths, 44.7 per cent. Schmiegelow had tabulated fifty cases of total laryngectomy from 1890 to 1897, and these still later statistics were far from encouraging. The results were: (1) Recurrence, 20 per cent., a fall of 12 per cent. from Sendziak's table; (2) Relative cure, 48 per cent., a rise of 41 per cent. from Sendziak's table; (3) Definitive cure, 10 per cent., nearly double that of Sendziak's table; (4) Death, 22 per cent., one-half that of Sendziak's table. The mortality, it would be observed, therefore, had been halved and the definitive cures doubled, as compared with Sendziak's statistics. If the cases occurring from 1890 to 1894 were to be excluded from Sendziak's statistics, the relative difference would be even more favorable. The causes of the mortality were chiefly: (*a*) weakness of the patient by reason of the disease, the poor aeration of the blood, and the entrance of septic discharges from the diseased larynx into the lung before the operation; (*b*) shock, including hemorrhage during the operation; (*c*) after the operation, septic pneumonia, due to the aspiration of infected wound fluids. This was the greatest danger of all. The causes of these wound fluids were twofold: first, the tracheotomy wound, if, as was usual, tracheotomy had been done; and, secondly, the wound left by the removal of the larynx. These wound fluids were usually infected from the food, the secretions of the mouth, and the packing by iodoform gauze which rendered primary union impossible. While the method which he wished to describe did not obviate the weakness or any other unfavorable influence from the general condition of the patient prior to operation, it minimized the other causes of death, and especially the possibility of pneumonia. He could not claim originality for any one of the steps, for they had all been employed, he believed, by others. Thus Bardenheuer closed the communication between the trachea and the pharynx, but he kept it closed only until the wound became covered with granulations, and until complications were no longer to be feared, say fourteen days. The communication was then reopened for the insertion of the artificial larynx. After adopting this method he had four recoveries, while by the former method he had had four deaths. Cohen united the stump of the trachea to the skin, one of the most important improvements in the technique, since it prevented in a large measure the access of wound fluids to the lungs. Other surgeons also had used the Trendelenburg posture, etc. But as a systematically planned operation, combining many advantages, the present technique as a *tout ensemble* may be called original.

The general preparation of the patient was the same as for any other operation.

Preliminary disinfection: As in all cases about the mouth, nose, pharynx, and larynx, he was particularly careful to make a systematic attempt for two or three days beforehand, to secure at least partial disinfection. While partial disinfection was not so good as complete, yet the results in treatment of fractures of the base of the skull, in the extirpation of rectal tumors, etc., showed its great value. He had the teeth very carefully cleansed with the toothbrush. If there were any old stumps of teeth present it was better that they should be extracted, and the operation deferred a few days until these dental wounds healed. For two or three days before operation, he had the mouth and each nostril sprayed separately every two hours, when the patient was awake, with a solution of boric acid, listerine, or both.

Tracheotomy: Nearly all authors recommended a tracheotomy either as the first step of the operation or more frequently ten to fourteen days before. In the few cases in which dyspnœa was great he was disposed to do a tracheotomy, say two weeks before the laryngectomy; not, however, with a view of preventing the entrance of blood and wound fluids into the lungs by the introduction of a tampon cannula, but for the purpose of improving the general condition of the patient. In the case which was the basis of this paper he did a tracheotomy at the time of operation, but removed the tracheal tube at the termination of the laryngectomy, immediately closed the wound in the trachea, and obtained absolutely primary union. In any future case he was strongly of opinion that it would be better to omit tracheotomy entirely. As he would show, it was not, in his opinion, needful, and by omitting it one cause of septic pneumonia would be eliminated.

Posture: The entire operation, after the trachea was invaded, was done with the patient in the Trendelenburg position. He was quite persuaded that the majority of surgeons did not appreciate to its full the advantages which this posture possessed in all operations about the upper air passages. As he had pointed out in a previous paper, he employed it in epithelioma of the lip, in extirpation or other operations on the upper and lower jaw, in removal of the tongue, in cleft palate, in operation on the tonsils and pharynx, and all similar operations. Blood would not run up hill any more than water; hence, if this posture was employed in laryngectomy, one of the chief reasons for tracheotomy and the employment of a tampon cannula was avoided.

The disadvantages of tampon cannulæ were very great. Kocher, like himself, had lately dispensed

with them entirely. The three most commonly used were those of Trendelenburg, Hahn, and Gerster. Of the three, Gerster's was distinctly, in his opinion, the best. It could be more accurately adapted to larynxes of varying sizes, and was much less likely to injure the parts either by undue pressure or by difficulty of introduction. In one case, in his attempts to introduce a Hahn cannula, the rings of the trachea were considerably torn. The objections to Trendelenburg's cannula were: arrest of respiration, which sometimes followed its introduction; the production of pressure gangrene in the trachea; obstruction to the lower end of the tube by the rubber ballooning into the trachea beneath it; the bursting of the rubber or its being cut; and, if none of these mishaps occurred, the air often gradually escaped and thus rendered the cannula useless. The Hahn cannula could not be made aseptic so easily as the others; and, as Lennox Browne has pointed out, sometimes twenty minutes were required for the expansion of the sponge after its introduction.

Anæsthesia: This was done at first through the mouth, and was so continued until the larynx or trachea was invaded. A large tracheotomy cannula (12 mm. in diameter) was then introduced, and held in place by disinfected tapes tied around the neck. The inner tube of this cannula was removed and the metal tube of a Hahn cannula, which precisely fitted it, was introduced. A rubber tube connected this with the ordinary funnel for the administration of chloroform.

The operation proper: The speaker described the operation in connection with the case reported, and then indicated the improvement in technique which he purposed adopting in the next case he might have.

The after-treatment: (*a*) Posture: The patient was kept in the Trendelenburg position by placing a chair under the foot of the bed. This posture prevented any wound fluids from running down (or rather up) into the lung. This position was to be maintained for one day. On the second day the bed was lowered to the horizontal plane. On the third day the patient was allowed to sit up in bed on a bed-rest; on the fourth, to get out of bed and sit in a reclining chair, and on the fifth day he might walk about the room. (*b*) Food: For two days nutritive enemata only were to be used. After that a teasponful of liquid food was given, at first every half-hour, always followed by a tablespoonful of sterile water to wash away any food that might possibly leak into the laryngeal wound. At the end of a week full diet as to quantity might be allowed, but no solid food was to be given until the tenth day. No catheter or œsophageal tube was required. The patient in the case presented could swallow from the very first. (*c*) Dressing: The primary dressing was described in connection with the case. On the day after the operation the small gauze drain was to be removed. Half of the stitches might be taken out on the fourth day, and the remainder on the sixth day. In the case reported the temperature on the day after the operation rose to 101.8° F., and fluctuated between the normal and 101° for a week, when it fell to the normal.

Objections: The only objection to this method which occurred to the author was, that it absolutely precluded the use of any artificial larynx. But the possession of voice is nothing when compared with a speedy recovery and a greatly diminished danger of a fatal result. Rutsch believed such a larynx was very unsatisfactory. Of course, the author recognized the fact that one case did not prove the value of any method, but its advantages were so striking in this case that, as laryngectomy was a relatively rare operation, he had not thought it best to wait until he could accumulate a much larger experience before bringing it to the attention of the profession.

Final results: Of course, it was too early yet to draw any inference as to the possibility of recurrence in this particular case; nor was this his purpose. His intention had been rather to demonstrate a method of laryngectomy which would diminish more especially the immediate mortality of the operation and secure speedy recovery by primary union. The chances of recurrence were no greater, nor yet any less, after operation by this method than by any other. This particular patient had been able to go out in all weathers during the past extremely severe winter, though living as far north as Waterville, Me., where the thermometer had been many degrees below zero.

At the conclusion of the president's address, a symposium on "The Surgery of the Spanish War" was begun.

**The First-Aid Package in Military Surgery.**—This paper was read by Dr. Nicholas Senn, of Chicago. He stated that two things were brought out clearly during the Russo-Turkish war, namely, the value of a first-aid antiseptic occlusive dressing in the prevention of wound infection, and the importance of immediate immobilization of compound gunshot fractures. Dr. Senn suggested the following first-aid package for field use and emergency work: Two pieces of lintin, a form of compressed cotton, four inches wide and sixteen inches long, sterilized and folded twice lengthwise; a teaspoonful of boro-salicylic powder in a small, waxed, aseptic envelope; between them a piece of sterile gauze, forty-four inches square, with two safety-pins, folded to corresponding size with the lintin compress; all of these articles wrapped in tinfoil; two strips of rubber adhesive plaster, an inch wide and eight inches long; the whole to be sewed in an impermeable canvas or linen cover. In using the package the powder was applied to the wound, when the lintin was used as a compress and held in place by the strips of adhesive plaster and the gauze bandage over it. If two wounds were to be dressed at the same time, as was usually the case in modern warfare, the contents of the package were equally divided and used, which could be done without materially impairing the efficiency of the dressing. The slight hemorrhage in wounds inflicted by the small-calibre bullet would soon saturate a part of the dressing, which by evaporation would convert the antiseptic powder and the cotton into a dry antiseptic crust, the very best protection for the wound against infection. Many military surgeons had expressed themselves recently as being opposed to the employment of the first-aid package by any one except medical men. This position Dr. Senn thought would be found untenable during any great war, since the number of wounded would greatly exceed the working capacity of the limited number of surgeons.

In summarizing, the following conclusions were emphasized: (1) First-aid packages were indispensable on the battlefield in modern warfare. (2) The first-aid dressing must be sufficiently compact and light to be carried in the skirt of the uniform, or on the inner surface of the cartridge or sword belt, in order to be of no inconvenience to the soldier or in conflict with military regulations. (3) The Esmarch triangular bandage was of great value in the school of instruction, but in the first-aid package it was inferior to the gauze bandage. (4) The first-aid package must contain in a waxed aseptic envelope an antiseptic powder, such as boro-salicylic powder, sterilized pins wrapped in tinfoil, and between this package and the outside impermeable cover two strips of adhesive plaster an inch wide and eight inches long. (5) The first-aid dressing must be applied as soon as possible after the receipt of the injury, a part of the field service which could be safely entrusted to competent hospital-corps men. (6) The first-aid dressing, if employed behind the firing line, should be applied without re-

moval of the clothing over the injured part and fastened to the surface of the skin with strips of rubber adhesive plaster, the bandage being applied over and not under the clothing. (7) The first-aid dressing must be dry and should remain so by dispensing with an impermeable cover over it, so as not to interfere with free evaporation of the wound secretion. (8) The first-aid dressing should not be disturbed unnecessarily, but any defects should be corrected at the first dressing-station.

**The Battleship in War.**—A paper on this subject was read by Dr. N. M. Ferebee, medical inspector of the United States navy, Norfolk, Va. He described a modern battleship, and spoke of the preparations for, and the conditions during, war. He also narrated his experiences with modern rifle bullets and with shells, and closed his paper by detailing interesting cases.

**The Organization and Equipment of Military Field Hospitals.**—Dr. George R. Fowler, of Brooklyn, read this paper. Under the head of organization, the essayist dealt with executive offices, dispensary, property office, post-office, quartermaster's office, commissary office, medical ward, surgical ward, operating tent or pavilion, pathological and bacteriological departments, cooking department, diet kitchens, sanitary and disinfection departments. In referring to location and arrangement, he spoke of the importance of selecting a suitable site, and then dwelt upon soil, drainage, arrangement of the wards and sinks, and emphasized the importance of cremating garbage and typhoid excreta. In referring to equipment, he spoke of tentage, pavilions, furniture, linen, medical supplies, anæsthetics and antiseptics, instruments, sterilizers, operating-tent furniture, ligature and suture materials, dressing-materials, splint materials, and transportation facilities. Lastly, he dwelt at length upon the personnel, which comprised executive and administrative officers, professional staff, ward officers, operating-staff, ophthalmologist, aurist, dentist.

**The Effects of Modern Small-Arm Projectiles as Shown by the Wounded of the Fifth Corps.**—This paper was read by Dr. Charles B. Nancrede, of Ann Arbor, Mich. Reports showed that about fourteen hundred wounded were cared for at the hospital with which he was connected, for nearly all of the injured in this corps who survived for twenty-four hours sooner or later passed through their hands, so that flesh wounds and those of a day to a week or more were observed. Flesh wounds were always of a trivial nature, unless the ball became deformed by striking some extraneous object, or when stripping its mantle, as it sometimes did. This immunity enjoyed by the flesh wounds caused by Mauser and Krag balls resulted, first, from the slight amount of contusion caused by the rapidly moving ball; second, the aseptic condition of the ball; third, the rarity of the carriage of fragments of clothing into the wound, as was not uncommonly done by the 43-calibre Remington, brass-mantled balls. If they were kept aseptic, the majority of flesh wounds healed almost as if they had been incised wounds, not uncommonly cicatrizing under the primary field dressing made with the first-aid package. Contusions, or slight wounds of the great vessels leading to so-called traumatic aneurisms, or aseptic or septic sloughing of the vessels many days after the receipt of the wound, were far from uncommon. Thus, he saw one wounded subclavian artery when the patient survived over three weeks, to succumb finally to hemorrhage during an attempt to ligate the vessel, which was torn for a long distance. He also knew of another patient dying on the table some weeks after being wounded, during an attempt to secure the same vessel. He tied the common femoral for wounds and assisted a colleague in securing another, days after the receipt of the injury. He tied one radial for secondary hemorrhage and ordered the tying of an ulnar for ball injury, several days after their division, and was compelled to amputate an arm after failing to secure a bleeding brachial in an apparently aseptic wound, two weeks after the man had been shot. The greatest advance in military surgery on the battlefield in recent times was the first-aid packet, and the greatest boons conferred on the wounded soldier had been asepsis and antisepsis, because in the majority of instances they rendered his injuries so painless and their complications so slight, that even anæsthetics no longer occupied the chief place as a blessing to the wounded, because they were comparatively rarely needed. Antiseptic occlusion also proved the best treatment for most of the thoracic, abdominal, and articular injuries. All patients with perforating ball wounds of the abdomen, who were operated upon, he was informed, perished, while a number he saw recovered without intervention, antiseptic occlusion being relied upon. Wounds of the liver and kidneys did not seem to give rise to dangerous infection in the small number treated. If section could not be done before peritoneal infection had become well established, both civil and military surgeons had long believed that, poor as are the chances of recovery, they were lessened rather than increased by the operation.

**Appendicitis: (*a*) Should Every Case be Operated upon as Soon as the Diagnosis of Appendicitis is Made? (*b*) Should the Appendix be Removed in Every Case?**—Dr. M. H. Richardson, of Boston, read a paper on this subject. At the bedside, in a specific case of appendicitis, there would be doubtless little difference of opinion even among those surgeons who seemed to differ materially in the expression of their views. What one might describe as a severe case another might regard as a mild one; what one considered a hopeless infection another considered only a desperate one, and so on. The conclusions arrived at by the speaker were the result of experience in more than nine hundred cases, personally observed and treated, and of personal observation of many others in the practice of hospital colleagues. The total number was 904. In 259 operations in acute cases, 72 were fatal; 4 of these deaths were in the hands of other surgeons; 189 acute cases were not operated upon. Of these, 31 were fatal, probably all moribund at the time of first examination. The total operations were 569, of which 238 were interval operations without a death. The total number of operations in the acute stage was 331; mortality in acute stage, 21.5 per cent. Many of these fatal cases were desperate ones. All were severe. The mortality in acute cases without operation was fully 31 in 189 cases. But practically in all these fatal cases the patients were moribund and hopeless when first seen. Had all acute cases been operated upon, the mortality after operation would have been reduced, because in most of the acute cases not operated upon the patients would have recovered also with operation. In fact, most of these were operated upon in the interval. Deductions from mortality tables were misleading. It would be as unfair to conclude, because a long series of bad cases had ended in death after operation, that therefore no operation should ever be performed, as to conclude that because practically all the reader's acute cases unoperated upon terminated in recovery (excluding the moribund), therefore no operation was ever necessary. There was a wise middle course by which unnecessary operations were avoided and necessary ones were performed. In the initial stage severe symptoms of onset demanded immediate intervention. These symptoms were pain, vomiting, tenderness, rigidity, shock—those common to most acute abdominal emer-

gencies. In many cases these symptoms would subside, but the general trend of a case could not be determined at one observation. Exploration was therefore indicated. The surgeon must expect often to find other lesions than appendicitis at the initial stage, but lesions quite as important and often demanding intervention even more urgently. Cases of mild onset might well wait until a second observation showed the probable course of the case. Time thus spent was wisely spent. The most important question was not whether to operate in appendicitis, but rather when to operate. In view of the great mortality after operation in severe cases, of the disadvantages following the drainage necessary in septic cases, weakness of muscles, stretching of scars, hernias, and the like, the best time to operate was in the period of perfect health following the attack. In a large percentage of acute cases, recovery from the acute attack would take place, and operation could be safely performed through a small incision which would not weaken the abdominal wall. Cases must not be watched, however, unless there are reliable signs of convalescence. After the initial stage the question of intervention became more difficult. When observed for the first time on the second, third, or fourth days, severe cases should be operated upon at once, unless they were improving so rapidly that there was a strong expectation of complete recovery and interval operation. Intervention was still more strongly indicated if the symptoms were increasing in severity. Operation was indicated, too, if the symptoms after marked improvement recurred, as if, though moderate, they were not improving. In the consideration of symptoms after the early hours, the character and extent of pain, tenderness, and rigidity were important as determining the width and depth of the area of infection. The constitutional signs were less reliable than the local; they might be deceptive guides. The chief objection to operating in every case was the danger of converting a localized into a general infection. Every case in which at the time of operation there was an uninfected general peritoneal cavity and in which the patient died with general infection after operation (and these were more numerous than were known) excited doubt as to the wisdom of operating in all cases. It was known that very many patients with localized peritonitis recovered and were successfully operated upon in the interval, and cases showing improvement in an enormous proportion went on to recovery and intermediate operation. If the patient was improving with a successfully localized peritonitis of considerable extent, especially if it was centrally localized, as in the pelvis, operation should be postponed until intervention could be safely practised, because these cases comprised, in the absence of general peritonitis, the most dangerous ones. Moreover, intervention became safer with a few hours' or days' delay in improving cases; first, because the general exudate, so easily infected during operation, became absorbed; second, because the local exudate diminished in size; third, because walling off with gauze was practicable when the adhesions were firm, impossible when they were thin; fourth, operation ruptured at once the localized peritonitis, and started the too often fatal peritonitis. Moreover, the patient's general strength improved with the local improvement. When there was a tumor situated to the right side, or directly under the abdominal wall, so that walling off with gauze was practicable, operation might be performed under conditions that would contraindicate intervention when the tumor was centrally located or in the pelvis.

In cases that were very far advanced nothing should be done, for the reason that the simplest active intervention would turn the scales against the patient. In areas with firm walls, simple drainage by a small incision was preferable to removal of the appendix because of the risk of causing general infection by separating adhesions. Of one hundred and five cases of simple drainage, all recovered but two. Many were operated upon subsequently for hernias and for removal of the appendix. An attempt should always be made to remove the appendix whenever the peritoneal cavity was opened, unless the patient's condition forbade prolonged search. In many cases of abscess with firm walls, a slough would be found which on examination would prove to be a necrosed or exfoliated appendix. In such cases no subsequent operation for removal of the appendix would be necessary. If, after recovery from simple drainage in acute appendicitis, there was evidence of renewed appendicular trouble, the appendix should be removed, the scar of the original wound incised, and the wound carefully closed. This operation was especially desirable if there was hernia in the scar, or even stretching or discomfort. Hernia of itself, after all operations for acute appendicitis, should be operated upon if it caused discomfort or disability. In very rare instances there might be a recurrence of infection in the region of the ileo-cæcal valve, even after removal of the appendix. In the speaker's experience two such cases had been noted, one resulting in recovery from operation, the other requiring drainage.

The discussion on Dr. Richardson's paper was opened by Dr. John B. Deaver, of Philadelphia, who said that the paper had brought out many points on appendicitis about which an active warfare had been waged for some years. Upon the surgeon's individual decision at the bedside often depended the life of the patient, and in every case the very points with which the paper dealt had to be faced and a decision made. As to the question whether every case should be operated upon as soon as the diagnosis was made, his answer was, Yes, with two exceptions: First, acute active general peritonitis; second, collapse. Should the appendix be removed in every case of appendicitis? Yes, with the exception of those cases in which the bowel forming a part of the abscess wall had undergone necrotic changes, rendering the bowel friable and apt to rupture during the necessary manipulation. Dr. Richardson had most wisely divided his first heading into two classes, those in which the diagnosis had been made in the early hours—and the speaker took it for granted that he meant within twenty-four hours—and those in which a diagnosis was made after this period of time had elapsed. In answer to the first question, Dr. Deaver asserted most emphatically that the early hours was the time *par excellence* for operation in this most serious of intra-abdominal affections: First, because practically all patients operated upon at this time got well or at least gave the lowest mortality, this mortality increasing with the interval between the onset of the attack and the time of operation. Thus, of eighteen cases operated upon within the first twenty-four hours, only one was fatal, a mortality of 5.5 per cent. Of thirty acute cases, on the other hand, operated upon within forty-eight hours, ten resulted in death, a mortality of 33.3 per cent. So far as his experience went, a careful examination of the statistics of acute cases convinced him that the local pathological changes reached by progressive stages their severest limit within the first forty-eight hours, and after that period the changes were more in the nature of sequelæ following the primary stage of infection. Second, the percentage of patients that had one attack and then remained perfectly well and free from other attacks was very small. Of four hundred and sixty of his own patients, three hundred and twelve had more than oen attack. In fact, it seemed to him unjustifiable to offer a patient the faint hope of any attack of appendical inflammation being the last.

Should we operate when the diagnosis is made after

the early hours if the symptoms are severe? He would say that his experience had led him to the belief that symptoms were very unreliable and were not in proportion to, nor do they indicate, the severity of the pathological processes which were taking place in the abdomen. Many times he had opened the abdomen of a patient with a normal temperature, flat belly walls, and a quiet, retentive stomach, in whom tenderness on deep pressure was the only sign of persistent trouble, and had found pus or a gangrenous and perforated appendix. The surgeon who waited in the case of appendicitis for the appearance of severe symptoms, or, worse yet, waited until the symptoms increased in severity for an indication to operate, would have many unnecessary deaths to his credit.

Should the appendix be removed in localized abscess with firm walls? The success in the removal of the appendix in a localized abscess with firm walls depended upon the skill and the technique of the surgeon. Under these conditions the appendix should be removed, the only occasion for a difference of opinion being as to the time of its removal, *i.e.*, at the primary operation or at a subsequent operation. If the appendix could be removed at the primary operation without additional risk to the patient, it seemed to him that this was the time of election. That it could be done without additional or any risk had been repeatedly demonstrated, and in his own practice he did it in nearly all cases, because in two hundred and fifty-seven primary removals his death rate in the past had been 16.7 per cent., and in thirteen secondary removals the death rate was 30.7 per cent. The reasons for the removal under these conditions were that surgeons did not subject their patients to the danger of an attack of acute appendicitis occurring before the secondary operation. There was less likelihood of fistulæ, either fecal or simple. The patient was cured with one operation instead of two, with the consequent saving of a variable period of invalidism for the patient. When a patient's strength did not permit a prolonged search for the appendix, it should not be necessary. The appendix could hold but one of a few positions: it must be either post-cæcal, pointing into the pelvis toward the spleen, or confined in the ileo-colic or sub-cæcal or ileo-cæcal fossa. If the appendix was embedded in exudate, the exudate itself would indicate its position. He agreed with Dr. Richardson as to the necessity of the ultimate removal of the appendix, differing from him only in the length of time before the complete operation should be performed.

Dr. Christian Fenger, of Chicago, indorsed in the main nearly everything that Dr. Richardson had said. He, however, disagreed almost entirely with the views expressed by Dr. Deaver.

Dr. Francis B. Harrington, of Boston, thought there was very little difference of opinion between Dr. Richardson and Dr. Deaver. He said that Dr. Deaver did not operate on every case; he considered the condition of the patient. If the patient was in collapse he waited, and so did all surgeons. It was better to wait not only in cases of collapse but in other instances. He liked to remove the appendix in every case when it was possible to do so. On the other hand, there were certain conditions in which he was inclined to wait perhaps twelve or twenty-four hours, or even longer, before operating.

Dr. S. H. Weeks, of Portland, Maine, considered the teaching of Dr. Richardson safe. It must be remembered that most of the members were teachers of surgery, and it was unsafe to instruct students to operate and remove the appendix in every case.

Dr. Joseph Ransohoff, of Cincinnati, thought the doctrine advocated by Dr. Deaver would do a great deal of harm, if followed by most men who operated upon cases of appendicitis. An important point to remember was this, that five-sixths of the operations for appendicitis were performed by general practitioners, men who had had very little experience in handling the intestines, in dealing with abscesses within the cavity of the abdomen, etc.

Dr. Nicholas Senn, of Chicago, said uniformity of practice in the treatment of appendicitis would never probably prevail. Each man formulated his own indications and followed his own rule of practice. Personally, he felt weakest in making an early diagnosis in the first attack. Dr. Senn narrated two instructive cases in which it was extremely difficult to make a differential diagnosis between perforative appendicitis and perforative typhoid ulcer, one of the cases being that of an honored colleague.

Dr. J. S. Conner, of Cincinnati, believed it was not wise to be governed in surgical judgment by the citation of one or two cases; neither was it wise to neglect the warning of a single case. While he did not operate on all cases, he believed in operating on suitable cases, and at the proper time if it could be had.

Dr. Dudley P. Allen, of Cleveland, removed the appendix in an increasing number of cases, but of those cases of abscess with sloughing of the wall in which he had not removed the appendix, he recalled but three that did not heal of themselves. He had seen fecal fistulæ follow a considerable number of cases, some of which had persisted, but others which had healed of themselves.

Dr. Richard H. Harte, of Philadelphia, favored the removal of the appendix in cases of early operation. He thought that conservatism in the treatment of this disease was a great mistake, and maintained that in nine cases out of ten the appendix could be successfully removed.

The discussion was further participated in by Drs. H. H. Mudd, Joseph W. Hearn, B. F. Curtis, and N. B. Carson, all of whom substantiated in the main the views taken by the essayist.

**On Some Conditions of Healing by First Intention, with Special Reference to Disinfection of the Hands.**—This paper was contributed by Dr. Theodor Kocher, of Berne, Switzerland, and was read by the secretary in the absence of its author. The conclusion of the author as to the possibility of securing primary union of operation wounds with or without gloves is the following:

"1. Either, do use sterilized rubber gloves for every operation when you wish to be quite independent as to the form of your nails, the touching of everything you like, and the liberty to wash or not to wash your hands, and when you can spend plenty of money. Put your covered hand from time to time in a strong antiseptic solution (best, two-per-cent. sublimate) during a long operation if you wish to be very careful.

"2. Or, never wear gloves for operations; do what you like between your operations, but poison yourself every time before you operate by brushing and bathing your hands for ten minutes in a strong, hot sublimate solution after thorough washing and cleansing with hot water, soap, and alcohol for fifteen minutes. Repeat a short antiseptic ablution frequently during a long operation, when you wish to be very careful.

"3. Or, go the golden middle way; avoid touching with uncovered hands any infective or septic material between the operations, or wash it carefully away at once; cut your nails as short as possible; brush your hands thoroughly with hot water, soap, and alcohol (eighty-five to ninety-five per cent.), avoiding any poisonous disinfectant before you operate, and, if you wish to be very careful, put cotton, silk, or, best, rubber gloves on when you touch the threads for ligatures and sutures, and when you have much to tear the tissues and to rub your fingers in the depth of a wound.

"4. But don't forget that the healing of the wounds *per primam intentionem* does not depend exclusively upon your hands, but also upon the same preparation of the patient's skin, upon sterilization of everything else coming in contact with the wound and its surroundings, upon complete arrest of bleeding, exact closing of the wound by sutures, or avoiding accumulation of fluids in cavities, necessarily left, by drainage, and last but not least, upon the use of antiseptic threads for ligatures and sutures, as long as impermeable threads are not yet invented."

**Nephrectomy versus Nephrotomy.**—Dr. Joseph Ransohoff, of Cincinnati, read a paper on this subject. He said that renal surgery was essentially the product of the past twenty years. The occasional operations on the kidney performed before that time paved the way for a clearer appreciation of the conditions demanding operative relief. Improvements in the mode of examination, and the consequently greater accuracy in diagnosis, the recognition of the early gross changes wrought by disease, as seen by operation rather than by autopsy, and the comparative safety of incisions through healthy kidney tissue, had brought to the fore the element of safe conservatism in the domain of renal surgery. The speaker reported several interesting and instructive cases of pyonephrosis. Nephrotomy, *per se*, was doubtless an operation nearly devoid of danger. When performed on a healthy kidney, as for stone, the mortality was less than five per cent. When performed for suppurative diseases, the mortality rose. He had tabulated records of 78 nephrotomies for pyonephrosis exclusive of tuberculosis published within the last three years from various clinics. Of these 78 nephrotomies, 17 were followed by death, a mortality of 21.8 per cent. In the hands of some surgeons the mortality has been very large. Four out of five cases were fatal in the Vienna clinic. Out of 6 cases of nephrotomies at the Roosevelt Hospital, 3 died. On the other hand, Israel lost only 1 out of 8, and Thornton 1 out of 12. From the same sources he had tabulated 37 primary nephrectomies with 9 deaths, giving a mortality of 24.3 per cent., and 17 secondary nephrectomies, with 7 recoveries and 10 deaths, a mortality of 58.8 per cent.

The advantages of nephrotomy for pyonephrosis were obvious: First, it was an operation readily tolerated even in patients greatly reduced by fever. Second, it permitted the surgeon to determine the condition of the opposite kidney. Third, by it the saving of even a small amount of functionating kidney tissue might throw the balance in favor of recovery. In dealing surgically with a pyonephrotic kidney, statistics could guide the operator only in a general way in the choice between nephrectomy and nephrotomy. Nephrotomy was indicated in pyonephrosis, first, when the condition of the opposite kidney could not be ascertained. Second, when the reduced condition of the patient would not permit the major operation if this was indicated. The nephrotomy was then but the preliminary step, to be followed by nephrectomy as speedily as possible. Third, when the operation revealed the presence of considerable kidney tissue, and an approach to the normal on the part of the pelvis and proximal portion of the ureter. Here a later ureteroplasty might avert the need of nephrectomy. Fourth, when there was evidence or suspicion of disease in the other kidney. Primary nephrectomy was indicated, first, when there was a sound second kidney; second, when inspection of the exposed kidney showed many or large pouches that could not be successfully drained; third, when there was little kidney tissue left; fourth, when an examination of the pelvis and proximal portion of the ureter made it reasonably certain that a return to the normal could not take place; fifth, in para- and peri-nephric suppurations in which the kidney acted as a valve impeding successful drainage (Israel).

**Hernia following Operations for Appendicitis.**—This paper was read by Dr. Francis B. Harrington, of Boston. He said that he had made a personal examination of the condition of the abdominal wall in 236 cases of appendicitis which had been operated upon at the Massachusetts General Hospital by various surgeons. They represented all varieties of the disease. The period which had elapsed since operation varied from nine months to nine years. No case was included which was operated upon since July, 1897. Total number examined, 236; males, 190; females, 46; 27 true hernias in all—11.5 per cent.; 21 true hernias in males—11 per cent.; 6 true hernias in females—13 1/3 per cent. Eighty-five wounds closed at the time of operation, 3 hernias, 3.5 per cent.; 85 wounds partly closed at the time of operation, 11 hernias, 12.5 per cent.; 63 wounds left entirely open at the time of operation, 13 hernias, 20 per cent. If with these cases of true hernia were included 10 cases of punctiform hernia and 53 cases of more or less bulging in the scar which did not constitute true hernia, the following percentage of weak scars was noted: In 85 closed wounds, 6 per cent.; in 88 partly closed wounds, 51 per cent.; in 63 open wounds, 62 per cent.

Inter-muscular spaces: An opening between muscles or tendons, or both, could be detected in the scars —in 85 closed at the time of operation, 26 per cent.; in 88 partly closed at the time of operation, 83 per cent.; in 63 open wounds, 87 per cent.

General abdominal bulging: In 85 closed incisions, 7 per cent.; in 88 partly closed incisions, 45 per cent.; in 63 open incisions, 46 per cent.

During the period in which these cases were operated upon, *i.e.*, from 1888 to 1897, some of the muscles or tendons were cut at right angles to their fibres in the acute cases, and often in the cases in which the incisions were tightly closed at the time of operation. The speaker advocated the use of an enlarged McBurney incision in all acute cases, which would obviate the cutting transversely of any muscle or aponeurosis.

*Résumé:* Hernia and bulging occurred frequently after operations for appendicitis, and resulted from the separation of muscles and other tissues in the scar. They were more common when drainage had been used. The muscular and tendinous tissues should not be transversely cut in any appendix operation unless it was unavoidable. As little drainage material as safety would permit should be used and, when necessary at all, the wound should be closed as far as possible with sutures, and the drainage removed early. If the wound could be closed immediately, the tissues should be restored to their normal position by suturing each layer. Stout belts and trusses were of little value in preventing hernia, and might even do harm. The abdominal muscles from the earliest period possible after operation should be developed by appropriate muscular exercises. If hernia or marked bulging appeared, operation for cure was safe and satisfactory.

**Some Unusual Cases of Appendicitis with Complications.**—Dr. Albert Vander Veer, of Albany, N. Y., read this paper. He said that operative surgery, in its relation to the appendix, would ever present rare and unusual cases. This was brought out strongly last year, when the president of the association and others gave the histories of some very unusual lesions of the abdomen. Surgeons might examine their cases with ever so much skill, employing diagnostic intelligence to the best advantage, yet when they entered the peritoneal cavity they must be prepared for surprises. From the knowledge acquired from these isolated and rather rare cases, it was more possible to increase the percentage of recoveries. A hernial sac with the appendix therein was not particularly rare, but to find an

appendix containing a foreign substance like a pin, which had not caused trouble, was somewhat unusual. To operate for the relief of femoral hernia and find not only the appendix but a prolapsed bladder, in the female, was certainly decidedly rare. Dr. Vander Veer then detailed eight somewhat unusual and complicated cases.

Dr. Solon Marks, of Milwaukee, Wis., reported an interesting case of forward dislocation of the fifth cervical vertebra.

**Cases of Fracture of the Skull followed by Recovery.**—Dr. Dudley P. Allen, of Cleveland, Ohio, presented this paper. He reported ten cases of fracture of the skull, all but one of them involving the base. The first five reported were fractures at the base of the skull without any injury to the vault. Of these patients, three were rendered totally unconscious at the time of the accident, one was in a semi-conscious condition, and the third, so far as could be ascertained, retained consciousness. Bleeding from both ears occurred in two of these cases, whereas in three of the cases there was bleeding at only one ear. Deafness in one case occurred in both ears at the time of injury. Whether in the other cases deafness occurred at the time of injury could not be definitely determined. In two of these cases, however, deafness was complete and permanent in one ear, and in one case the hearing was much impaired in one ear. Loss of smell was complete in one case and greatly impaired in one case. Paralysis of one side of the face occurred in two cases, in one of which it remained permanent. The five persons in whom the fracture was confined to the base of the skull were alive and well at the present time, except for the disabilities just described. There were two cases of children who fell from heights upon the vault of the skull, causing most extensive fracture and great deformity of the cranium. In one of these there was a great deal of hemorrhage from the ears. In both the scalp was lifted, the cranium was laid bare, and by means of a hook the fragments making up the depressed vault were raised to their normal positions. Both patients had recovered; one, however, had impaired hearing in one ear. In two cases reported injuries were received in the frontal region extending into the base. In one of these there was extensive injury to the frontal bone, and a large amount of bone and considerable lacerated brain tissue were removed. There was a fracture in this case extending across above the frontal eminence to the temporal fossa upon the side of the skull opposite to that which received the greatest injury, and there was a fissure from the base of the skull extending from the frontal bone backward to the sella turcica. In this case there was a large cerebral hernia. In the other case the injury to the frontal region and the involvement of bone were small. The point of interest in the latter case was the temperature, which rose gradually at two different periods to 105° F., the case presenting many of the symptoms of typhoid fever with a relapse of the same. The other characteristic symptoms of typhoid fever were, however, entirely lacking, and the presence of optic neuritis, indicating probably a basal meningitis, placed the diagnosis of the cause of fever in considerable doubt. In both cases a complete recovery took place. The tenth case was one of severe injury in the region of the right parietal bone, followed in some weeks by impairment of mental activity, and also of motion of the right arm and leg. This was found to be due to a large subdural collection of blood upon the left side, notwithstanding there was no evidence of injury upon this side. The accumulated blood amounted to several ounces. It was removed and the patient was now well. These cases in which recovery took place were reported because of the interest attached to the symptoms attending fracture, namely, hemorrhage from the ears, facial paralysis, loss of hearing, and loss of smell.

Dr. W. Joseph Hearn, of Philadelphia, reported an interesting case of removal of an œsophageal diverticulum. In the discussion Dr. M. H. Richardson, of Boston, narrated two interesting cases.

The following officers were elected for the ensuing year: *President*, Dr. Robert F. Weir, of New York City; *First Vice-President*, Dr. Charles B. Nancrede, of Ann Arbor, Mich.; *Second Vice-President*, Dr. Edmond Souchon, of New Orleans; *Secretary*, Dr. Herbert L. Burrell, of Boston; *Treasurer*, Dr. George R. Fowler, of Brooklyn, N. Y.; *Recorder*, Dr. De Forest Willard, of Philadelphia; *Member of the Council*, Dr. W. W. Keen, of Philadelphia.

Washington, D. C., was selected as the next place of meeting, in conjunction with the Congress of Physicians and Surgeons, on May 1, 2, and 3, 1900.

## AMERICAN MEDICAL ASSOCIATION.

*Fiftieth Annual Meeting, held at Columbus, Ohio, June 6, 7, 8, 9, and 10, 1899.*

### SECTION ON LARYNGOLOGY AND OTOLOGY.

Emil Mayer, M.D., of New York, Chairman.

*First Day—Tuesday, June 6th.*

**Chairman's Address.**—The chairman, Dr. Emil Mayer, of New York City, presented the annual address. He spoke of the advances made in otology by the early recognition of brain abscesses and sinus thrombosis, and of their cure by operation. The greatest advance in rhinology had been in the discarding of the galvano-cautery. He presented the most recent device for intubation in cases of chronic stenosis of the larynx, the invention of Dr. John Rogers, of New York. It consisted of an intubation tube of the O'Dwyer pattern, with an opening made directly opposite the tracheotomy wound, as preliminary tracheotomy was nearly always requisite in these affections. Into this opening was screwed a solid plug of hard rubber, thus effectually preventing its being coughed out. The speaker closed his address with an appeal for the greater recognition, during their lifetime, of those medical benefactors to their race who, like O'Dwyer, Wilhelm Meyer, and others, had been too little appreciated.

**Tuberculosis of the Pharynx and a Preliminary Report of Tuberculous Infection of the Tonsils and the Lymphoid Tissue of the Pharynx.**—Dr. Clement F. Theisen, of Albany, read this paper. In it he reported two cases of primary tuberculosis of the pharynx, both verified by bacteriological examination. One of the patients died, the other recovered. Of twelve hypertrophied tonsils and twenty-three adenoid masses removed and examined at the Bender Laboratory, two of the tonsils had shown the presence of tubercle bacilli, though none had any evidence of tuberculosis.

**Accessory Thyroid Tumors at the Base of the Tongue.**—Dr. J. Schadle, of St. Paul, read a paper on this subject. The tumor had existed for six months prior to first coming under his observation. It had been situated at the base of the tongue, and had swollen and become vascular during the time of apparently suppressed menstrual function. Under electrolysis it had diminished to one-third of its original size, but copious bleeding had eventually necessitated a discontinuance of this treatment. It had been finally extirpated by an operation performed by Dr. Charles McBurney. The growth had proved to be a gland of the thyroid.

**Observations in Three Hundred Tonsillectomies.**—Dr. J. Homer Coulter, of Chicago, read this paper. He said that the marked improvement which almost universally followed a tonsillectomy, or even a tonsillotomy, should be sufficient confirmation of the harm usually caused by hypertrophied tonsils. The writer made a strong plea for total extirpation of the tonsil, which was the operation performed by him in all of these cases. These tonsillectomies had been done by means of the galvano-cautery, and had been in the nature of bloodless dissections. He claimed that the general result of tonsillectomy was a cosmetically and physiologically perfect throat, and that this was attained as follows: (1) By liberating and allowing perfect action of the pillars and soft palate; (2) by the removal from the pharynx of mechanical obstruction to the sound waves; (3) by the entire removal from the throat of the possibilities of toxin absorption by the tonsillar gland; (4) by leaving a smooth surface in the seat of the tonsil; and (5) by causing a disappearance of pillar hypertrophy. Tonsillectomy was more likely to remove a reflex neurosis, due to a pathological tonsil, than was a tonsillotomy. If it was thoroughly done, it would leave a smooth surface, which was not so often the case after tonsillotomy, and was practically impossible after ignipuncture. To singers this was a matter of some importance. Moreover, tonsillectomy was feasible in certain cases in which tonsillotomy would be almost an impossibility.

**The Value of Muscle Training in the Treatment of Vocal and Speech Defects.**—Dr. G. H. Makuen, of Philadelphia, read a paper with this title. The direct cause of vocal defects, he said, was always a faulty musculation in the vocal mechanism. While the intrinsic muscles of the larynx were, for the most part, involuntary, the extrinsic muscles might be brought under the direct control of the will and the intrinsic muscles controlled thereby. The importance of a correct position of the larynx could hardly be overestimated. These muscles might be brought under the direct control of the will either collectively or in pairs. At the request of the chairman, Dr. Makuen demonstrated his method of controlling the extrinsic muscles.

**The Prognosis of Laryngeal Tuberculosis.**—Dr. Robert Levy, of Denver, read this paper. He expressed the opinion that properly chosen surgical or medical treatment might greatly influence the prognosis of this disease, and stated that, in his experience, those cases in which the epiglottic or aryepiglottic folds, or both, had been involved had yielded the worst prognosis.

**The Treatment of Chronic Croup.**—Dr. Edwin Rosenthal, of Philadelphia, read a paper on this topic. He stated that he had frequently seen stenosis occur in cases in which intubation had been performed and the tube removed ten days after apparent recovery. It was also seen when no intubation had been performed, and when all was apparently well. In one case, seen by him, of stenosis existing five weeks after an attack of diphtheria, only streptococci had been found. The symptoms of stenosis had subsided promptly after an injection of 10 c.c. of antistreptococcic serum. The streptococcus infection might alone prove sufficient to produce croup. He had seen peroxide of hydrogen produce croup secondarily to other varieties of diphtheria. In one case of diphtheria he had used twenty thousand units of antitoxin. It was his custom to use antitoxin immediately, and, if streptococci were found, to use the antistreptococcic serum also.

**Colds.**—Dr. Ephraim Cutter presented a communication with this title.

**Infective Granulomata of the Pharynx.**—Dr. Emma E. Musson read this paper. She reported a case of infective granulomata of the pharynx due to the bacillus mallei. It had been repeatedly reported as a sarcoma by microscopists, and only finally, when a bacteriological examination had been made, had the cause, glanders, been ascertained. She had never found any clew to the method of infection. Death had resulted, but the direct cause was not stated.

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*Second Day—Wednesday, June 7th.*

The morning was devoted to a joint session of the sections on ophthalmology and on laryngology and otology. The subject for discussion was "The Relation of Ocular Diseases to Affections of the Nose and Neighboring Cavities." Dr. Charles Stedman Bull, of New York, discussed "Some Points in the Symptomatology, Pathology, and Treatment of the Sinuses Adjacent and Accessory to the Orbit" (see page 73). Dr. J. H. Bryan, of Washington, D. C., took up the "Diseases of the Accessory Sinuses in Their Relation to Diseases of the Eye"; Dr. Joseph A. White, of Richmond, Va., discussed "Eye Troubles Attributable to Naso-Pharyngeal and Aural Disturbances."

**A Study of One Hundred and Fifty Cases of Disease of the Antrum of Highmore.**—Dr. L. C. Cline, of Indianapolis, presented this communication. Of the cases seen by him, six had sarcoma of the superior maxilla, and all the patients had stated that they had suffered with their teeth, thus leading him to believe that the long-continued irritation from an abscessed root discharging into the antrum had been a factor in the production of the sarcoma. The etiology of the cases of abscess was comprised under three divisions, viz., those due respectively to dental disease, those due to nasal disease, and those resulting from la grippe. All but twenty cases were chronic; seventy-five per cent. were on the right side. Ethmoiditis had been present in eleven cases. The speaker stated that he relied on peroxide of hydrogen for diagnosis. In his opinion, the best method of operating, and the one which secured the best drainage, was that through the alveolar process. When a tube was required he used silver wire twisted into the proper shape and size.

**The Relation of Nasal and Accessory Cavities and Dental Lesions.**—Dr. D. Braden Kyle, of Philadelphia, read a paper with this title. He stated that the abnormal and pathological conditions of the teeth causing nasal obstruction and disturbances might be considered under—(1) irregularities in the formation of the alveolar process, allowing the teeth to penetrate into the antral or nasal cavities, thus permitting the extension of the disease process, and (2) nasal or antral irregularities, with secondary lesions of the teeth. Mouth breathing contracted the arch, causing irregularity in the teeth and a characteristic droop to the nose. The period from birth to the time when osseous union occurred was the proper time in which to correct nasal irregularities and deformities. Thumb-sucking caused a characteristic alteration in the superior maxilla and floor of the nose. The irruption of the teeth into the antrum also showed an irregularity in development. Gases might form in the antrum from a diseased tooth. He regarded as suspicious a history of dental irritation in this region, with subsequent cessation of pain and later development of pressure symptoms in the cheek, with ozæna, the latter being either continuous or interrupted.

**The Determining Factors in the Symptomatology and Diagnosis of Infective Sinus Thrombosis.**—Dr. Fred. Whiting, of New York, read this paper. He dwelt at length upon the symptomatology, remarking that there was no need for apologizing for so doing, when only very recently the lack of familiarity with this very subject had led to the melancholy death of

one of the promising young surgeons of New York, without diagnosis and without operation. When a patient suffering with purulent otorrhœa complained of severe hemicrania in connection with sudden increase in the discharge, or recent diminution of the same, and simultaneously presented a degree of systemic disturbance not conformable with a tympanic or mastoid inflammation, we should be apprehensive of some form of infective intracranial invasion. If subsequently there were one or more chills, associated with high temperature and undue exhaustion, this suspicion should be converted into a positive conviction. The accession then of repeated chills of varying degree of intensity, from a sensation of chilliness only to a severe and protracted rigor, associated with rapid and excessive fluctuations of temperature, profuse and colliquative perspiration, rapid pulse and respiration, and great prostration, gave such a faithful portrayal of the salient features of infective sinus thrombosis that the existence of almost any of the local signs, if at all pronounced, would be accepted as absolute confirmation by even the most skeptical and exacting of medical attendants. The appearance of the local symptoms might be anticipated in their chronological order as follows: tenderness of the superior portion of the posterior cervical triangle, occipital œdema, neuroretinitis; tenderness along the course of the internal jugular vein, most marked and earliest elicited close beneath the angle of the jaw. In addition, there would usually be present œdema of the eyelids, turgescence of the external jugular vein of the opposite side, upon pressure, and a cord-like delineation of the internal jugular of the corresponding side, due to purulent phlebitis. The speaker expressed the belief that the percentage of mortality in sinus thrombosis was materially higher than the rate commonly attributed to it, for the reason that the temptation to suppress operative failures was of similar import and equal weight with the inducements to publish operative successes. To Zufal, above all others, was credit due for having initiated the steps which, with modifications as to detail only, were still followed in our attempts to relieve sinus thrombosis. It had been his prophetic utterance which had proclaimed the possibility of preserving life under conditions which had long been regarded as necessarily fatal.

**A Case of Brain and Metastatic Abscesses following Suppurative Otitis Media.**—Dr. Milton Greene, of Grand Rapids, reported this case, which had originated in a tonsillitis. Five weeks after a mastoid operation the brain abscess had been operated upon, by cutting through half an inch of brain tissue. Three ounces of fetid pus had been removed. The mediastinal and other abscesses had entirely healed before the brain abscess had been operated upon. There was a history of gonorrhœa, but no cocci were found. The man's improvement had been rapid, and his mind had become clear. Some weeks later a general cerebritis had caused his death.

**Four Cases of Otitic Cerebellar Abscess.**—Dr. B. Alexander Randall, of Philadelphia, reported these cases. In the first one an operation for mastoiditis had been followed by pleural empyema and death, and the autopsy had revealed an amazing destruction of both lungs and a cerebellar abscess the size of a pigeon's egg. Intact bone was present in all deeper directions about the mastoid. The second one was also a case in which a mastoiditis operation had been required. The back wall had been entirely lost, and the mastoid converted into one large cavity. The sigmoid sinus had been bare for one inch. Two square inches of the dura had been laid bare, and solid and apparently healthy bone reached. Two weeks later an abscess had formed at the clavicle. This had healed, but the woman's pulse had been 76 and her temperature 98° F. An operation for cerebellar abscess had been done, and during this, as a result of tearing the large mastoid emissary, there had been a profuse hemorrhage. She had died subsequently. In the third case a mastoid operation had been done, and subsequently an abscess cavity had been found in the cerebellum. This patient had recovered. In the fourth case a mastoid operation had been done. An exploratory operation had failed to reveal pus, but death had ensued, and the autopsy had revealed an abscess occupying nearly the entire right lobe. These cases were presented to illustrate the difficulties of diagnosis in cases of intracranial abscess, especially when located in the cerebellum.

**Fractured Base with Deafness, Tinnitus, Vertigo, Exophthalmos, Facial Paralysis, Mastoiditis; Operation and Recovery.**—Dr. J. A. Stucky, of Lexington, Ky., read the report of this case. After an injury the patient had been seen by him. There had been complete paralysis of the right side of the face, with the symptoms as stated in the title. A Stacke-Schwartze operation had been performed.

**Enzyme in the Treatment of Nasal Polypi; Angioma of the Nose and Chronic Otitis.**—Dr. T. R. Chambers, of Jersey City, read a paper with this title. The proteolytic enzyme which he had used in the treatment of the conditions stated in the title had been prepared by direct extraction from the peptic glands of the fresh pig's stomach, slightly acidulated. When diluted with an equal quantity of water it contained about the same percentage of hydrochloric acid as the normal gastric juice.

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*Third Day—Thursday, June 8th.*

**Dangerous Complications of Acute Purulent Otitis Media.**—Dr. S. E. Allen, of Cincinnati, read this paper. He said that acute otitis media was caused by germ infection reaching the tympanic cavity by way of the Eustachian tube. The serious complications were due to a peculiar deep-seated germ activity. The general rule was, that cases whose symptoms were the most insignificant at first were the ones that gave rise to the greatest trouble eventually.

**Hypertrophy of the Turbinated Bodies, and Their Relation to Naso-Pharyngeal and Middle-Ear Inflammations; with Deductions Based upon Fifteen Hundred Operations.**—Dr. Christian R. Holmes, of Cincinnati, read a paper with this title, and illustrated it by microscopic slides and the use of the projection microscope. Instead of uncapping the middle turbinate, the author removed the entire bone and covering with especially devised scissors. The inferior turbinate was sawed into with a very narrow saw. The first incision was from below upward, and then from within outward. Where the tissue was redundant the dependent portion was removed after the saw had been withdrawn. The object was to produce a bony cicatrix. The instruments were shown, and the manner of operating illustrated on the cadaver. The writer's results had always been satisfactory. Cocaine anæsthesia and absolute rest were sufficient to prevent hemorrhage.

**The Anatomical Variations of the Nasal Chamber and Associated Parts.**—Dr. M. H. Cryer, of Philadelphia, read this paper. He said that variations were so common that it could not be exactly said which constituted the typical normal anatomy and which the variations. Occupation would modify the general shape and character of the face and head, especially in youth. Climate and its consequent environment had an influence on the shape of the head. One side of the head was generally found to be different from the other. The paper was illustrated by

stereopticon views, and many slides were presented showing that many skulls had five meatuses, although it had been hitherto stated that there were but four.

**Headaches of Nasal Origin.**—Dr. Carolus M. Cobb, of Lynn, read this paper. The speaker briefly alluded to some intranasal affections that caused headaches, and concluded that an examination of a patient suffering from headache was not complete unless the condition of the nasal cavities has been inquired into. He had used for some time a method suggested by Dr. H. B. Chandler, of Boston, to determine whether or not asthenopic symptoms were due to nasal disease. The diagnosis was made by watching the action of the pupil while under the influence of concentrated light. If the pupil contracted quickly when illuminated in this way and as quickly dilated again, the asthenopia was caused by intranasal disease. The intranasal diseases which were associated with this pupillary reaction were almost invariably an inflammatory condition of the middle turbinate body, and chronic rhinitis, which was produced by systemic conditions, such as uricacidæmia and some other forms of auto-intoxication. The asthenopia might be exaggerated by the nasal disease even when errors of refraction existed.

**Sarcoma of the Nasal Passages.**—Dr. H. V. Wurdeman, of Milwaukee, read this paper. He presented a brief report of a case in which numerous growths had been removed and their bases cauterized. These had been examined and shown to be small round-celled sarcoma. There had been no recurrence since 1891. Aside from the pathological interest of this case, the fact of permanent recovery from nasal sarcoma was of considerable import, showing that these cases might sometimes be cured if radical removal of the growths was done sufficiently early.

**Adeno-Sarcoma of the Nasal Septum.**—Dr. A. R. Baker, of Cleveland, read a paper with this title. The first tumor had been, and had been alleged to be, benign, while the second one had been malignant. Rouge's operation had been performed, and there had been no recurrence in fourteen months.

**The Treatment of Naso-Pharyngeal Adenoids.**—Dr. Louis J. Lautenbach, of Philadelphia, read a paper on this subject. He used his own or the steel finger-nail to remove the growths. This procedure was repeated two days thereafter; then every three or four days until the patient was well. Ether he considered too dangerous, and the treatment following ether he looked upon as inhuman.

His views were combated by Drs. Theisen, Quinlan, and Mayer, the latter stating that he never used the finger-nail, even for diagnosis.

**Report of a Case of Echinococcus Cyst of the Nose.**—Dr. W. K. Rogers, of Columbus, reported this case.

**Specimens Demonstrating the Accessory Cavities, and Their Relation to the Nasopharyngeal Passages.**—Dr. Christian R. Holmes, of Cincinnati, exhibited these specimens.

**Officers Elected.**—*Chairman*, Dr. Christian R. Holmes, of Cincinnati; *Secretary*, Dr. J. A. Stucky, of Lexington, Ky.

**Hot Sand in Therapeutics.**—The chief indications for the employment of these baths are: To diminish dropsical conditions, whether dependent on heart, liver, or kidneys; in the absorption of pleural exudates; in the treatment of chronic arthritic troubles, especially arthritis chronica deformans, in which the severe pains are greatly lessened, frequently the exudates are so far removed that the mobility of the joints may be greatly increased. Excellent results have been obtained in sciatica as well as in acute and chronic articular rheumatism.—Grawitz.

## Correspondence.

### OUR LONDON LETTER.

(From our Special Correspondent.)

GREAT HOSPITAL BAZAAR—COLLEGE CHARTER—KALA-AZAR—PROGNOSIS OF PERICARDITIS—PROFESSOR OSLER—PATHOLOGY—ROYAL SOCIETY—MOSQUITOES—MIDWIVES BILL—SUNDAY FUND—SMALLPOX—CANCER SOCIETY—PROFESSOR SCHAFER—DUBLIN CHARITIES—DR. FREDERICK J. SMITH ON DIAGNOSIS—THE LATE MR. TAIT'S ASHES.

London, June 23, 1899.

The event of the week has been a splendid bazaar on behalf of the Charing Cross Hospital, held at the Albert Hall, which was fitted up for the occasion regardless of cost. All the aristocracy and plutocracy seem to have combined to make this the most notable function of the fashionable season. The stalls were fitted up to represent various nationalities and their characteristic products. Some of the things brought over from various countries have never been on sale here before, and some perhaps never before seen here. Need I say that one of the finest stalls was the American? It was also one of the most popular. There was also an American bar, at which a great deal of money was spent on fluids with peculiar names, and on the nature of which no questions were asked. A *café chantant* was carried on at this point, after five P.M. Mrs. MacKay, Mrs. Brown-Potter, and Lord Yarmouth were largely responsible for the American arrangements, and to their efforts much of the success was due. A souvenir, edited by Mr. Beerbohm Tree, and to which a wonderful array of literary and artistic celebrities contributed, will add largely to the proceeds. If society must be thus amused and excited, it is well that the profits of the entertainment should go to the support of our hospitals.

The Society of Members of the College of Surgeons is making an appeal for justice at the hands of the Council, on the occasion of the application for an additional charter in celebration of the college centenary. As I have several times remarked, the thousands of members have no part nor lot in the management of their college. Yet the Council is in reality trustee for the members, in whom the property was vested by the original charter of 1800. The fellows, who number 1,195 against 17,199 members, elect the Council. The members have long asked that they should elect a certain number of councillors, but jealousy has prevented the least modicum of justice. It is suggested that it would be a gracious act on the part of the Council to embody some compliance with the members' wishes in the new charter they propose to apply for. I scarcely expect that this appeal will be complied with. A more effectual method would perhaps be for the members to oppose by every legal method the issue of a new charter, which did not recognize their right to representation in the governing body of their own college.

There were two papers at the last meeting of the Medico-Chirurgical Society, but neither of them excited any discussion. The first was by Dr. Leonard Rogers on kala-azar, the epidemic fever of Assam. Dr. Rogers submitted a paper on this subject last year, in which he maintained that the disease is really a severe malarial fever which after a succession of unhealthy seasons has attained a certain degree of communicability. In accordance with this view Dr. Rogers made the following recommendations, which were carried out with considerable success: (1) Newly imported coolies to be placed in fresh lines and not allowed to communicate with old infected ones; (2)

in slightly infected lines all infected persons with their households to be moved into separate segregation lines and the huts they have used to be burnt; (3) in badly infected lines all the healthy to be moved during the dry, cold-weather months when infection is at the lowest, and placed in new lines, infected persons and their households to be segregated and the infected line abandoned. These measures have been adopted in various infected tea-gardens in Assam, and the disease, which was formerly fatal in seventy to ninety per cent. of those attacked, is now regarded as controllable.

The other paper was on "The Remote Prognosis of Pericarditis," by Dr. J. H. Sequeira, and was founded on the recent work of Barnard and Leonard Hill, which showed that the pericardium is a support to the heart during muscular exertion. From this Dr. Sequeira suggested that the remote prognosis required reconsideration, as a softened, dilated pericardium would cease to give the support and the heart might dilate and fail. On the other hand, if the pericardium became dilated and adherent to the chest wall it would lead to failure of compensation, but if the sac was not dilated adhesions would be of little importance. Dr. Sequeira had traced the after-history of one hundred and thirty cases of acute pericarditis, one hundred of which he had personally examined, many at frequent intervals. They support his conclusion that the amount of dilatation of the pericardium affects the remote prognosis of acute pericarditis, and that whatever augments the labor of a heart working in a dilated pericardium tends to impair the power of compensation.

Professor Osler has been here and delivered the Cavendish lecture for the West London Medico-Chirurgical Society. He took for his subject "Cerebro-Spinal Meningitis," and more than two hundred were assembled to hear him. Dr. Halsted was also over here and present at the lecture of his colleague. The disease is rather rare here, and as the professor has seen a fair share of it in Baltimore, you may judge that he was listened to with an interest in his clinical experience as well as for the sake of his position and personality. After the lecture there was a conversazione. Music, smoking, and light refreshments were not wanting, and a very long evening was generally declared to be as successful as it was interesting.

Oxford is likely to have a first-class pathological laboratory at an early date. An anonymous donor has offered £5,000 toward the expense, provided the matter is taken up at once. The buildings required will cost about double, and the first steps toward providing the necessary funds have been passed, and it is expected that little if any opposition will be offered in the other stages.

Birmingham, also, is promoting pathological study. A new laboratory is being built in connection with Mason College, and Dr. R. F. C. Leith, of Edinburgh, has been elected to the professorship.

The "ladies' night" at the Royal Society naturally attracts a brilliant assemblage, and the conversazione on Wednesday was as successful as could be desired. The exhibits were extremely interesting. Among them was Davidson's apparatus for showing Roentgen-ray pictures in stereoscopic relief. Dr. Manson showed malarial parasites, and near his preparations was a collection of mosquitoes lately arrived at the Natural History Museum. Pathogenic bacteria and many other objects were also on show.

The Liverpool School of Tropical Medicine is sending an expedition to Sierra Leone under the leadership of Major Ronald Ross, to study the mosquito in relation to malaria.

Exit the midwives bill, and we shall at least be delivered from its obnoxious shadow for another year at least.

The amounts reported as received by the Hospital Sunday Fund up to yesterday exceeded £35,000.

A death from smallpox has been reported, the first during the half-year. Last year there was only one death from this disease in London. And yet there are antivaccination maniacs among us!

A cancer society has been established to promote the increase of knowledge respecting this disease, to found a special research library, and to urge a parliamentary inquiry. The last object is not likely to succeed in a hurry, and perhaps the promoters had better direct their first efforts to the establishment of the laboratory.

Professor Schafer, F.R.S., succeeds to the late Professor Rutherford's chair in the University of Edinburgh.

Dublin charities benefit to the amount of about £100,000 under the will of the late James Weir.

Dr. Frederick J. Smith, of the London Hospital, will shortly produce a work on diagnosis.

The remains of the late Mr. Lawson Tait were cremated and the ashes placed in the Gogarth Cave in accordance with his wish.

## Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending July 8, 1899:

| | Cases. | Deaths. |
|---|---|---|
| Tuberculosis | 98 | 140 |
| Typhoid fever | 16 | 10 |
| Scarlet fever | 125 | 7 |
| Measles | 216 | 13 |
| Diphtheria | 191 | 42 |
| Laryngeal diphtheria (croup) | 10 | 6 |
| Cerebro-spinal meningitis | 0 | 4 |
| Chicken-pox | 12 | 0 |
| Smallpox | 3 | 1 |

**Blood-Letting.**—Among the Ashburnham manuscripts which will shortly be brought under the hammer in London is a collection of medical tracts in verse and prose, recipes, etc., of the fourteenth and sixteenth centuries, containing some extremely curious things. A treatise on blood-letting commences thus:

> "Maystris that vithyth blode letying
> And that wyth geteth your levying
> Here ye may lere wysdom ful gode
> In what place ye schulle let blode."

—*London Times.*

**The Evil of Continued Mental Anxiety.**—Some years ago I collected the statistics regarding the lives of stockbrokers in a certain city, and was surprised to find that nearly every person who lived a sober life and continuously studied the ups and downs of the money market failed either mentally or physically in a short time—less than a dozen years—ultimately disappearing from active life. On the other hand, the men who were operators of great skill and coolness, and who lived regularly most of the time, but occasionally gave way to the drink habit and disappeared several days at a time on account of helpless drunkenness, lived longer and had fewer mental disorders. This, of course, cannot be construed into an argument in favor of drinking even occasionally, but was to my mind a very strong indication of the benefit coming from the occasional complete relaxation from intense mental anxiety. Frequent vacations passed in the

woods, or at the seaside, without social duties, and where temporarily men could resort as nearly as possible to primitive life, even for short periods, would, I am convinced, be much better Protracted anxiety without rest breaks more men than does hard intellectual effort.—"System of Practical Medicine," vol. iv., p. 784.

**Birth Rate in Europe.**—Signor Bodis, a well-known Italian statistician, has published tables showing the order in which the countries of Europe are classed in decreasing series according to their mean birth rate: 1, Russia in Europe; 2, Hungary; 3, Servia; 4, Roumania; 5, Austria; 6, German Empire; 7, Italy; 8, Spain; 9, Finland; 10, Portugal; 11, Holland; 12, England and Wales; 13, Scotland; 14, Denmark; 15, Norway; 16, Belgium; 17, Sweden; 18, Switzerland; 19, Greece; 20, France; 21, Ireland. It will thus be observed that Russia has the largest percentages of births and France and Ireland have the smallest.

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ending July 8, 1899:

SMALLPOX—UNITED STATES.

| | | Cases. | Deaths. |
|---|---|---|---|
| Georgia, Savannah | June 18th | 5 | |
| Illinois, Chicago | June 24th to 30th | 2 | |
| Indiana, Evansville | June 24th to July 1st | 6 | |
| Kentucky, Louisville | June 24th to 30th | 4 | |
| Louisiana, New Orleans | June 24th to July 1st | 2 | 1 |
| Shreveport | June 24th to July 1st | 1 | |
| Massachusetts, Boston | June 30th to July 1st | 2 | 1 |
| Fall River | June 27th | 1 | |
| New York, New York | June 24th to July 1st | 7 | |
| North Carolina, Charlotte | June 24th to July 1st | 2 | |
| Ohio, Cincinnati | June 23d to 30th | 1 | |
| Cleveland | June 24th to July 1st | 1 | |
| Oregon, Portland | June 29th to date | 4 | |
| Pennsylvania, Allegheny County | June 3d to 26th | 11 | |
| Belle Vernon | June 3d to 26th | 1 | |
| Brownsville Township | June 3d to 26th | 34 | |
| Cambria County | June 3d to 26th | 22 | |
| Clearfield County | June 3d to 26th | 1 | |
| Fayette County | June 3d to 26th | 10 | |
| Jefferson County | June 3d to 26th | 5 | |
| Philadelphia | June 3d to 26th | 40 | |
| Somerset County | June 3d to 26th | 9 | |
| Washington County | June 3d to 26th | 11 | |
| Westmoreland County | June 3d to 26th | 1 * | |
| Virginia, Norfolk | July 2d | 1 † | |
| Washington, Wallawalla | June 29th | 8 | |
| West Virginia, Benwood | July 1st | 1 | |

* At Penn Station several. † To date 8.25.

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Belgium, Antwerp | June 10th to 17th | 3 | 1 |
| Brazil, Bahia | June 10th to 17th | 1 | |
| Rio de Janeiro | May 13th to 26th | .. | 16 |
| China, Hong Kong | May 16th to 27th | 5 | 2 |
| Cuba, Havana | June 20th | .. | 1 |
| England, Liverpool | June 10th to 17th | .. | 1 |
| London | June 14th to 17th | 1 | |
| Gibraltar | June 3d to 11th | 1 | |
| Greece, Athens | June 10th to 17th | 22 | 7 |
| India, Bombay | May 27th to June 6th | .. | 4 |
| Calcutta | May 13th to 27th | .. | 1 |
| Mexico, Mexico City | June 3d to 25th | 25 | 18 |
| Russia, Moscow | June 3d to 10th | 11 | 11 |
| Odessa | June 14th to 17th | 7 | 1 |
| St. Petersburg | June 3d to 17th | 28 | 12 |
| Warsaw | June 3d to 10th | .. | 1 |
| Scotland, Glasgow | June 10th to 17th | .. | 1 |
| Straits Settlements, Singapore | April 1st to 30th | .. | 13 |
| Turkey, Smyrna | June 11th to 18th | .. | 2 |

YELLOW FEVER.

| | | | |
|---|---|---|---|
| Africa, Grand Bassa, Ivory Coast, | Reported present. | | |
| Brazil, Bahia | June 3d to 17th | 70 | 26 |
| Rio de Janeiro | May 10th to 26th | .. | 10 |
| Colombia, Panama | June 10th to 23d | 8 | 3 |
| Cuba, Havana | June 15th | 6 | 1 |
| Matanzas | June 17th to 24th | 1 * | |
| Santiago | July 3d | 100 | 20 † |
| Mexico, Cordoba | June 21st | 23 | 14 |
| Merida | July 1st | 1 | |
| Mexico | June 3d to 25th | .. | 2 |
| Vera Cruz | June 22d to 29th | .. | 35 |
| San Salvador, San Salvador | June 30th | Present. | |

* Doubtful. † Principally among troops.

CHOLERA.

| | | | |
|---|---|---|---|
| India, Calcutta | May 13th to 27th | .. | 46 |
| Kurrachee | May 10th to 17th | 29 | |

PLAGUE.

| | | | |
|---|---|---|---|
| China, Hong Kong | May 6th to 27th | 319 | 203 |
| Egypt, Alexandria | June 16th to date | 32 | 10 |
| India, Bombay | May 30th to June 6th | .. | 66 |
| Calcutta | May 13th to 27th | .. | 64 |
| Kurrachee | May 14th to 18th | 50 | |
| Mauritius | May 4th to 22d | .. | 5 |

On Japanese steamship *Nippon Maru*, from Hong Kong and Japanese ports, for San Francisco, May 26th, 1 death.

**Purulent Otitis Media.**—When the tympanic cavity has become the seat of chronic suppuration, with ulceration of the mucous membrane extending into the antrum and mastoid cells, it becomes a standing menace to the safety of the patient. The disease progresses insidiously, and one cannot be certain as to where or when it may end. A person might as well have a charge of dynamite in the mastoid antrum or cells, as one cannot know the moment when accidental circumstances may arise which may cause the infective matter to become widely disseminated all over the cerebro-spinal system. Chronic otorrhea is much too lightly regarded, and is frequently considered as a mere inconvenience instead of a menace to life.—MACEWEN.

**Cremation Increasing.**—According to statements made at a recent meeting of the Cremation Society, Sir Henry Thompson presiding, there would appear to be a steady and marked advance in this method of disposal of the dead. From the following figures the progress made at Woking alone may be seen: 1885, 3 cremations; 1886, 10; 1887, 13; 1888, 28; 1889, 46; 1890, 54; 1891, 99; 1892, 104; 1893, 101; 1894, 125; 1895, 150; 1896, 137; 1897, 173; 1898, 240. The cost still remains prohibitive, being, it is believed, from $50 to $75 at Woking. A number of towns are applying for power to erect crematoria, and the movement seems well under way.—*Medical Magazine.*

## Books Received.

*While the* MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

THE TWELVE TISSUE REMEDIES OF SCHUSSLER. By Dr. W. Boericke and Dr. W. A. Dewey. Fourth edition. 8vo, 424 pages. Boericke & Tafel, Philadelphia.

A MANUAL OF SURGICAL TREATMENT. By W. W. Cheyne, M.B., and Dr. F. F. Burghard. Vol. I. Royal 8vo, 285 pages. Illustrated. Lea Brothers & Co., Philadelphia.

PROGRESSIVE MEDICINE. Edited by Dr. H. A. Hare. Vol. II. Royal 8vo, 468 pages. Illustrated. Lea Brothers & Co., Philadelphia.

FRACTURES AND DISLOCATIONS. By Dr. H. Helferich. Translated from the third edition by J. Hutchinson, Jr., F.R.C.S. 8vo, 130 pages. William Wood & Co., New York. Price, $3.00, net.

CLASS BOOK OF PRACTICAL PHYSIOLOGY. By Dr. De Burgh Birch. 12mo, 273 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia. Price, $1.75.

HAY-FEVER AND ITS SUCCESSFUL TREATMENT. By Dr. W. C. Hollopeter. Second edition. 12mo, 151 pages. P. Blakiston's Son & Co., Philadelphia. Price, $1.00.

SHALL WE DRINK WINE? By Dr. John Madden. 8vo, 220 pages. Published by the author.

STONE, PROSTATE, AND OTHER URINARY DISORDERS. By Dr. R. Harrison, F.R.C.S. 8vo 190 pages. Illustrated. J. and A. Churchill, London.

HYGIENE OF THE MOUTH. By R. D. Pedley, F.R.C.S. Edin. 8vo, 93 pages. Illustrated. J. P. Segg & Co., London. Price, 2s. 6d.

SURGICAL SHOCK. By Dr. G. W. Crile. Royal 8vo, 160 pages. Illustrated. J. B. Lippincott Company, Philadelphia. Price, $2.50.

MANUAL OF BACTERIOLOGY. By Drs. R. Muir and J. Ritchie. Second edition. 8vo, 564 pages. Illustrated. The Macmillan Company, New York. Price, $3.25.

PRACTICAL DIAGNOSIS. By Dr. H. A. Hare. Fourth edition. Royal 8vo, 631 pages. Illustrated. Lea Brothers & Co., Philadelphia.

TRAITÉ DE MÉDECINE. Par. MM. Charcot, Bouchard, et Brissaud. Deuxième edition. 10 vols. Vols. 1 and 2, 845 pages, 890 pages. Masson et Cie., Paris.

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 56, No. 4.
Whole No. 1498.

NEW YORK, JULY 22, 1899.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### LIQUID AIR; ITS APPLICATION IN MEDICINE AND SURGERY.[1]

BY A. CAMPBELL WHITE, M.D.,

NEW YORK.

LIQUID air is a substance which is to-day attracting the attention and interest of scientists all over the world. The subject occupies in the scientific and popular journals the space and attention only a short time ago devoted to the wonders of electricity. As the study of the toxins and antitoxins hold our attention to-day in medicine, giving to us such promise of success in the treatment of those diseases over which heretofore we have had so little control, so in the scientific world Prof. Charles E. Tripler seems, in the making of liquid air in large quantities and at small expense, to have solved a problem which opens up a new field destined possibly to revolutionize motive power and refrigerative processes. Has Professor Tripler also opened up a new field in medicine or given to us a therapeutic measure of any appreciable value?

For some years past Professor Tripler has urged with considerable persistency that such is the case, and that we have no right to judge of the efficacy of liquid air from the results we have obtained by the use of cold as heretofore employed in therapeutics. "The cold you doctors have made use of," he says, "is hot compared with air at 312° F. below zero."

Here and there during the past year or two liquid air supplied by Professor Tripler has been used by different physicians on several manifestations of disease, more particularly carcinomata. The result has been glowing accounts of its power to abort and cure even malignant disease.

Some months ago I determined to give liquid air a fair and systematic trial, and was generously assisted in doing so by Dr. Thurston G. Lusk and his associates at the Roosevelt out-patient department and by Prof. George M. Fox and his assistants at the Vanderbilt clinic. Professor Tripler has willingly supplied us twice a week with all the liquid air we could use. He has always had it ready for us at the time appointed, so that our course of treatment has not been spasmodic, but pursued regularly every three days when indicated.

As to the cost of liquid air made by the Tripler process, a gallon does not cost anywhere near so much as a gallon of mineral water retails for on the market to-day. Its temperature is 312° F. below zero. It contains nitrogen and oxygen, with a variable quantity of carbon dioxide. The proportion of nitrogen and oxygen is about three parts of the former to one of the latter by weight and about four to one by measure. It contains no hydrogen, as hydrogen is not liquefied at the temperature of liquid air. It is a somewhat opal-colored fluid, and when filtered (as it can be by use of ordinary filter paper) it resembles in color the atmosphere as seen in the distance on a clear day. Viewed in any ordinary receptacle, the fluid is boiling, giving off a white vapor which rapidly disappears, the vapor falling toward the ground because it is so cold; the hand can be put into the liquid without injury, if it is immediately withdrawn. The liquid feels dry and cold and leaves no moisture on the hand. When applied to the hand, on account of its extreme coldness, it gives a sensation of burning or tingling, similar to that experienced when the faradic current is applied. When a cup of liquid air is thrown upon the floor it behaves just as a cup of water would do if thrown on a very hot stove; it makes the same explosive noise and rapidly disappears in vapor, leaving no moisture or evidence behind. The floor, of course, or any article in the room, is some 400° F. hotter than the liquid air. Liquid air is not an explosive unless hermetically sealed. It can be put in a bottle or ordinary milk can providing there is a small hole in the stopper or cover. When put into such a receptacle it boils very rapidly until the temperature of the bottle or can has been reduced, so that it is covered thickly with frost and so cold that it could not be touched with the hand without causing frostbite.

If a lighted match is dropped into the liquid immediately after the latter has been poured into a glass, the light will be extinguished. Nitrogen evaporates much more quickly than oxygen, so that after a short time the liquid becomes very rich in oxygen, and if a lighted match should then be dropped into it, it would burn brilliantly, and combustion would be perfect; a lighted cigarette would blaze and be completely burned if dropped into it; even steel is melted in the same way if brought to a white heat before exposing it to the liquid.

Liquid air will transform any liquid or ether to the solid state. It will freeze alcohol solid, when the alcohol will explode violently if ignited.

Professor Tripler fills a tin dipper with liquid air and after a minute or two picks up the dipper and crushes it into many fragments between his hands. Absorbent cotton soaked in liquid air and ignited acts like gun-cotton; this is due to the cotton being so rich in oxygen. Liquid air is transported in a can within a larger can, the intervening space being filled in with hair felt.

Heat destroys all forms of germ life at a temperature of 160° F. Up to this time we have been unable to tell the effect such extreme cold would have on the bacteria. Through the courtesy of Dr. William T. Jenkins, commissioner of health, the privileges of the hospital laboratory of the department of health were given to me to test the effects of liquid air on germ life, and with Dr. Parks' assistance we tested the effects on typhoid, anthrax, and diphtheria bacilli. In order first to test

[1] Experiments with liquid air seem to be universally fascinating, and many of them are equally dangerous; so for this reason Professor Tripler is not inclined, for the present at least, to assume the responsibility of furnishing liquid air promiscuously to the profession. It is quite possible in the near future that a place will be arranged with all the facilities for the administration of liquid air, so that physicians can take their patients to it as they would to a private hospital, and conveniently apply the treatment. I intend to continue the use of liquid air throughout the summer at Dr. Fox's clinic, where any physician who has some dispensary patient, upon whom he would like to have the liquid air tried, can take him for treatment.

the effect of extreme cold on these germs without bringing them in direct contact with the liquid, we put into a number of capillary tubes pure cultures of virulent anthrax, diphtheria, and typhoid bacilli. These capillary tubes were marked for identification, sealed at both ends, and dropped into a glass of liquid air. The liquid was renewed at intervals, so that the tubes were at all times completely submerged. Some were removed in thirty minutes, others in forty-five minutes, sixty minutes, and ninety minutes. After they were removed from the liquid and the sealed ends were broken, they were dropped into separate culture tubes containing fresh sterilized bouillon, and these in turn marked for identification. These bouillon tubes were placed in incubators kept at a temperature of 38° C., where they remained for over forty-eight hours, when they were all examined and found to contain pure cultures of anthrax, typhoid, and diphtheria bacilli according as they had been inoculated. In order to test whether liquid air itself in addition to its temperature would have any effect on germ life, a culture medium containing numerous colonies of anthrax bacilli was dropped into a glass of liquid air and allowed to remain over an hour. When removed, a fresh sterile culture medium was inoculated with the one exposed to liquid air and placed in the incubator as before. The same result was obtained as when the capillary tubes were exposed.

Dr. J. H. Huddleston tried the effect of liquid air on vaccine virus, and found that fifteen minutes' or less exposure to the liquid air had no effect whatever on the power of the virus to produce vaccination. Longer exposures to liquid air are now being tried.

About three-quarters of the ear of a rabbit was completely frozen by placing it in liquid air for some minutes. The ear was frozen so stiff that a small piece of the tip was broken off with the fingers without pain or hemorrhage. In less than ten minutes' time the circulation was entirely re-established with hemorrhage at the point where the piece had been broken off; the frozen part had regained its normal temperature (possibly a little higher) and color. The ear remained perfectly normal for about five days, when it began to swell somewhat, and by the end of two weeks about one-half of the frozen part had shrivelled and dropped off. The remainder of the ear regained its normal condition.

In applying the liquid air to the tissues of the human body, I have used it in the form of a spray and by means of a swab dipped into the fluid. If a spray of liquid air is applied to the skin, the part to which it is applied at once becomes anæmic and perfectly white or colorless. If the spray is applied for only a few seconds, the color as quickly comes back, and the skin is congested for some minutes afterward. Within much less than a minute's time, by means of the spray the part is frozen as hard as ice; but even if it is frozen as hard as this, the circulation returns in a few minutes without any injury to the tissues, providing the part is not the end of some extremity, such as the finger tip, in which case I would fear loss of tissue, as in the case of the rabbit's ear. There is no pain in the application, excepting at the very beginning, when there is a slight burning or tingling. It also completely anæsthetizes the part to which it is applied, without freezing it solid. I have tried the liquid air in a number of cases as a local anæsthetic with invariable success; and another important advantage it has here is the absence of hemorrhage during the operation, enabling the operator to apply the dressing before any hemorrhage sets in, the dressing then being sufficient to stop any oozing. An infected bursitis over the olecranon was anæsthetized, incised, cleaned out thoroughly, and dressed without pain or hemorrhage. When the dressing was removed, some days afterward, the edges of the wound were found clean and the cavity itself was free from pus. The repair was more rapid if anything than would naturally have been expected. Another case was that of a boy who had a blank-cartridge wound in the palm of his hand. The boy was extremely nervous, but it was deemed necessary to make an incision and examine for a foreign body. The liquid air was applied too freely in this case, so that when an incision was attempted it was found that it was as impossible to incise the hand with the scalpel as it would have been to cut a cake of ice. After waiting about thirty seconds the operation was satisfactorily performed without pain or hemorrhage and with no further application of liquid air. When the boy returned in a few days, the wound was in a perfect condition, there being no loss of tissue, and he continued to do well until recovery. In using liquid air as a local anæsthetic I believe it better to apply it intermittently while the operator is working than to try to freeze the part so that it will remain senseless for any length of time. This intermittent use of the spray would not be necessary when a simple incision was required, as in the case of opening an abscess.

I first began the use of liquid air in the local treatment of ulcers of the leg, chiefly varicose, many chancroids, and some specific ulcers. So many of these cases have now been treated with liquid air, that it can be said with positiveness that we have nothing at our disposal to-day which will so quickly, thoroughly, and with as little pain clear up the edges and stimulate the surface of an ulcer to granulations as liquid air does when properly applied. The application should not be made so frequently as to break down the new granulations as they form. After the first two applications to a varicose ulcer, one application a week is usually sufficient. To a chancroid or mixed sore, one application pretty generously applied is sufficient. A "beefsteak" chancre requires two or three applications, three or four days apart. All ulcerations treated with liquid air seem to do better when followed by a dry dressing, such as aristol, subgallate of bismuth, or stearate of zinc, instead of any unguent.

An abscess, boil, carbuncle, or bubo in the early stage is aborted absolutely with one thorough freezing. If it is more advanced, several applications at intervals of twenty-four hours are necessary. Whenever pus has formed in large quantity it is advisable to anæsthetize with liquid air, incise, and evacuate. In cases of bubo and carbuncle well advanced, it is unnecessary to curette if the liquid air is applied generously to the base of the abscess after incision. In all these cases the pain is instantly relieved after the application of liquid air. No sloughing follows excepting in the case of fairly well-advanced carbuncles and in some of the abscesses when the overlying skin has become devitalized from tension and inflammation. In these cases the slough is only superficial, and the ulcer left readily heals.

In a number of cases of sciatica and of herpes zoster, one case of intercostal neuralgia, and one of facial neuralgia, liquid air has been tried. In every one of these cases instant and, so far as we are able to judge at the present time, permanent relief has been obtained by applying the liquid to the spinal end of the affected nerve. In one case of sciatica the air was applied to several points in the course of the nerve. In two cases of herpes zoster (all were situated on the chest wall) the eruption had completely dried up three days after application, and in the other cases about five days was required. In none of these nerve cases was the air applied more than once, and in no case was the application severe enough to cause blistering or sloughing.

Two cases of facial erysipelas were treated, not with a spray or swab, on account of the extent of surface involved, but by rolling a glass bulb filled with liquid air over the tissues involved. The surface temperature, the inflammation, and pain subsided at once; but it was impossible to get any subsequent history of the cases, so that the result of the single treatment is doubtful.[1] I should imagine it would require a number of applications at intervals of several hours to accomplish much good in erysipelas.

An interesting experiment was performed on a case of ivy poisoning involving the entire left forearm and hand. A band around the forearm about three inches wide was slightly frozen with the spray; then the usual treatment was applied to the entire poisoned area, including that part which had been treated with the air. At the next dressing the band was very distinct, and it was well marked only from the fact that the part frozen had improved so much more than the remainder of the forearm and hand, the inflammatory process having subsided. The liquid air was tried on several cases of ringworm with negative results.

The prospects of the use of liquid air in the treatment of lupus is extremely encouraging. One case of lupus erythematosus, involving the frontal region, both ears, and one side of the face, was put under treatment about two months ago. After two treatments the affected areas entirely desquamated, leaving the derma in perfectly healthy condition, slightly red, and no eschar. This was an obstinate case which had been under treatment for a long time, resisting everything that had been done for it. There is no evidence of any tendency to recurrence, and we have every reason to believe the case has resulted in a cure. Two other cases of the same disease, but involving a large area, are under treatment now (only limited areas being treated at a time), and there is evidence in these that the result will be fully as salutary.

As to the treatment of carcinoma with liquid air, I cannot express any positive opinion, on account of lack of experience. I have several cases under the treatment now, and although it is but a short time now since treatment was begun, I am quite hopeful as to the ultimate result. Several cases of epithelioma have been treated with liquid air during the past year by different physicians in and about New York. The result has been glowing accounts of the positive cures which have followed its use in this class of cases. I regret to say that I am unable to confirm or deny these claims, excepting in one instance in which I have strong evidence that an epithelioma of the nose has to all appearances been cured. Of course too short a time has elapsed to exclude any recurrence of the disease, but, even though the tumor should reappear, there is no reason to believe it would not respond to the treatment as readily as in the first instance.

The question is undoubtedly raised at once, Why should liquid air have any effect on carcinomatous tissue, or why should it have any effect other than ordinary extreme cold, in any of the cases previously mentioned in this paper? In answering this question, we must constantly keep in mind the nature of the fluid we are using. It is air, and only differs from ordinary air, that we breathe and live in all the time, in that it is cold. To be sure, it is in the liquid state and obeys all the laws of the fluids, but it is not wet or moist in exactly the same sense that water or other liquid is. Therefore, when we apply liquid air to a part of the body we are bringing into contact with that part pure cold, and nothing else which is not already natural to it. For example, if you apply the liquid air to the skin on which there is a drop of water or perspiration, a blister will result with loss of tissue following; if you picked up a glass which had just contained liquid air, the temperature of which had been reduced to something below 200° F., a greater destruction of tissue will result than if liquid air had been applied to the part for a much longer time than when the fingers were in contact with the glass.

In another part of this article, I mentioned that there were two ways of applying the liquid air—viz., by the spray and by the swab. In all the cases heretofore mentioned the spray has been used, because they were a class of cases in which no loss of tissue was desirable; but when it is desired to remove some tissue, such as a nævus or wart, recognizing and illustrative of the point I have just made, we use the cotton swab dipped in the air and apply it to the part we wish to destroy, and it is needless to say that the desired result is obtained.

All authorities, in speaking of the local influence of cold on the tissues, emphasize the fact that it is long exposure to wet at low temperature, rather than dry cold, which produces frostbite.

I noticed in a recent issue of *The Scientific American*,[1] in an article on "Liquid Air," the following statement: "The suggested employment of liquid air as a caustic in surgical operations is a good example of the absurdities proposed by dishonesty or ignorance in order to impress the public. Even such mild cooling agents as the ether spray have to be used with great care, since there is much danger of causing mortification beyond the tissues intended to be acted upon." The author could have given his subject but little thought, or his experience in the effect of cold on the tissues must have been extremely limited. Of course when we apply the ether spray we do not want mortification to follow even in those parts intended to be acted upon, and experience shows that that is not a result. In one of our old English text-books I find the best answer to this sweeping statement. Erichsen, in describing frostbite, says: "Experience teaches us that the tissues (healthy) may be completely frozen and kept in that state for a minute or more without suffering any injury." Is it not reasonable, considering the pathology of carcinomatous tissue, to suppose that the repeated applications of liquid air to these tumors will arrest the rapid and lawless cell multiplication which is the manner of their growth, and effect a recovery providing no metastasis takes place?

Remembering that there is a difference in temperature between the liquid air at 312° F. below zero, and the human body at 98.6° F. above zero, of over 400° of temperature, it can readily be seen that from no other means that we have to employ could we produce so sudden and extreme a shock to a localized part of the body, without localized destruction of tissues or without some effect on the general system. It takes only a second or two to produce locally the most extreme cold, and but a little more than that time for the part to regain its temperature; thus, by repeating the operation several times at short intervals, great stimulation, which is purely local, is obtained. The involuntary fibres contract, and the blood-vessels contract undoubtedly to the last degree, only to dilate as quickly on the removal of the spray.

The experiments at the laboratory have demonstrated, beyond almost all doubt, that liquid air is not an antiseptic, and that germs can resist a temperature of 312° F. below zero, even though exposed to it for a long time. Further experiments will be made to determine whether there is a limit to the length of

[1] Since writing this article I have seen one of the patients referred to. I find that after making the application as described there was no further pain, and the swelling and inflammation entirely subsided within twenty-four hours. Possibly the same result obtained in the other case, and for that reason the patient did not return

[1] Scientific American Supplement, No. 1,226, July 1, 1899.

exposure they can withstand, and Professor Tripler in a short time purposes to try a more extreme cold or still a lower temperature on germ life, by exposing the bacilli to liquid hydrogen. Knowing that cold inhibits the activity of bacteria for a time, it is more than likely that this result is obtained when the liquid is applied to a local infection, and if the application is repeated with some frequency it will be of great assistance to the body in overcoming their activity, and in this way will really serve the purpose of an antiseptic.

When we consider what liquid air is, and how it acts on the tissues, I believe it will not be difficult to understand why our results have been so universally satisfactory in those cases in which it has been used, and I think there is reason to hope that we have in liquid air a thereapeutic agent which will remove many otherwise obstinate superficial lesions of the body, and cure some lesions which have heretofore resisted all measures of treatment at our disposal, including the knife. I am firmly convinced, with the experience already had with its use, that it is a specific in the treatment of such neurotic lesions as herpes zoster, sciatica, and intercostal and facial neuralgia, affording instant and continued relief after one application over the spinal end of the affected nerve.

The use of liquid air in medicine, *i.e.*, in the pulmonary diseases, in the reduction of fever, etc., opens a large field, one which presents many obstacles at the very start, and possibly much hope for the future. This branch of its usefulness has received no little thought, but thus far slight progress has been made in this direction.

If further use of liquid air continues to demonstrate that it is to be of service to the practitioner, I shall endeavor to present the subject in the fall to one of the societies, when greater experience, a practical demonstration of the method of its use, and a presentation of cases under treatment will bring more forcibly and conclusively the subject of liquid air and its application in medicine and surgery to the attention of the profession.

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## SHOCK IN MODERN SURGERY.[1]

By GEORGE F. SHRADY, M.D.,

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While reading an interesting and practical paper, presented some time ago before this society by Dr. McBurney, on the unnecessarily large mortality after surgical operations, it occurred to me that still another element than that of time selection for such procedures was worthy of grave consideration. Much as we should like to believe to the contrary, a great deal of the mortality rate after operative work is due to surgical shock which might possibly in many cases be prevented. We all know that in a certain percentage of cases this melancholy result is inevitable as being the last and only chance in a desperate venture. The determination on the part of the surgeon to do and dare when the odds are against him is an evidence of the highest order of courage, and should be applauded accordingly. It is not to such instances that any criticism should be directed, but rather to those in which, to a certain degree at least, the outcome is under the immediate control of the surgeon or his assistants. Strangely as it may sound in this day of brilliant surgical triumphs, when nothing, however venturesome, in surgical technique is beyond the sphere of realized demonstration, we are nevertheless inclined to forget some of those fundamental principles in operative work which meant so much to those who have preceded us, long before anæsthesia offered its opportunities or asepsis became the *sine qua non* of our present possibilities. Then it was that everything bent to speed and dispatch in wielding the knife, and the shortest time employed in so doing meant the highest evidence of skill. Now it would appear that with the present immunity from pain on the part of the patient, and the insurance against wound infection on the part of the surgeon, we are swinging to the other extreme of wasting time and prolonging shock by methods which can hardly commend themselves to the careful and conscientious operator. The question as to whether or not the patient is able to survive a long operation has often more to do with the actual time of the ordeal than with any thoroughness which may be brought to bear on its performance. While the thoughtful operator is always weighing such chances in his own mind, the inexperienced worker is easily tempted to trust too much to the staying powers of his subject. The account is then squared by the simple statement that the patient was unable to survive the shock. From the standpoint of inducing shock in most of our modern operations I am quite convinced that the period of etherization is often too much prolonged; that there is too much deliberation in the elaboration of unnecessary details of manipulative manœuvres—the interest in the operation offsetting that in the patient—and, lastly, that the needless elaboration of our present methods of dressing the wounds has frequently a great deal to do with the ultimately prostrated condition of the patient. Much has been written on the subject of anæsthetics in operations, their methods of administration, and their relative merits regarding safety, but there appears in many quarters a strange indifference to the reasonable curtailment of time that the patient should be under their continuous influence. The comparatively few accidents that are directly charged to either of them are so apt to quiet our fears regarding their ultimate effects, especially those connected with increased shock, that the mere period of anæsthesia and the quantity of drug given are generally considered of very small moment.

By many it is believed that any additional shock is impossible so long as the mere pain of an operation is abolished. We must not forget, however, that shock is a composite condition, a jar to the equilibrium of the entire sympathetic system, of which mere pain is oftentimes an insignificant part. It is the extra and peripheral irritation of which the patient is unconscious which is a more or less constantly working factor in determining the retro-active influences of exhausted nervous centres. The insidious influence of this complex condition is too apt to be overlooked in striking the balance of chances for the patient. The question of actual and oftentimes permanent injury is eliminated in proportion to the time he is subjected to such influences. With ether and chloroform we may be satisfied that we save the patient from positive agony, but we are constantly wasting his nervous force of resistance the longer we imagine we secure him against obvious injury. We must not forget that the prolonged administration of an anæsthetic is, independently of the operation, a means of shock in itself. While ether may tend at first to modify shock, its prolonged use adds to the depression of the patient. The same may be said for chloroform. The bodily temperature is lowered if the administration of either continues longer than an hour or hour and a half. Often, especially in chloroform cases, the normal temperature is not restored until the lapse of twenty-four hours. This delayed reaction is in itself an evidence of the serious mischief done to the nervous centres. These changes are often sud-

[1] Read before the Practitioners' Society of New York, April 7, 1899.

den and correspondingly dangerous. Although more frequently seen with chloroform, they occur often enough with the safer anæsthetic, ether, to place us on our guard. In this connection the interesting experiments of Thomson and Kemp on the influence of prolonged etherization on the circulation of the kidney in ultimately arresting the renal secretion are not without their practical lesson. It is often a question also how much the forced method of administering ether, and the necessarily resisting struggles of the patient, may have to do with inviting contributive shock, as compared with the more prudent way of coaxing the patient to take the anæsthetic quietly and thus better save his energies for his coming ordeal.

It is not inconsistent with carefulness that we should do our work more quickly. We should shorten not only the period of anæsthesia, but that of the operation itself. To do whatever is absolutely necessary, and do that as quickly as possible, is the primary consideration. Of two methods of procedure, the one that takes the shortest time should always be preferred. Oftentimes a very few moments will settle the issue one way or another. It is the proper elimination of these apparently trivial points in great operations which should be more seriously considered if we would take the fullest advantage of our present high opportunities. In a grave and prolonged operation it is much safer to divide the work into two periods if possible, rather than strain a point to finish it in one. On the contrary, there should be no encouragement for those surgeons who for mere convenience' sake do three or four different operations on the same patient at one sitting.

The prevention of a great deal of unnecessary shock is often possible by a proper appreciation of the peculiar and ofttimes alarmingly responsive sensitiveness of certain regions of the body. This condition is not only manifested in such particular instances by the amount of ether or chloroform required for profound anæsthesia, but is also evidenced when the particular tissues concerned are severed, torn, or crushed. The cutting of large nerves during an amputation is attended with lowering of the force of the pulse-beat and with depression in animal temperature. Erichsen alludes to the same sinking of the pulse during section of the spermatic cord in castration. Pirogoff, before the days of anæsthesia, saw two men die on the operating-table from shock the instant the thigh bone was sawed through for amputation. It has also been frequently noticed that operations upon the perineal and anal regions are liable to produce shock out of all proportions to the magnitude of the wound. The reasons for this apparent susceptibility are the violent stimulation of sensory peripheral nerves supplying the parts involved in the operation or injury, and their direct connection with the lumbar enlargement of the spinal cord. A similar explanation applies to all other hypersensitive parts of the body. The involvement of the trigeminus nerve in the operation of extirpation of the upper jaw is attended by very severe shock, and not infrequently the rasping of the deeper parts of the resulting excavation and the consequent laceration of the numerous nerve filaments in overzealous and protracted efforts to remove all suspicion of malignant disease, very often settles the question whether or not the patient will ever react. "It is recognized," says Cheever, "that long-continued and large dissections on the front and sides of the neck are especially fatal." In the prolonged exposure and rough handling of the abdominal viscera, and in the brain jar of many of the cranial operations, we have many well-recognized and frequent causes for an unnecessarily increased mortality. In connection with the latter operative procedures it is quite remarkable to notice the different rate of mortality between the earlier and the later cases, which has been largely due to the replacement of chisels and hammers by electric saws and necessarily quicker sections.

If so much can be said in a general way in favor of more time-saving during the operation when varied conditions are usually forced, and when once commenced the work must go to the finish, what can be said in excuse for the deliberate, tedious, and oftentimes fussy dressings that must be completed whether or no before the patient is warmly tucked in his bed? What has been said concerning care, safety, and speed in operation applies with still more force to this first dressing. Very often the matter of sewing up a large wound to escape union by second intention directly invites death by first intention. In regard to asepsis, there is no reason why a wound cannot be as quickly and as safely protected with the simplest coverings as with the piles of gauze and yards and yards of bandage which necessitate the rolling, lifting, and twisting of a helplessly exhausted subject at a time when he should have every advantage of quietude, rest, and warmth.

Whatever explanations we may offer as to the real pathology of shock, we must acknowledge from a clinical point of view that, all other things being equal, those patients who are the shortest time on the operating-table have incomparably better chances for recovery than those who are subjected to the present fashionable details of tediously deliberative technique. Quick reaction follows quick operations. The two hold a proper relation to each other for good. On the contrary, the longer the operation the longer is the reaction delayed. How often do we hear that the patient failed to rally after hours of fruitless stimulation! This is very often unavoidable, but sometimes if the surgeon while at work thought more of his patient than of the operation, the results might be very different.

There is another point also which may deserve passing reference in that connection, and that is the influence of certain positions of the patient in inducing or contributing to shock. The semi-recumbent posture in all prolonged operations is always more or less dangerous in this regard. Sims' position and that of Trendelenburg are also open to similar objections. The latter is particularly bad when the patient is obese and the necessarily heavy abdominal contents crowd by force of gravity on a laboring diaphragm. It is unfortunate also that most of the intestinal and bladder operations, which are often necessarily tedious, require for their easier performance this radical reversal of relations of the different vital organs.

The conclusion of the whole matter would seem to be that we are sacrificing precious time to unnecessary detail. What seems to be requisite now is not so much that we shall operate better, but that we shall do our work quicker. If the present perfection of technique can join issue with greater economy of time, the lesson of the hour will be profitably learned. Ordinarily there is no concern for exhaustion from hemorrhage, as the greatest care is always taken to seize the vessels the instant they are severed, but with nerve injury the effect is not so immediate generally as to force it upon the attention of the operator. The sentinel of pain is asleep, and vital energy retreats unchallenged in the very face of the enemy. If the nerve taps could be counted as easily as the blood jets, we would be correspondingly careful to guard against proportionately damaging results.

The direful effects of prolonged operations are often manifest not only in the appalling suddenness of overwhelming collapse, but in the proportionate length of time that proper reaction is delayed. These are the special dangers against which we must be constantly on our guard. There is apparently no warning of disaster. It is the explosion and ruin all in

one. It is seemingly inexplicable and therefore unexpected. If they do not die outright, these patients seldom rally beyond a certain point. We keep them alive for a few hours, and impliedly regret that the patient should have missed what might have been under other circumstances a splendid chance of ultimate recovery.

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## HÆMOSTASIS IN INTRAPELVIC SURGERY.[1]

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In discussing the subject under consideration I shall not detail the views or experiences of other surgeons, but rather base my remarks upon individual observations in fifty-four of my own cases, and speak in such a plain, practical way that every one within my hearing may so clearly understand the technique, which is, of course, by the abdominal route, as to be able rapidly and skilfully to carry out the various steps either as operator or assistant.

As the title of the paper may seem somewhat ambiguous, it may be well to state that by hæmostasis in intrapelvic surgery is meant the control of operative hemorrhage between the pelvic peritoneum above, and the mucous surfaces of the bladder, vagina, and rectum below. Practically four arteries supply blood to this region, viz., the two ovarian and two uterine; and one or all of these may be divided in intrapelvic operations. The vaginal, the superior vesical, and the superior hemorrhoidal arteries are also liable to injury when pelvic tumors or growths invade the vault of the vagina, or upper segments of the bladder or rectum, so that familiarity with their course and distribution is demanded.

All the pelvic arteries anastomose freely with both those on the same side and their fellows of the opposite side, so that, when divided, hemorrhage does not cease, except in very small branches, unless both ends are controlled. Pozzi has stated that he saw an American surgeon do a hysterectomy without using hæmostat or ligature, as the rapid contraction of the divided arteries practically controlled hemorrhage till the operation was completed, when it is presumed the ligatures were applied. This statement passes my comprehension, yet coming from such authority it must be true. Of course all vessels may be simply clamped during the steps of a hysterectomy, and ligatures applied after the uterus is removed, and I have found it advantageous in some cases to pursue this course. It may be stated, however, without fear of contradiction, that absolute control of hemorrhage is the keynote to successful intrapelvic surgery, and can be obtained only by the skilful and thorough use of the means, which may be summarized as follows, viz.: hæmostatic and traction forceps or clamps of various forms and sizes, ligatures of different materials and various modes of application, suturing, digital and sponge compression, gauze packing, hot water, hydrogen dioxide, and the actual cautery.

Hæmostats of four sizes, the clamp portion ranging from one to two inches in length and being both straight and curved, meet all requirements for clamping, while three sizes of tumor traction forceps, that is, large, intermediate, and small, are all that are needed in that line.

Ligature and suture material should be confined to catgut, tendon, and silk, and of the three catgut meets the greatest number of requirements. Silk, of course, is the strongest, can be made absolutely sterile, and rarely slips from position; but its fatal objection is that it remains as a foreign body in the tissues, and is liable sooner or later to cause repellant suppuration. Some of the worst pelvic abscesses it has ever been my fortune to see have resulted after many months of apparently perfect convalescence, from some wandering microbe building his nest in the strands of an encysted silk ligature.

There can be no question that the buried ligature or suture should be absorbable, or capable of disappearing by organization as soon as its work is done, for only in this way can subsequent suppuration be surely avoided. Both catgut and tendon will meet these requirements, but the difficulty with the first is to get it sterile, and with the latter to get it of fine sizes, yet of sufficient length and evenness. Personally I prefer catgut, and when sterilized by both formalin and heat no bacterial cultures have been obtained from it. The formalin should be carefully washed out; otherwise the gut is rendered too hard and resistant. No suture or ligature should remain in the tissues unorganized after fifteen days. Small sizes should completely disappear by the seventh day, and large sizes from the twelfth to the fifteenth day. For the last five years I have used catgut with a free hand in intrapelvic work, two or three yards of it in some instances, and only in two cases has suppuration resulted. The catgut used in these two cases was sterilized by a New York manufacturer of much repute, and investigation elicited the fact that a new sterilizer failed to yield the necessary 250° F. of temperature for sixty minutes among the tubes at the bottom, and a number of septic cases resulted from the use of this material in New York and Boston as well as in Portsmouth. In justice to the manufacturer, however, I must state that in no other instance have I had occasion to find fault with his suture material, and am using it now with perfect confidence.

Ligatures when applied to the divided end of an artery should be placed well beyond the controlling hæmostat, two turns being taken in the first part of the tie, and firmly set up, the knot being finally secured by a single turn. If the artery is small, the ends may be cut short at once, but if it is large, it is best to secure the free ends of the ligature with a small hæmostat, which is thrown to one side till the final steps of the operation, when, if all seems secure, the ends are cut short.

In tying an artery in its continuity, a ligature passer is needed, and I know of none better for this purpose than the Cleveland needle. The Germans have for some years used the Thiersch spindle, and many of our own surgeons use various carriers, modifications of the old aneurism needle, but none of these instruments can compare in all-round utility to the carrier designed by Dr. Cleveland, of New York, and generally known as the Cleveland needle. Whether it be for single or multiple and continuous mass ligatures this needle has proven more satisfactory in my hands than any other carrier.

When a large number of small vessels are bleeding, or when a vessel is bleeding in a mass of tissue and is not easily caught by a hæmostat, snaking or pursing the tissues together by in-and-out suturing and tying is the most effective method of completely and securely arresting hemorrhage. For this purpose I use the Martin needle, as it has a large eye for taking catgut, and a quick curve for going in and out of tissues. The Kelly needle is also very efficient when the very smallest sizes of catgut are used, but its small eye necessitates a silk carrier when medium or large sized ligatures are used. Small hemorrhage from surfaces

[1] Read before the New Hampshire Surgical Club and New Hampshire Medical Society.

which are ultimately to be sutured may be temporarily controlled by hæmostats, and finally arrested by the judicious placing of approximating sutures.

Digital compression may become a necessity during the course of an operation from the breaking or dropping of hæmostats, or an insufficiency in their number, but should be avoided if possible, as all handling of tissues causes additional risk of infection. Sponge compression and gauze packing are exceedingly useful in arresting capillary oozing, especially when of large extent. Hot water at a temperature of from 110° to 120° F. is also very efficient in this kind of hemorrhage, and may be either poured on the bleeding surface or applied with a gauze sponge. Hydrogen dioxide will likewise be found useful on small areas, and should be applied pure on a small pledget of gauze.

When tissues are divided rapidly between hæmostats, and it is not deemed wise to stop for ligaturing, traction, either direct or by twisting and pulling the tumorous mass to be removed, with strong traction forceps, controls to a more or less degree the flow of blood till plenty of room is obtained to apply ligatures securely. Finally it may be necessary to arrest hemorrhage from small vessels when the tissues are friable and septic, and in this case the actual cautery is to be preferred.

**Securing the Ovarian Arteries.**—In order properly to secure the ovarian arteries, it is necessary to have an accurate knowledge of their anatomy. These arteries arise on the left side from the renal artery and on the right from the front of the aorta. They descend with the ureters to the brim of the pelvis, and enter the pelvis through the suspensory ligament of the ovary. On reaching the ovary a branch is given off which passes upward to the Fallopian tube, and follows its under surface to the uterus. The main artery sends branches to the ovary, and then runs directly inward to the side of the uterus just below the round ligament, where it sends a branch to connect with the tubal branch, gives off the artery to the round ligament, and finally anastomoses with the terminal branches of the uterine artery.

Now upon examining the structure of the broad ligament immediately below the infundibulo-pelvic ligament, a clear or non-vascular space will be found, and if a ligature carrier is passed through this space, and a ligature pulled through and properly tied over the upper margin of the suspensory ligament, the ovarian circulation of that side will be completely arrested. If the tube and ovary of that side are to be removed, two additional ligatures are, as a rule, all that are required. One is passed around the tube close to the uterus, and the tube freed on the outer side of the ligature; and a second ligature is applied where the anastomosis of the ovarian with the uterine artery takes place; and then the tube and ovary may be freely cut away. Any slight bleeding which may come from the cut margins of the broad ligament is quickly arrested by inverting the edges of the anterior and posterior layers of peritoneum and overwhipping the line with fine catgut.

In large tumors of any kind of the uterus, ovaries, tubes, or ligaments, enlarged veins, often great sinuses, are more or less freely encountered, and it is highly important that they should be securely controlled with as little loss of blood as possible. When very large they should be double-ligatured and divided individually, but when of moderate size and close together they may be double-ligatured in small groups and divided as encountered.

In distinctly pediculated tumors, when the pedicle is flat and thin, and the vessels are plainly visible, the pedicle may be secured by a continuous double in-and-out mass ligature, or the vessels secured by interrupted ligatures, or finally the pedicle may be double-clamped and cut between the clamps, the ends of the vessels being tied individually, and the peritoneal margins inverted and overwhipped with catgut.

**Securing the Uterine Arteries.**—The uterine arteries are much more difficult to secure than the ovarian, and no one should attempt to tie them without an intimate knowledge of their course and relation. they arise from the anterior trunk of the internal iliac artery, and run inward to the side of the neck of Te uterus, reaching that organ from a half to three-quarters of an inch above the vaginal attachment. These arteries are greatly convoluted and lie loosely in the cellular tissue in the lower folds of the broad ligament, so that they may be lifted and pulled well out of the way of other structures where ligatures are applied. They are accompanied by two or more large veins, and the ureters will be found passing immediately beneath them, though one of the veins often lies below the ureter. After reaching the uterus they run up its side to the cornua, where they anastomose with the ovarian arteries. But one important branch is given off during the passage upward, and that is opposite the internal os. These arteries do not lie immediately in contact with the uterus, but are found in the cellular tissue about one-twelfth or one-twenty-fifth of an inch away. These arteries are not tied except in partial or complete hysterectomy, so that their control is part of the technique of uterine extirpation, and must be considered more or less in that connection. A few years ago many operators sought to ligate these arteries as the first step in hysterectomy, but now they are ligated only when reached in the progressive steps of the extirpation. Securing the vessels in hysterectomy for three different conditions will be taken as general illustrations. In the first place let us take a case of simple uterine fibroma, in which the uterus is only moderately enlarged and is freely movable, with no adhesions. Three main ligatures on each side are to be relied upon practically to control the circulation. The left side of the pelvis is first attacked and a ligature applied to the ovarian artery at its point of anastomosis with the uterine, which also includes the uterine end of the Fallopian tube; the tissues on the uterine side are then clamped, and the included area is cut down to the round ligament. Another ligature is then thrown about this ligament and including the tissues just below, the clamp is applied on the uterine side, and the included segment cut well down toward the uterine artery. The two layers of the broad ligament are now separated by blunt dissection, and the uterine artery is sought for with the fingers. It will soon be found strongly pulsating, and can be separated from its veins, lifted free from the side of the uterus, and tied a quarter or three-eighths of an inch in its course up the uterine neck, thus avoiding injury to the ureter. The uterine veins are then double-tied, or tied and clamped.

Now the same course of procedure may be gone through with from above downward on the opposite side, and the uterus dissected free from bladder, vagina, and rectum, or amputated through the neck; or the operation may proceed from left to right, the neck of the uterus being freed and amputated, the organ pulled well to the right to expose the uterine vessels, which with the ovarian are secured in inverse order. After the uterus is removed from the pelvis, all additional bleeding points are at once clamped and tied, and the main arteries are secured by a second ligature. In this operation it is noticed that the tubes and ovaries are left in, and the space between them is covered in by suturing the anterior and posterior layers of peritoneum together, the vagina or amputated cervix, as the case may be, having been first sutured.

The next illustration will be a case of cancer of the

cervix, the disease not extending beyond the adjacent areolar tissue and contiguous parts of the broad ligaments—in other words, a fairly good operative case. Here the uterus with its adnexa and all other pelvic tissue consistent with the integrity of the ureters, bladder, and rectum should be removed. A sweeping extirpation is in order, and the operation is begun by securing the ovarian vessels on the left side by a ligature through the clear space and over the infundibulo-pelvic ligament The clamp is then applied on the ovarian side, and the included region cut through. A second ligature is now thrown around the round ligament including the anastomotic zone, a clamp applied on the uterine side, and the intervening structure divided well to the outer side of the uterus so as to take in the greater part of the broad ligament. The uterine artery is now searched for as in the first operation, and, when found, traced well back to its origin. Great care should be taken to separate it from the ureter. The tissues should be carefully rolled between the fingers, when the artery will be found round and pulsating, and the ureter flat, hard and ribbon-like. The artery is lifted clear and tied on the outer side of the ureter, near its origin from the anterior branch of the internal iliac. The veins are next carefully separated from the ureter, some being found above and some below, and double-ligatured. The peritoneum having been incised across the front and back of the uterus, and the neck peeled out and cut free from the vagina, the same steps may be taken on the right side of the pelvis, or the vessels may be secured and tissues divided inversely as explained in the first operation.

For the third illustration we will take a large myomatous uterus, firmly impacted in the pelvis, with tubes and ovaries beneath the mass, and all special anatomical outlines masked by general visceral adhesions. This is a picture before which even the boldest operator may hesitate as to what is to be attacked first. It has been my rule in these cases to begin on what seems to be the easiest point on the left side of the pelvis. To reach the ovarian vessels, it is necessary to get under the tumorous mass, and that is best done by carefully separating the visceral adhesions, probably binding the sigmoid flexure to the upper surface of the tumor, then with scissors or fingers, according to the density of the adhesions, gradually separating the mass from the rectum and pelvic brim. Ruptured vessels which bleed freely should be clamped and tied, or, if that is impracticable, the bleeding area is included in one or more puckering catgut sutures, as the case may require, and the enucleation continued till the ovarian vessels are reached and secured, and the infundibulo-pelvic ligament is cut. Now by making strong traction to the right the mass may be tilted up, and rapidly shelled out of its cellular bed. The round ligaments are soon found like tense cords, and after they have been double-ligatured and divided, or ligatured and clamped, the tumor can be still farther rotated to the right and the uterine vessels found and secured. The peritoneum is next girdled around the uterus on a level with the round ligaments, and peeled down in front till the bladder is free, and behind till well down on the neck. Freeing the vesical peritoneum permits the bladder to drop down out of the way and carry the ureters with it. The greatest care must be taken in these cases to avoid including the ureters in the uterine ligatures, or otherwise injuring them. The cervix is next amputated from left to right, the tumor pulled farther to the right and rolled out of the pelvis, and the right uterine and ovarian vessels are secured as described in previous operations. All ligatures are now carefully inspected, and the large vessels doubly secured by a second set. Bleeding points are picked up and tied, and general oozing is arrested by the means previously given.

**Secondary Hemorrhage.**—The danger of secondary hemorrhage should always be borne in mind, for it may occur any time within a week or ten days. Kelly enumerates the chief causes of secondary hemorrhage as follows, viz.: (1) defective tying; (2) cutting too close to a ligature; (3) undue traction on a ligature after tying; (4) the shrinkage of the tissues within the grasp of the ligature; (5) an extensive capillary oozing. To these must be added the softening and untying of catgut ligatures, even though well tied, and this is especially apt to happen if the ends are cut too short. So far I have never seen a secondary hemorrhage of sufficient degree to produce general symptoms, so I shall have to give you the train of symptoms as given by that masterful surgeon, Dr. Howard Kelly: (1) Sudden quickening of the pulse and diminution in volume without apparent cause, or even an entire loss of pulse; (2) quickened sighing respiration and the use of the extraordinary muscles of respiration; (3) increasing pallor and a pearly conjunctiva; (4) cold, clammy skin; (5) vertigo; (6) restlessness, throwing the arms and legs from side to side; (7) desire to be raised in bed (orthopnœa); (8) pain in the abdomen often severe; (9) vomiting sometimes. The author, after giving this summary, depicts the fatal history of a case of secondary hemorrhage in such a terribly realistic manner that any operator who reads it will double his vigilance in future to avoid being responsible for such a calamity. In eighteen hundred abdominal sections at Johns Hopkins Hospital, there were only eight post-operative hemorrhages, and one death.

As soon as secondary hemorrhage is evident, the abdominal wound is opened, the bleeding vessels are sought out, clamped, and religatured, blood and blood clots are removed, the abdominal cavity is flushed with hot decinormal salt solution, the wound closed or drained as the case may demand, and a pint of saline solution transfused under each mammary gland. The patient in the mean time has had hypodermics of strychnine and whiskey, and an enema of two ounces of whiskey and six ounces of beef tea is next given, and she is placed in bed with the head lowered and surrounded by hot bottles.

The pulse will be found from 140 to 160, and it will be several days before it falls below 100, though the patient otherwise may be in good condition.

PORTSMOUTH, N. H., March, 1899.

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## THE EXERCISE TREATMENT IN TABES DORSALIS.[1]

BY ALFRED WIENER, M.D.,

ADJUNCT PROFESSOR OF NERVOUS DISEASES IN THE NEW YORK POLYCLINIC.

A GREAT many highly lauded forms of treatment have been employed in the management of tabes dorsalis. Many have been given up in disgust, others are still used with varying success. Although no specific value can be attached to such measures as balneotherapy, hydro-therapy, electro-therapy, and dietetic treatment, we must nevertheless admit that a beneficial influence is exerted by them upon the general welfare of our patients. Their various nerve functions are strengthened, and their complaints in the way of subjective sensations are decidedly ameliorated. Surgical interference—I refer to the nerve-stretching procedures—so far as I have been able to ascertain, has been abandoned. Motchutkowski's suspension method has had its trial and been found to be positively harmful. Whether the mildly beneficial influence which is ex-

[1] Read before the section on neurology and psychiatry of the New York Academy of Medicine, April 28, 1899.

erted by this treatment depends upon its suggestive effect or not, it should not be employed so long as harmful results have been reported. Another method, which is truly barbarous, that of Bonuzzi and Blondel, in which a forcible stretching and flexing of the body are advised, has been entirely given up. The Hessig corset is of advantage if we wish to make use of a support to correct deformity. That it exerts any continuous stretching effect upon the spinal cord, I am unwilling to believe. So far as antisyphilitic treatment is concerned, I think that most of us have come to the conclusion that a radical improvement in the objective symptoms of tabes is not obtainable.

Those who are familiar with the pathology of this disease do not look for a specific which will cure this local process. Still it should be our endeavor to find the ways and means by which we can at least alleviate the patient's suffering. It is with some satisfaction that the neurologist is at last able to announce the fact that limitations must be placed upon the idea that tabes dorsalis cannot be benefited in any way. Those who will employ the treatment so carefully worked out by Fraenkel, of Heiden, Switzerland, will find the same brilliant results attending their efforts that have followed my own. I refer to the treatment of ataxia by means of compensatory gymnastics. Abroad this is now an established form of treatment, highly recommended by Leyden, Goldscheider, and other prominent neurologists.

Ataxia is surely one of the most prominent symptoms in tabes. When present to any great degree, it is one of the most distressing of the symptoms which these patients suffer from. It continues for years, advancing sometimes very slowly, and at other times making such rapid progress that walking is an utter impossibility. In compensatory gymnastics we have at last found a method of treatment by means of which these patients can be so greatly benefited that they have apparently recovered their normal gait.

For the last seven months, I have busied myself in making a careful trial of this treatment. My results have been so encouraging that I no longer hesitate to report them. I purposely have chosen very severe cases, and those in which there was not the slightest element of a doubt that they were suffering from tabes dorsalis. My own experience is limited to ten cases. Of these, three have been under my observation for almost six months, the rest at varying intervals for four, two, and one month. In order to give you some idea in what condition some of these patients were at the beginning of their treatment, and just what results can be accomplished, I append here the history and results of three of my cases:

Case I.—Referred to me by Dr. B. Sachs. Mr. W. H——, aged forty-three years. The only severe illness this patient can remember having suffered from, is typhoid fever in his early youth. He has always led a more or less sedentary life, and, although freely indulging in alcohol and tobacco, he denies that there has ever been any excessive dissipation. There is absolutely no history of syphilis obtainable. He has always been a sufferer from stomach and bowel disturbances. In December, 1891, the patient was caught in the Sage explosion. The chair upon which he sat was completely demolished, and he was thrown over six feet, sustaining apparently no physical injury, but on the other hand a severe nervous shock. In 1892, he was thrown from a horse at a military review, and struck with the front portion of his body against a fence. He suffered only slight bruises, and was up and about directly afterward. The first symptom of the present complaint was noticed in 1895. The patient was crossing the ocean at that time, and he experienced a distinct numbness and paræsthesia in both upper extremities. It was especially acute in the left hand and forearm, and confined almost exclusively to the ulnar distribution. While on the continent this became more noticeable, and great difficulty was experienced in carrying and handling hand baggage. The patient now became alarmed, and placed himself in charge of a homœopathic physician. No special benefit having been derived after eight months, he ceased all treatment until 1898. At that time new features presented themselves. The paræsthesia and numbness had spread to his lower extremities, and an awkwardness in his gait became very apparent. His upper extremities had also grown considerably worse. In attempting to use the telephone one day, he suddenly became puzzled as to the location of the ear piece, which he was holding in his left hand. In looking for it he discovered that he had placed it over his chest. The patient now consulted Dr. B. Sachs. The examination made at that time proved that this gentleman was suffering from tabes dorsalis, with a very marked ataxia in both upper and lower extremities. The ataxia in the lower extremities while under Dr. Sachs' observation became so marked that the patient was able to walk only very short distances, and then only with the assistance of a cane. With his eyes closed it was absolutely impossible for him to perform a single co-ordinated movement, either when lying down or standing up. Although the left patellar reflex was present at the first examination it soon disappeared. Areas of incomplete anæsthesia were found on the plantar portion of both feet, on th external surface of both thighs, and in the ulnar distribution of both upper extremities, especially on the left side. The location sense was very much disturbed. In addition to these objective symptoms, th patient had a number of other prominent tabetic symptoms, which, however, it will not be necessary to mention here

Case II.—Mr. A. R——, aged forty-two years, married a second time. He had one child by his first wife, with whom he lived twelve years. He is married to his second wife three years, but they have had no children. He denies syphilis or any excessive indulgence in alcohol or tobacco. His family history tells of miscarriages which his first wife suffered from, and a doubtful venereal affection which he had in his early youth. The presence of a syphilitic infection at that time is, therefore, very probable. For the last seven years this patient has experienced slight difficulty in walking, but never to such a degree that it interfered with his occupation as a waiter. At times during these seven years he suffered from attacks of uncontrollable vomiting. These attacks still present themselves. Recently I had occasion personally to observe the patient in such an attack, and convinced myself that it was an ordinary attack of gastric crisis. During the last five years, the patient has suffered only slightly from pain. Three months ago, without any apparent cause whatsoever, he suddenly began to walk very badly. His gait grew worse from day to day, until finally he was compelled to give up his occupation. I saw this patient for the first time eight weeks ago, and he presented the following status: Typical Argyll-Robertson pupils, unequal in size, and the left the larger one of the two; patellar reflex absent on both sides; incontinence of urine; numbness in both feet, with extensive anæsthesias in both lower extremities and the trunk; a very marked and delayed response to the sensation of pain. There is complete impotence. The upper extremities are entirely free from paræsthetic disturbances and ataxia. As regards walking, he was utterly unable to walk alone. He was led into my clinic firmly supported by his wife, and a stout stick held in one hand He was incapable of performing a single co-ordinated movement with his lower extremities. Such an act as arising from a

chair, or standing without support, was a physical impossibility.

Case III.—Mr. A. N——, aged forty-four years, unmarried, insurance broker. He admits having had syphilis fifteen years ago. He denies any overindulgence in alcohol or tobacco. About one year ago, he observed that he was somewhat awkward in descending a stairway. This was especially noticeable in the dark. When he walked any great distances during the day, he also experienced some difficulty. About four months ago, this gentleman underwent an operation for hemorrhoids. He was confined to bed for one week. As soon as he was allowed to get up and around, he found it impossible to walk without the assistance of a cane. He also began to experience some difficulty with his bladder. He could not urinate freely. He complained bitterly of stiffness in both of his lower extremities. Anæsthesia almost complete was found in the right foot, leg, and thigh. The sensation of pain was very much delayed. In his left lower extremity the same condition was present, but not to so marked a degree. In addition to his tabetic symptoms, this gentleman has lately begun to present symptoms which point toward the development of a paralytic dementia.

With the exception of the ataxia, I have purposely refrained from going into any details regarding the various symptoms present in these patients. They do not concern us in this paper.

Each patient was carefully taken in hand by myself, and treatment thoroughly persevered in and carried out under my guidance. Contrary to the Fraenkel method, I made use of no complicated apparatus. Nothing was employed which could not be found in any physician's office, or could not be easily obtained or constructed by the patient himself. It was found advisable, in all my severe cases, to teach these patients to perform their various exercises while lying flat upon the back; at first with their eyes open and then with their eyes shut. I will not attempt to enumerate all the different movements which I taught them. Each case will suggest to the experienced physician different movements. You will soon learn to know that exercises which you may have employed in the beginning in one case will not at all answer the purpose in the second. As soon as one finds that the patient is becoming more and more adept in performing his exercises while lying down, then the second stage of the treatment is begun. The patient now sits upon a chair and learns to perform the various exercises assigned to him. When these are well performed, the third stage of the treatment is entered upon. The patient now learns to stand and walk. At the same time he begins to perform difficult and complicated movements. My methods of procedure in private cases is as follows: First of all, I treat all severe cases in bed, and strengthen both mind and body through hydrotherapeutic procedures, diet, and general tonic treatment. I make it a practice to elucidate and explain all the details of the treatment to these patients. What advantage this psychical effect has, is shown by the more rapid advance made by the intelligent ones than the ignorant. This is clearly shown in Case III. In this individual I have suspected a beginning mental disturbance. There has been very little improvement in his condition of late. As soon as I feel that my patient is strong enough I begin with the gymnastic treatment above mentioned. It is advisable at times to change the exercises, or use some other method of procedure in performing them, so as not to allow the treatment to become monotonous. I constantly call the patient's attention to his improvement, demonstrating to him that what at first was difficult to perform at last becomes an easy matter. I do not under any circumstances let these patients perform their exercises entirely alone. They should be under the control of a competent observer who will correct all errors at once, and insist upon precision in all movements. I personally feel that the physician should be the observer and teacher. You will find that considerable judgment and tact are necessary in order to devise the various exercises. If you intrust this to a nurse or incompetent person, he is apt to go at it in too schematic a way. The more you ask of such a treatment the more difficult the technique becomes. Therefore, only one who thoroughly understands the functions and workings of the various muscle groups is capable of conscientiously conducting it.

All my patients have shown the most encouraging results, and especially in the three cases here reported. In Case I., after six months' treatment the patient walks with the greatest ease and any reasonable distance that one might expect of him. He walks over obstructions placed in his way, without stumbling, and walks up and down stairs without assistance. He can walk backward, one foot behind the other, with only the slightest awkwardness. He can stand on one foot and perform various exercises with the other with the greatest ease. There is still some room for improvement; but when one considers what this patient was capable of accomplishing in the beginning, and what he is doing now, I think that we must admit that the result is excellent. In Case II., after two months' treatment the patient comes to my clinic alone. He uses a cane, but can walk without it. He can arise from his chair without aid. He can walk one foot in front of the other, along a straight line, and the same backward, and appears only slightly awkward. He can stand on one foot. This patient is rapidly improving, and I am confident that within two months more he will almost have regained his normal gait.

In Case III., after three months' treatment the patient walks without a cane. He can perform all his various exercises perfectly when lying down, and is rapidly losing his ataxia and awkwardness when walking about. With this patient I am beginning to experience some difficulty in the training, on account of his failing mental condition.

Before drawing any practical conclusions, it would not be unwise to offer you some explanation for the scientific basis of the treatment. Once for all let it be understood that it is not a form of gymnastic exercises indulged in to strengthen muscles. We all know that in a pure case of tabes dorsalis there is absolutely no paralysis, no atrophy, and nothing in fact to suggest that the muscles are primarily at fault. It is a systematic exercise practised for the purpose of helping these patients to learn to co-ordinate properly, to lose their uncertainty, and again gain confidence in themselves.

The explanation which I offer here is the one accepted now by Fraenkel himself, and was first proposed at the congress held at Moscow in August, 1897. In order fully to understand this explanation, let us review for a moment the two theories which exist in reference to ataxia. The one known as the Charcot-Erb theory recognizes a centrifugal co-ordination system of fibres in the spinal cord, and establishes the hypothesis that spinal ataxia is due to a primary lesion of these fibres. The other, known as the Leyden-Goldscheider or sensory ataxia theory, establishes as the main principle that the co-ordination of movements in the healthy state depends directly upon the integrity of our sensory sphere. Leyden and Goldscheider, in their treatise entitled, "Ueber die Erkrankungen des Rückenmarks und der Medulla oblongata," have explained in detail this theory. It is well worth our while to review their explanation, in order to understand clearly the application of this theory to the exercise treatment. The authors claim that co-ordi-

nation is effected in two different ways. First, the simple synergic movement, viz., for the performance of a simple movement several muscles work together: or several antagonistic muscles may be thrown into action in order to produce a slight restraint, and thus a more harmonious action; or a number of other muscles help along, by means of their own individual action, to carry out or accomplish the movement of a single muscle. These simple synergic movements are undoubtedly localized in the spinal cord. Entirely different is the second form, viz., the complicated or chosen co-ordinated actions. The individual muscles and the synergic acting muscles functionate in such a manner as to produce some intended movement. Of course, this can be accomplished only with the help of a complicated cerebral process. First, there must occur the idea of a movement; secondly, the impulse of the will, and finally, a motor expression which results in a muscle contraction.

There is no doubt that sensation plays a very important rôle in all complicated movements. Still the same can be accomplished almost as well with the help of our perceptive sensory faculties, when necessary. Take, for instance, the individual suffering from anæsthesia in hysteria, or in fact anæsthesia from other causes; surely they are not all ataxic. Histological and pathological researches have established the fact that when the nerve fibres or cells in the central nervous system are once destroyed, they are never again regenerated. In tabes dorsalis the sensory tracts in the spinal cord are destroyed; nevertheless tabetic patients learn by a systematic education in compensatory gymnastics again to control their various movements. The only explanation that can be offered for this fact is that these patients are compelled to call upon other perceptive faculties to supplant this lost sensory conduction. It is evident, therefore, from the above, that the good effect of the exercise treatment of tabes can be explained only on the theory of the sensory origin of ataxia. If we do not assume this theory, it would be impossible to account for the remarkable improvement in the gait of these patients. As we cannot suppose that there has been any regeneration of nerve fibres, the Charcot-Erb theory is not applicable. If this explanation is acceptable, we have at last found a treatment based not upon empirical methods, but upon carefully ascertained scientific facts.

Much more might be said in reference to this form of therapeutics; but I feel that I have sufficiently called your attention to a form of treatment that is absolutely beneficial in the ataxia of tabes dorsalis. In conclusion let me say that I hope you will give this method a fair trial. If you do this I am confident that you will be just as much encouraged and satisfied with your results as I have been.

## HYDROPHOBIA A DISEASE EASILY CURED.

By BEVERLEY OLIVER KINNEAR, M.D.

NEW YORK.

The subject of hydrophobia has attracted much attention from the medical fraternity, especially during the last nineteen years. It may be fairly divided into three heads: (1) Is it a disease at all? (2) Is it a nervous disease? (3) Is it a disease due to an absorbed poison?

It appears to the writer that these three queries cover the present ground of discussion of this malady. The first question may be answered in several ways. Do those who take this stand infer that there is no poison generated in the mouth of the so-called mad animal, to be absorbed by the person bitten? Or do they infer that no such set of symptoms as compose an attack of the disease can be induced by the bite of an animal lacerating terminal nerves, causing an irregular cicatrix and thereby generating central nerve-cell irritation, and responsive muscular and sensation disturbance? Or do they mean that fright alone will excite all the well-recognized symptoms of an attack? Or finally, do they suggest that the statements of a host of honest and intelligent observers count for naught against their opinion, simply because they themselves have never seen a case of the disorder? It would appear unnecessary to enter into a discussion of this query more profoundly until these questions are answered.

Is it a nervous disease? Let us glance at the symptoms of a typical case as presented in the "Twentieth Century Practice of Medicine," in an article upon this disorder. First stage: "Loss of appetite and headache; agitated, depressed, gloomy; ill-tempered, apprehensive, irritable; sleepless, restless, with bad dreams; speaks quickly, with sharp articulation; aversion to fluids and often cannot take solid food; and itching and pain at seat of bite."

Second stage: "Breathing sighing and labored; muscles connected with medulla become affected, inducing spasmodic contraction of larynx and pharynx; hyperæsthesia of sight, feeling, touch, hearing, smelling may all occur, sensation of suffocation causes patient great anxiety; violent homicidal attacks come on, for which the patient expresses regret during quiet intervals; snaps with jaws, both tonic and clonic spasms; aerophobia, and sometimes delirium. The conjunctivæ are injected, pupils dilated, retina hypersensitive to light; pulse full, moderately strong and accelerated—weaker after paroxysms; skin moist and perspiring, and the respiration, during the paroxysms, gasping and irregular. There is also decided thirst."

Final stage: "Death may be preceded by general paralysis; it may take place from convulsive paroxysms and asphyxia, or from coma. The disease may be confounded with hysteria, tetanus, epilepsy, delirium tremens, acute mania, and uræmia."

The testimony of symptoms in all these stages denotes nervous disease predominantly; while the injected conjunctivæ, the full strong pulse, the delirium and maniacal tendency, the hypersensitive retina, and death by coma or convulsions all signify to the writer a condition of hyperæmia of the brain and central nervous system.

During the past eighteen years I have speedily subdued delirium tremens, acute mania, and uræmia temporarily, by contracting the arterioles in the spinal cord and brain and making the general circulation active. Many cases of hysteria can be rapidly cured by expanding the general circulation, thus inducing good nutrition of the body, and at the same time withdrawing the excess of blood from overstimulated nerve centres. Five of these diseases are understood to be nervous, and only one of them—delirium tremens—is due to a poison absorbed. The uræmia of Bright's disease, with the resulting coma, is considered due to a poison acting upon the brain, but Bright's disease does not come under the head of nervous diseases.

According to this evidence, then, hydrophobia may be due either to a poison absorbed, or it may be caused by constant direct irritation carried from the seat of the bite to the central nervous system, giving rise to hyperæmia of nerve centres, and thus an increased function or abnormal action upon their part, inducing thereby all the symptoms of hydrophobia. The fact that there are, in many reported cases and among the early symptoms, itching, pain, and heat at the seat of the bite, would tend to confirm the hypothesis that from the time of the bite by the dog there had been more or less constant direct irritation carried to the central nervous system. But the apparent truth which

is brought out by the foregoing, to my own mind, is, that in all nervous forms of disease the main factor inducing the symptoms is active hyperæmia within, and therefore excessive function of, central nerve cells.

Does the pathology of hydrophobia bear out the above conclusion? The post-mortem examination in man shows general congestion in nerve centres and softening around the spinal cord. Ross, of Manchester, says that tetanus and rabies are alike, the lesions in the former being spinal, in the latter cerebral; and that the nerves leading from the congested centres are congested and enlarged.

Keirle ("Twentieth Century Practice," vol. xv.) says that the lymph glands are always enlarged in rabies. The under surface of the medulla is very vascular, the gray matter of the cord is hyperæmic, the larynx is red, the spleen is dark-red, the liver is congested.

There is practically an immense amount of evidence proving hyperæmia of the nerve centres in hydrophobia.

There is also hyperæmia of mucous membranes and of many organs and glands, which last I have been for many years of the opinion may be due to excitement or hyperfunction of the vaso-dilator nerve centres, and that when conditions of hyperæmia or inflammations are shown by post-mortem demonstration to have existed during life, it is a proof that vaso-dilator nerve centres distributed to the part affected are hyperæmic, and therefore abnormally active. If this is so, then the hyperæmia of glands, of organs, and of mucous membranes noted in cases of hydrophobia would be simply another proof that the cause of the attack was central nerve-centre excitement, or active congestion in the centres.

It appears that the conclusions we may now draw are as follows: (1) The majority of the symptoms denote central nerve-cell excitement. (2) Others testify to the writer, after many years of treatment of nervous diseases and conditions, that there is hyperæmia of the brain and cerebral nerve centres. (3) Treatment which will withdraw excess of blood from nerve centres and at the same time make an active systemic circulation will subdue and cure nervous diseases, whether caused by poison absorbed, by terminal-nerve irritation, by worry, pain, or overexertion, mental or bodily. (4) Pathological conditions evidence hyperæmia of the brain and cerebral nerve centres, as well as hyperæmia of organs and tissues, which may be due to the same central nerve excitement.

If these four propositions be true, the next query which arises is, What is the best treatment, the most rapid and efficient to withdraw the excess of blood in active circulation from the congested brain and nerve centres, and which will at the same time so act as to expel from the body the poison of the disease, if the disease is due to a poison? If it is not due to a poison, how can we most speedily withdraw the excess of blood from the nerve centres and brain, without injury to the patient? Is it best to inject the hydrophobia virus which has presumably caused the disease, and thus secure a hoped-for immunity to the poison already absorbed; or will it be better to excite active secretion from some great emunctory organ, in order to expel the poison if there is one or to attract so much blood to the secreting surface that any excess of blood must perforce be withdrawn from the congested brain and nerve centres—even if no poison exists—and their undue excitement be subdued, the symptoms banished, and a cure effected? There appears to me to be no "halting between two opinions here." It will be far better to expel the poison and withdraw the excess of blood from the congested cerebral area, than to attempt to immunize the party bitten by the further absorption of the same poison which induces the disease. But has such a method ever been used successfully to cure hydrophobia? It most certainly has, and in a large number of cases.

It is hoped that by what has been set forth, and by what is to come, the attention of the profession may be drawn to that which seems to the writer a much more simple, physiological, effective, and less dangerous method of treating and curing this much-dreaded disease, or set of symptoms—whichever one may be pleased to call it—than Pasteur placed before the profession and the public. There is no doubt that a large body of the medical fraternity consider Pasteur's treatment a cause of hydrophobia, instead of a cure; and that it is a danger to be guarded against rather than a cure to be relied upon.

Let us glance at the opinions of some eminent observers. Professor Peter, the greatest clinician France has produced in this century, a man described as the Sir William Gull of Paris—the able editor of *The Medical Journal*—writes: "M. Pasteur does not cure hydrophobia, he gives it." Another physician, Dr. Edward Berdoe, M.R.C.S., says: "So far as any good effects having resulted from the treatment, we know that it has undoubtedly led to the increase of hystero-epilepsy, a disease singularly like hydrophobia." Dr. T. M. Dolan, F.D.C.S., of Halifax, the erudite and independent editor of *The Provincial Medical Journal*, in his book, "Pasteur and Rabies," says: "Not only does M. Pasteur not protect from disease, but he has added a new terror to it by the introduction of paralytic rabies." Dr. Charles Bell Taylor, F.R.C.S., writes: "I regard the so-called wonderful discovery as the most extraordinary delusion which has afflicted men of science for centuries." Professor von Frisch, of Vienna, makes the despairing admission: "The great hopes which the medical world has placed on Pasteur's discovery have not been realized."

"That the Pasteur system is unreliable is evident by the fact that more than three hundred and thirteen persons have died either under the treatment or in spite of it, and as it involves the infliction of infernal barbarities and torture, the sooner the public is made aware that a superior and more humane remedy for hydrophobia has been discovered, the better" (*Herald of the Golden Age*).

Dr. Charles W. Dulles, of Philadelphia, when appointed by the Pennsylvania Medical Society to investigate hydrophobia, stated as his opinion that a large number of deaths from that malady were directly due to inoculation with the virus of what ought to be called "Pasteur's disease."

The following well-authenticated case of Ethel Wilkins, which appeared in the London *Globe*, November 12, 1895, tends to confirm the foregoing judgment: "In October, 1895, the child of the gardener on the Twickenham Park estate (age three years) was bitten on the face by a small fox terrier. The dog was immediately destroyed. There was no evidence that the dog was mad. The child was taken to a physician (Dr. Murphy) to have the wound dressed. At his earnest persuasion the anxious mother (being told that she would have the child's death on her conscience if she refused) allowed the child to be taken to the Pasteur Hospital and put under the regular treatment—inoculation with rabic virus twice daily for the first three days, and then once daily for twenty-one days. On the day she was discharged as cured (though there was no evidence that anything had been the matter with her) feverishness and other symptoms appeared. On November 9th, she was taken back to the Institute, and the doctors then pronounced the case to be hydrophobia and hopeless. She was, however, inoculated twelve times that day—six times on each side. In forty-eight hours this child, three years old, received twenty-four inoculations. The 10th of November, a witness reports

seeing her strapped down on her bed; her hands (which had been left free) had torn her face in her agony."

Added to the foregoing opinions and statements, I have in my own possession a carefully arranged list of three hundred and ninety-four cases treated for hydrophobia by the Pasteur method, from August, 1885, to July, 1898, all of which were fatal. Some were bitten by wolves, some by cats, and the vast majority by supposedly mad dogs. This "quadruple hecatomb," as it is called, is reprinted from a supplement to *The Zoöphilist*, June, 1898. It appears to be undoubtedly correct, as the journals from which the cases were taken are all given, with the dates of their issue. Pasteur's treatment then, according to these representations, has not only not lessened but increased the number of cases of hydrophobia; it has also introduced a new and terrible form of the disorder—paralytic rabies. Further, it is essentially set forth as a preventive treatment only, but of little or no service after the attack has begun or well-developed symptoms have appeared; whereas, the treatment about to be placed before you is simple, is not injurious, may be used preventively, "and will cure if administered not later than the second day of its development, and frequently do so even if not given until the third day." This quotation is taken from some remarks by Dr. Montague R. Leverson, of Fort Hamilton, Brooklyn.

The treatment which I advocate is known as that of the "Buisson" bath. Dr. Buisson (doctor of medicine of the Paris faculty) was called in to a woman suffering from hydrophobia, just one hour before her death. She wished to be bled, and after the operation he wiped his hands on a handkerchief saturated with her saliva. He immediately noticed a small wound upon the first finger of his left hand, and thoroughly cauterized it upon arriving at his office. But on the seventh day pain developed in the wound and rapidly spread up the forearm, following the course of the radial nerve. As the disease progressed, the pain became intolerable; his eyes were extremely irritable, with dimness of vision; his hair seemed to stand erect; a current of fresh air prolonged the paroxysms, there were constant nausea and tightening of the throat, with excessive salivation and incessant expectoration; he had a horror of water, and a constant longing to run and bite. He continues: "For some time past I had been persuaded that a vapor bath was able to prevent, but not to cure, hydrophobia. My thought being occupied solely with death, I sought that which was the most prompt and least painful.

"Being the proprietor of a bath establishment, I resolved to die in a vapor bath (commonly called Russian). I took a Réaumur thermometer in my hands, fearing that the heat I desired might be refused me . . . and at 42° R. (127° F.) I was cured. I confess that at first I refused to believe in a cure which partook of the nature of a miracle. After the bath, I dined and drank with ease, and went to bed and slept well. From that day to this I have felt no sort of pain or uneasiness." The report of his case was given to the French minister of public instruction. Thus this great discovery was simply blundered upon like many another one. "Subsequently over eighty people bitten by rabid dogs underwent his process, and not one died. The theory is simply that sweating (increased by hot drink) opens all the pores of the skin, and all poisonous matter in the blood or in surface wounds is forced out through the pores."

This statement is true, and poisons are eliminated by the sweating process, but there is a deeper truth involved by great activity of all the sweat glands and that is that no gland can secrete excessively, unless a much larger quantity of blood than in normal conditions is passing through it, since all glands, organs, and tissues receive their nutrition from and deposit their refuse into the blood; in the former instance from the arteries, in the latter into the veins. Therefore, when there is an active sweating process carried on by the whole skin, there is an enormous and abnormal amount of blood drawn into these glands; consequently there must be a lesser amount than normal in other portions of the body. Thus, if there is an excess of blood in active circulation in the lungs, in the bronchi, in the pleura, the process of sweating will go a long way toward their relief, and the reason is very clear; because the sweat glands in order to sweat profusely require such a large amount of blood that the excess of blood in the inflamed or congested area is withdrawn, the local congestion relieved, and the patient becomes convalescent.

Now as I have endeavored to show in the early part of this paper that in hydrophobia there is within the brain, the medulla, and the nerve centres an excess of blood in active circulation, giving rise to the attack and the symptoms of the disease—so, when the Buisson bath is used and profound sweating results, not only is the poison, if there is one, eliminated, but also the excess of blood demonstrated to be in the central nervous system by the evidence of symptoms, and also pathological testimony, is speedily withdrawn from the congested cerebrum and centres, and as a result the symptoms are subdued and the patient recovers.

Thus this treatment not only can expel poison, but it also demonstrates a true physiological process, by which the excess of blood may be withdrawn from the abnormally functioning nerve centres. It is simply a beautiful instance of revulsion of blood from the brain and central nervous system to the skin, in the first giving rise to all the horrible symptoms of a greatly feared disease, and in the second this same excess of blood acting as a beneficent and life-restoring vitalizer. It is the difference between a fire in the right place and a fire in the wrong place.

Buisson says: "Vaccinate an infant and give it a vapor bath directly afterward, the vaccine does not take."

This treatment expels any poison, and at the same time overcomes the dangerous conditions induced by the poison, or by reflex irritation from the location of the bite. Suppose there is no poison but only reflex irritation from the seat of injury—then at the seat of injury there must be some local congestion, which for a long time may not become apparent; when it does the symptoms of hydrophobia show themselves. The sweating, being profuse, in this case would not only relieve the congestion of the nerve centres, but also relieve that existing in and about the original wound; thus not only the attack would cease, but would not again recur. My personal opinion is that in some cases there is a poison absorbed, but that in others, especially in cases of severe laceration, the resulting attack may be in the main due to reflex action from the irregular and congested cicatrix, the central nerve congestion being also partially due to the fears of the patient; while the animal which has bitten the sufferer may not have been rabid at all.

But, whichever may be the truth, the Buisson system answers positively all the indications for a radical cure of the disease, while that of M. Pasteur does not; and statistics show that whereas Pasteur refused to receive patients when hydrophobia symptoms had begun, the Buisson treatment cures hydrophobia when fully developed. A notable case is that of Pauline Kiehl, at Paris. She was bitten, with two other persons, by a rabid dog. The others died of hydrophobia. Pauline was taken to Pasteur, who refused to inoculate her on the ground that the hydrophobia had gone past hope. She was taken to the baths in Paris, Faubourg St.

Honoré, where Dr. Leon Petit subjected her to the Buisson treatment, and she recovered. Both as a preventive and cure it is now well known in England, where, according to *The Herald of the Golden Age*, it can be administered at thirty-three different institutions under the superintendence of qualified medical men. It can also be procured at every hydrotherapeutic establishment in the United Kingdom and at over seventy places in India. The governor-general of India has accepted it for all hospitals and dispensaries under government control, and in consequence thirty baths have been sent there from London. Likewise in America it has been tried with pronounced success, as the following cases indicate; and in no instance, as far as the writer knows, has it met with failure.

Rev. James A. Curran closes an account of a desperate case of hydrophobia under his care cured by a vapor bath, and says: "The sufferer has been in convulsions two days—accompanying these convulsions are evident signs of hydrophobia—is apparently at the point of death." (The Buisson treatment was tried with perfect success.) "His cure," he continues, "was remarkable as it was sudden—and he has continued well ever since." A full account of the case was published in *The Sacred Union*, Arlington, N. J., April 26, 1886.

Dr. Charles H. Shepard, of Brooklyn, reported the following case to the American Medical Association, at a meeting held June 1–4, 1897: "Dr. M. H. Hermance, of Brooklyn, saved a boy from the agonizing death of hydrophobia by the use of the vapor bath, which was applied while the patient was tied down to the bed. In about three-quarters of an hour after beginning operations a profuse perspiration was induced. When he began to sweat freely signs of returning consciousness appeared, which increased as the perspiration was continued, until in the space of about two and a half hours he was fully restored to consciousness, with a perfect relief from all his hydrophobic symptoms, the pain in the bitten hand and arm included, of which he had complained very much in the intervals of consciousness between his convulsions."

Dr. L. P. Haskell, of Chicago, reports the two following cures of hydrophobia, which he witnessed at the sanatorium of the late Dr. M. P. Hanson, of Milwaukee. He says: "I had opportunity to see much of Dr. Hanson's operations and the great success he attained. His son owned a dog which was attacked with all the symptoms of hydrophobia. His paroxysms were violent. He was secured at the end of a pole by a lasso and taken into the hot-air room (175 F.). After raving a while he quieted down, went to sleep, and was cured. I saw him three years later. About a year after this cure a man, living in a Wisconsin town, and his horse were bitten by a mad dog. The horse soon after died in great agony. Then the symptoms were manifested in the man, and a friend who knew of Dr. Hanson's experiment with the dog took the man to the sanatorium, and he was cured."

Dr. P. Canitz, of New York City, testifies to having cured five cases of hydrophobia by means of the Buisson bath. The disease, in three of these cases, had advanced to a stage ordinarily pronounced hopeless. Convulsions had become so violent that the patients had to be strapped to their beds, and in one case, in which treatment was delayed until after the fourth day of the attack, the patient was in the extreme horrors of rapidly approaching death. In all these cases the aggravated symptoms subsided during either the first or second application of the treatment, and after four or six days all signs of the disease had disappeared. Strapped to a steam lounge these patients were subjected to steam and hot dry air—the temperature being gradually increased until 140° F. was reached; then, still sweating profusely, they were wrapped in cold wet sheets (wrung dry) and swathed in blankets, with hot-water bottles applied to the feet, calves, and thighs, and allowed thus to remain from one to two hours, when a tepid bath (90° or 92° F.) was given, followed by a cold spray douche. The sweating process was repeated daily and the full pack twice daily up to the period of convalescence, and the treatment in a milder form continued for several days subsequently so as to insure complete success. In no instance was there a relapse.

The frequency of the bath must depend upon the severity of the symptoms; and the maximum rate of temperature must be regulated according to the facility with which the patient perspires. The head must be kept cool with cold applications and the patient freely supplied with cold water to drink, avoiding all alcoholic stimulants and adhering to a light, farinaceous diet. If the patient is subjected to a bath on the first day of hydrophobic symptoms, probably the first bath would prevent its development, but even after the patient is apparently well the sweating process should be continued daily until all danger of recurrence is past.

"The efficacy of the Buisson treatment for hydrophobia is testified to," says the London *Star*, May 3, 1898, "in a letter from B. K. Illava, district Abkari, inspector of the Bassein district, written to Mr. Malabari, of Bandora. It says: 'It affords me great pleasure to note the result and let you know the genuine efficacy of the Buisson bath you were kind enough to get me a loan of from Dr. de Monte, of Bandora, to be used for my uncle, Mr. Jehangir H. Kotwal, as he was bitten by his own bulldog that had gone rabid. If it were not for your kind advice and prompt loan of the bath he would have been a positive victim to the fell disease, as two cows, one dog, one Hindoo woman, by name Gungabai, aged forty, and a boy of ten years of age, who were all bitten by the same dog, died at different periods, all showing symptoms of hydrophobia.' Why be Pasteured and run increased risk of death?"

On May 6, 1895, Dr. Ganguli, of Dinageyur, India, treated four persons bitten by a rabid jackal on the 29th day of April, 1895. All these four are now in perfect health. One man, who was bitten by the same animal, and did not undergo the Buisson treatment, died of hydrophobia. A Mohammedan, bitten by a rabid dog March 22, 1896, and treated by Dr. Dass, of Naraenganj, India, fifteen days afterward, is now in perfect health. Eight persons who were bitten by the same rabid dog and did not undergo the Buisson treatment, died of hydrophobia. A Hindoo bitten by a rabid dog on April 2, 1896, treated by Dr. Dass twenty-two days after the bite, is now in perfect health. Three persons who were bitten by the same rabid dog and did not undergo the vapor-bath treatment, died of hydrophobia.

William Tebb, Esq., of Rede Hall, Burstow, Surrey, England, writes from Bombay on March 21, 1896:

"At Lucknow there is an encouraging report of the success of the Buisson system in preventing hydrophobia in several patients who had been bitten by mad dogs—while one unfortunate man bitten by one of the same dogs (who refused the treatment) died of hydrophobia. At Allahabad, the superintendent of the government hospital said that five persons had been bitten by a mad dog, four of whom were treated by him with the vapor bath, and no harm followed; the fifth refused the bath and died of hydrophobia."

It is very clear from the symptoms that in hydrophobia the nerve centres are in a state of excitement; it is also very evident from some of the symptoms that there is excess of circulation of blood within the brain and nerve centres. It has been demonstrated to me long since that by methods which withdraw excess of blood in active circulation from the brain and nerve

centres, in nervous diseases as well as in those like delirium tremens, and the blood poisoning in the coma of Bright's disease, due to a poison absorbed, the conditions treated will rapidly be subdued. Pathological investigation also demonstrates excess of blood within the brain and nerve centres, and the results of the treatment, as we see, prove that by flushing the sweat glands with blood hydrophobia may be cured, even in the advanced stages.

A very sensible statement by a contemporary writer illustrates the effect upon internal congestions of this method, and why they are relieved:

"Very few people comprehend why the hot-air bath is so potent in the cure of disease. The reason is simple, and readily understood. Nature's method of protecting the body from the effects of heat, especially high temperatures, is by the evaporation of moisture from the surface of the body, and this moisture is provided by the perspiration, and the less clothing the more effectual the results, so that natives of hot climates who are nearly naked realize more fully the benefits of perspiration. Upon submitting one's body, divested of clothing, to the 150° F. and upward of heat, demand comes for relief; soon the pores are opened, perhaps to an extent not before realized for months or even years, as many persons have inactive skins, and when this is the case other organs, and notably the kidneys, must take on double duty, and are thus overtaxed and diseased. So now the pores are actively at work, and the poisonous, worn-out material is being eliminated from the body through nature's sewerage system—the pores. What follows as a sequence? Why, *as the blood furnishes the perspiration, it necessarily comes to the surface, and thus the circulation is equalized over the entire surface, and as the logical sequence of this all congestive tendency is relieved, thus establishing perfect equilibrium, which is absolutely essential to perfect health*" (Italics mine).

## Progress of Medical Science.

**Eczema Treated by X-Rays.**—Holland (*British Medical Journal*, April 29, 1899, p. 1024) records the case of a woman, nineteen years old, who presented a chronic eczematous eruption covering the dorsum of one hand, following the evacuation of an abscess that had formed over a metacarpal bone. The skin was thickened, scaly, and cracked, and the seat of a number of adherent blackened scabs. After seven exposures at intervals of four or five days to the action of an *x*-ray tube at a distance of from four to seven inches and for periods of fifteen minutes, the eczema had disappeared and the hand was well. The result is attributed to the stimulating influence of the *x*-rays.

**In the Treatment of Dysentery with Ipecac** Dalgetty (*British Medical Journal*, April 15, 1899, p. 903) pursues the following plan of procedure: A large mustard plaster is applied over the stomach and 20 minims of tincture of opium are given, followed in ten minutes by gr. xl. of powdered ipecacuanha in four ten-grain pills freshly made up. The horizontal position is to be maintained for four hours, no food or drink being allowed during this time. The treatment is to be repeated in eight hours if no improvement has taken place; otherwise, smaller does are employed with the same precautions.

**Strontium Bromide in the Treatment of Epilepsy.**—Upon the basis of a not inconsiderable experience Roche (*Lancet*, April 22, 1899, p. 1089) renews an earlier recommendation of strontium bromide in the treatment of epilepsy. Two unequal doses should be given daily, the larger half an hour before the time of day that the attacks are most frequent, and the smaller twelve hours later. A drachm a day is a good initial dose, in two parts of gr. xl. and gr. xx. respectively. Larger doses may be given without causing toxic manifestations. Sufficient, however, should be employed to control the attacks. When an aura is present gr. xx. additional are administered every half-hour until the sensation passes off. Arsenical solution is given when acne appears. Animal food is restricted; stimulants are interdicted, an open-air life is recommended. The treatment should be continued for an indefinite length of time.

**Carbolic Acid in the Treatment of Influenza.**—Wiglesworth (*Lancet*, April 8, 1899, p. 959) recommends, upon the basis of personal experience, the employment of carbolic acid in doses of from gr. vii. to viii. every two hours in the treatment of influenza. In one case gr. xix. of the drug were ingested without deleterious effects.

**Mosquitoes and Malaria.**—In the *Annales de l'Institut Pasteur* for February, 1899, Ronal Ross, of the Indian military service of Calcutta, presents the results of a lengthy series of examinations on this question. He states that the plasmodium may be found in the stomach of the mosquito; that it can grow there and can develop what have been called spore-threads. These may also be found in the poison sac of the mosquito, and from this may be conveyed to man in the sting. He thinks he has been able to follow the cycle throughout its various stages. He has been unable to show, by any yet developed technical procedures, the spore-threads in the poison sac, nor has he been able to make preparations which definitely stain the plasmodia in the mosquito's body. He further states that the parasite of Texas fever and other fevers of Africa and other countries may be conveyed by other insects.

**Aspidium Spinulosum as an Anthelmintic.**—Aspidium spinulosum, which is one of the most common of the ferns of that region, has recently been examined by Walter Lauren, of the Pharmacological Institute of Helsingfors. Some years ago Flückiger, of Bern, showed that it contained resin glands, and Poulson obtained from it, by micro-chemical analysis, filicic acid. The author prepared a ten-per-cent. ethereal extract, and having found eggs of the Bothriocephalus in his own dejecta took 4 gm. of the extract prepared by himself. This he followed by ol. ricini, in about two hours. Two hours later he passed a Bothriocephalus latus, eight metres long, with its head entire. Investigations on others confirmed his results. The extract is best given in capsules, keratin-coated or hardened in formalin.—*Therapeutische Monatshefte*, April 13, 1899, p. 211.

[Since the official Aspidium (Dryopteris filix mas) is rare in this country, and the D. spinulosum is extremely common, more common even in the eastern States than D. marginalis, its inclusion in the next pharmacopœial revision might well be considered.—Ed.]

**Methyl Salicylate in Acute Rheumatism.**—The disagreeable taste, the disturbance of the stomach and intestines, and the poisonous effects of salicylic acid make a triad of effects which render this drug many times inadvisable in the treatment of articular rheumatism. The wide use of the oil of wintergreen in this country has led Dr. E. Schmoll (*Correspondenzblatt für Schweizer Aerzte*, 1899, No. 3) to use methyl salicylate by inunction. The investigations of Lannoir and Linossier have shown that it can be locally absorbed The author's results were assur-

ing in some twenty cases treated. The drug appeared as the sodium salt in the urine in from one and one-half to two hours, and the beneficial effects were noted as early as one and one-half hours after inunction, though the usual time for complete action was from five to six hours. Doses of from 2 to 6 gm. were employed with no untoward after-effects. He believes that the treatment by this method is contraindicated only on the first day of the acute stage of the disease. In subacute and chronic cases and in muscular pains of obscure origin, sciatica, and lumbago the drug is indicated.

**On Menstruation and Ovulation in Monkeys and in the Human Female.**—Dr. Walter Heape, of Trinity College, Cambridge (*British Medical Journal*, December 24, 1898), writes as follows: "A review of the various modern views of menstruation in the human female leads to the opinion that it will be found that while the histological phenomena accompanying menstruation in the latter may differ somewhat in detail from those in monkeys, they are practically identical processes; further, menstruation and 'heat' are very much more similar than has hitherto been recognized. With regard to the relation of ovulation to menstruation, if it is granted that menstruation in monkeys is the same process as menstruation in woman, then it can definitely be stated that ovulation does not occur during each menstrual period, and that it does not necessarily occur during any menstrual period. I have shown that menstruation frequently occurs without ovulation—probably this is the case during the whole of the non-breeding season; while Leopold and Miranoff have shown that ovulation may occur independently of menstruation in the breeding human female. The want of power to ovulate is no doubt one of the causes of sterility, and the importance of all considerations dealing with the process of ovulation is obvious to those who have to combat sterility. It is a fuller knowledge of the cause of ovulation which is required, and it is hoped it will be forthcoming and be found of assistance to those who desire to induce ovulation."

**Stigmata of Syphilis in Children.**—In a paper on the above subject read before the New York Academy of Medicine, March 2, 1899, Dr. R. H. M. Dawbarn enumerated some twenty-seven stigmata of syphilis, that aid in making an early diagnosis:

(1) The description given by Diday. The syphilitic child is wrinkled and drawn in features, with a yellowish-brown *café-au-lait* color, though with it all the child may not be poorly nourished, but on the contrary may be plump and rounded. (2) Thick umbilical cord, often over-long and slow to fall, leaving the child liable for a longer time than usual to septic infection through the navel. (3) Pemphigus, consisting of bullæ and blebs, at times invading the palms and soles, consisting usually of lesions vesicular in character, which may be small, discrete elevations, but sometimes large and confluent. (4) Erythema-syphilitic roseola, invading first usually the lower abdomen, coming on commonly about the third week; then the copper-colored patches, syphilitic pennies, as they have been called, though syphilitic farthing-pieces would be a better name. They are oftenest about the size of the baby's finger-nails. Cutaneous syphilides, however, occur in only twenty-five per cent. of the cases of congenital syphilis. (5) Condylomata. (6) Coryza. An attack of snuffles is always suspicious in the new-born; when it persists it is almost pathognomonic. A well-known woman novelist has given great publicity to the phrase "a little old man with a cold in his head," so picturesquely descriptive of the syphilitic child. (7) Laryngeal symptoms, especially a hoarse cry. (8) Mucous patches. (9) Stomatitis, especially when it becomes generalized. Holt considers a general stomatitis as a constant symptom of congenital syphilis. (10) Do not be deceived into a false sense of security as to syphilis by the absence of enlarged glands. Lymph-nodular enlargement is usually absent in congenital syphilis. (11) Hemorrhages, subcutaneous or from mucous membranes. (12) White pneumonia, though this is a post-mortem sign, and the specific nature of the pneumonia can only be suspected during life. (13) Hepatic enlargement but without jaundice. (14) The spleen is enlarged in over half the cases. It has been known to reach four times its normal size in three weeks. (15) The ground-glass cornea is pathognomonic. Other eye lesions occur, as iritis, but the keratitis is of most value. (16) Middle-ear disease. It is to be remembered that the Hutchinson triad of symptoms is the notched teeth, the specific keratitis and deafness, or middle-ear symptoms without known cause. (17) Alopecia, so that the infant looks like a badly plucked fowl. (18) Orchitis. (19) Neuroses, especially epilepsy and any and all forms of palsy. (20) Bone lesions—the first and most important, the syphilitic osteochondritis of the epiphyses. The child's bones are sore. It is tender when handled. Later rickets not infrequently develops. (21) Syphilitic periostitis, the syphilitic nodes of Parrott. (22) Syphilitic dactylitis. (23) Peculiar onychia. (24) The teeth come early and decay easily and soon. It used to be said that it was unlucky for a child to be born with teeth. (25) The Hutchinson teeth. In the permanent set of teeth the upper central incisors are pegged, apt to be separated, and are notched, the enamel having disappeared from the central portion of the cutting edge. (26) Irregularities and asymmetry in the bony skeleton. (27) Other enduring stigmata are: bosses on the skull, nodes on the long bones; chronic fissures of the corners of the mouth, or the whitish contracted cicatrices they leave after them; scars on the upper third of the legs; the remains of ulcers are especially significant if symmetrical.—*Medical News.*

**The Serum Reaction of Typhoid Fever.**—The fact that the reaction is usually absent during the earliest days of the disease has led many to the conclusion that its value is slight, since it is only in the earliest days of the disease that the diagnosis is difficult. But in answer to this it should be stated: (1) That the reaction usually is present when the patient first consults the physician, not when he begins to feel poorly. In most parts of the country typhoid is chiefly the disease of the less-educated classes, and hence little attention is paid to the earliest symptoms, and almost all cases are "walking typhoids" in the sense that they keep about for a day or two after they begin to have fever. Over ninety per cent. of the cases seen at the Massachusetts General Hospital since 1896 have shown the typical reaction at the time of entrance. (2) But even when the reaction does not appear until the second week or later, it is of the greatest diagnostic value in many cases—especially: (*a*) in the diagnosis of abortive or atypical cases; (*b*) in the differential diagnosis between typhoid and typhus, malaria, remittent, dengue, Malta fever, yellow fever, and other infections of tropical or semi-tropical countries; (*c*) in the identification of obscure forms of tuberculosis or deep-seated suppurative processes; (*d*) in the differentiation of typhoid from pneumonia and influenza; (*e*) in the retrospective diagnosis of typhoid. This last application of the serum test is of value not only for diagnosis, prognosis, and treatment, but in the investigation of epidemics and from various medico-legal standpoints.—Dr. Richard C. Cabot, "The Serum Diagnosis of Diseases," p. 81.

# MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM WOOD & CO., 51 Fifth Avenue.

New York, July 22, 1899.


## HOW SHALL THE DISPENSARY LAW BE ENFORCED?

THE special committee appointed by the State board of charities to prepare a form of license to be issued to dispensaries under the new State law has very wisely formulated inquiries to be answered by the managers of dispensaries in order that a consensus of opinion may be obtained as to the proper basis for action in the premises.

On a previous occasion, while commenting upon the provisions of the law in question, we had every reason for believing that they were of a character and scope to meet all necessary requirements, the main difficulty being in formulating such well-understood rules as should give them a thoroughly practical application. Now when opportunities are offered for securing the latter end it is to be hoped that all parties interested in the necessary reforms of medical charity will lend a helping hand to the committee and freely offer suggestions accordingly. Fortunately the explicit wording of the law leaves no doubt concerning its general purpose and its broad intention. It is only in matters of detail that any suggestions are solicited.

The first question regarding the requirements to be attached to each application for a license could seemingly be answered very satisfactorily by simple reference to the legal provisions to that end. Although from the standpoint of strict interpretations of the letter of the law there may be some differences of opinion, it will be comparatively easy for any conscientious board of managers to work harmoniously with the committee in preventing or suppressing obvious fraud.

The fundamental principle which should govern all decisions on minor points should rest upon the simple and well-understood assumption that medical charity is intended for the really poor, and for such only. It will be only with such institutions as are disposed to dodge the real issues in the case that there can be any possible trouble.

On the basis of common honesty of intention the public has the right and privilege of expecting more from a board of respectable and responsible citizens than from the ordinary dispensary patient, who when not really deserving will cheat whenever he can. Hence the second and third questions of the committee covering necessary rules for applicants for medical relief may be somewhat more difficult to answer than the first.

It may be easy to insist that only the deserving poor shall receive free medical treatment, but very difficult to guard against the fraudulent representations of the majority of applicants. These have been the difficult problems to solve from the very beginning of charitable work, and have afforded all sorts of opportunities for excusing every form of fraudulent pretension on the basis of the impossibility of offsetting it.

One reason for this was that there was no common ground of agreement between the dispensaries to act in concert against the monstrous evil. Now, however, there appears to be a chance for striking solid bottom on a level of common interest, and we may have hopes of reforms accordingly.

Everything must depend obviously on uniformity of system, and this is fortunately quite possible of attainment, if indeed it is not obligatory on the part of the State board having such regulations in charge. The whole responsibility of properly discharging the real duty of charity rests upon the dispensary managers. Obviously they must decide on the merits of all claimants. It is no longer a question of lack of power to do so. Any safeguard to the desired end can now be insisted upon with a sufficiently comprehensive law to enforce adopted regulations.

The pivotal point around which all real reform must revolve is the absolute abolishment of indiscriminate charity. The proof of worthiness must come from the applicant. This can be so easily obtained in the proper way that no one need suffer as the result of the most stringent safeguards. It is plainly to be seen as the result of long experience that the matter of deciding upon the merits of applicants should not rest with the examining physician. All his time should be occupied in the treatment of patients sent to him. The work of selection of persons entitled to free treatment should be left to some officer of the institution appointed for that special purpose and well acquainted with necessary detail work associated with his duties. He should preserve a list of all applicants and furnish a copy of the same to all other institutions of his class, so that all should have a proper basis of action against unworthy patients. By such a combination of interests the most accurate information can be obtained at a comparatively small cost and be a common stock of knowledge for all.

More than this, it would seem to be eminently judicious to adopt some form of certification for applicants by which each and every one should be suitably recommended by some proper sponsor. Except in cases of sudden accident or other emergency when there is no time to ask questions, there is no good reason why every applicant for relief could not in some way obtain proper credentials. A physician, clergyman, judge, or any other reputable citizen would answer every purpose. Whatever may be urged on theoretical grounds against the practicability of the scheme, it is safe to say that if some such preliminaries were made obligatory the institutions could

very consistently enforce them, and the applicants would quickly find the way of complying with them. But whatever suggestions may be made to the committee, and whatever may be the outcome of the prospective interchange of views, we shall await the ultimate conclusions with becoming concern

## THE FUNCTION OF THE SUPRARENAL GLAND.

The function of the so-called ductless glands has always been a matter of much interest as well as of obscurity, and it has of late been made a subject of considerable investigation. Of that of the suprarenal gland comparatively little is known, although it is believed that it has something to do with the disintegration of red blood corpuscles or the removal from the blood of the products of such disintegration. In a pathological way little more is known concerning the suprarenal gland than that its disease, and especially tuberculosis, is sometimes attended with the symptom complex of Addison's disease.

Physiological investigation of the action of extracts of the suprarenal gland shows that they have the power of increasing blood pressure, and it has been further shown that this property resides in substances contained in the medullary portion of the gland. Auld (*British Medical Journal*, June 3, 1899) has found that when an aqueous extract of suprarenal medulla is injected into a vein that has been clamped as high up as practicable, a marked diminution of pressure is recorded on releasing the vein after a few minutes, as compared with that produced by an injection into a free vein, and he concludes, therefore, that the pressure-raising substance undergoes a process of destruction in the blood. Further experiment by the same investigator shows that cats from which one suprarenal gland is removed survive, but die when the second is removed also or is destroyed, even when a long period elapses between the two operations. After the second operation the animal lies on its side in a state of intense weakness, has a peculiar drowsy look, and refuses to move. In one case, death was preceded by convulsions. On post-mortem examination no hypertrophy of the remaining gland was found when one alone was removed. On the other hand, the thymus gland was greatly hypertrophied and the spleen considerably enlarged. It is suggested that the hypertrophy of the thymus may be compensatory for the loss of the suprarenal, both structurally and functionally; while the enlargement of the spleen may be indicative of increased hæmolytic action.

The active principle in the medulla of the suprarenal gland is scarcely to be looked upon as a normal secretion, whose withdrawal can be made responsible for the symptoms attending removal of the gland on each side. These symptoms, however, suggest the rapid accumulation in the system of a toxic substance that is not likely to exist in the blood as a vaso-constrictor, but as a result of the decomposition of which by the suprarenal gland a vaso-constricting substance may be formed. The pigmentation of Addison's disease and the chromogenic properties of the suprarenal point to a constituent of (effete) hæmoglobin as the toxic agent. The conclusion is reached that the function of the suprarenal consists, in part at least, in destroying deleterious substances and also in furnishing certain substances to the blood. As the work seems to be done by the medulla, there is ground for regarding the vaso-constricting substance as evidence of the former function. Finally, the employment of thymus feeding is suggested in the treatment of Addison's disease.

## THE ACTION OF ALCOHOL.

Professor Attwater, of Wesleyan University, who has recently conducted a series of experiments to determine the effects of alcohol on the human system, has reached the conclusion previously held by all but the most rabid and unscientific prohibition advocates, that alcohol taken in small and digestible amounts is a food. The experiments were mainly undertaken with a view to determine the nutritive value of alcohol. This substance was given in various forms, and pure alcohol was also administered with water or coffee. It was taken with meals. It was found that alcohol is oxidized in the same manner as any other food materials, and is transformed into heat and muscular energy. Unlike, however, the fats, starch, and sugar, it does not form tissue, but gives forth energy. The experiments were not conducted for a sufficiently long period to demonstrate what the effects upon the human organism might be of the habitual use of alcohol, yet many writers in the daily press have assumed that they have proved the innocuousness of alcohol as a beverage. This is, of course, far from being the case, and the promulgation of any such belief would be nearly as injurious as is the other more familiar extreme advocated so strenuously by intemperate prohibition orators.

## FEVER FIGHTING.

With the return to Santiago of Dr. General Leonard Wood after so brief a vacation period there goes the sustaining sympathy of the country's entire medical profession. The physician no less than the soldier knows what it means to be called upon for a new duty requiring sustained effort before natural recuperation from the last endeavor has taken place.

General Wood, combining in his personality the attributes of a brave soldier and a true physician, is not only doubly equipped to fight the yellow fever as he formerly fought a human foe, but he can the better respond to duty's call without a murmur of complaint or thought of selfish inclinations. We should not for a moment forget the vast importance to this country of the battle now being carried on against dirt, disease, and death. The constant menace of years to this whole country, but especially to our Southern States, must in the nature of things require long-continued effort to overcome. The material in the man's composition which permitted him to do what he did

to the Apaches in Arizona, to the Spaniards at La Quasima, and to the starving Cubans at Santiago will enable him to cope successfully with Yellow Jack at the present time.

A man who in a few short months can make a comparatively clean city out of a pest-hole, reducing the mortality from two hundred a day down to ten; a man who can overcome the prejudices of age and instill the elements of hygiene into minds where no suspicion of it ever lurked before; a man who at the same time can establish such radical reforms in all branches of public service as Dr. Wood has done in Santiago is the man the country wants there now to fight the fever, and we can but express our regret that the anticipated vacation and change of scene should have been so rudely interrupted.

## News of the Week.

**Philadelphia Hospital.** — Dr. Henry W. Cattell has been elected pathologist in succession to Dr. John Guiteras, resigned.

**The Alvarenga Prize** of the College of Physicians of Philadelphia has been awarded to Dr. Robert L. Randolph, of Baltimore, for his essay entitled "The Regeneration of the Crystalline Lens; An Experimental Study."

**The Cumberland County (N. J.) Medical Society** convened at the Doughty House, Millville, July 11, 1899, with Dr. Ellsmore Stites presiding. Dr. G. E. Day read a paper on "Rational Therapeutics." Several interesting cases of eye strain were also reported by him.

**To Prevent the Spread of Contagious Diseases,** the Pennsylvania State board of health has adopted a regulation requiring teachers in schools whose boards act also as boards of health to report immediately to the secretaries of such boards or to the agents designated by them all cases of contagious diseases occurring in their respective schools.

**Tuberculosis in Baltimore.**—The health commissioner of Baltimore, Dr. C. Hampson Jones, has just prepared a map of that city showing the sections in which deaths from tuberculosis occurred during 1898. The largest number was naturally in the more crowded districts, and many of the victims were negroes, but the few cases in the better portions of the city were partially accounted for by the fact that patients of the wealthier class generally seek a milder climate and die away from home.

**The French Association for the Advancement of Science.**—The next meeting of this association will be held at Boulogne-sur-Mer, on September 14–21, 1899. On this occasion a statue of Duchenne de Boulogne will be dedicated. A new sub-section on medical electricity has been created, and its first sessions will be signalized by discussions on "Electrolysis in the Treatment of Stricture," "Radioscopy and Stereoscopic Radiography," "Recent Progress in Radiography," and "Technique and Results of Endodiascopy." The chairman of this sub-section is Dr. J. Bergonié, of Bordeaux.

**The London Polyclinic** recently opened appears to offer to physicians going abroad for study that concentration of instruction which has always been so notably lacking in the great English metropolis.

**For the Protection of the Water Supply.**—In accordance with an act passed by the last legislature for the prevention of the pollution of water supplies of cities of the first class, the Pennsylvania State board of health has adopted a regulation forbidding the pollution of the Schuylkill River by deposits of excrements, whether from houses, manufactories, or boats.

**The Death of the Tsesarevitch.**—The Grand Duke George, of Russia, whose death was announced last week, succumbed to hæmoptysis coming on during a bicycle ride. He was alone, and had been riding very rapidly, when he suddenly began to spit blood. He alighted from his wheel and died almost immediately, while a peasant woman, the only person near at the time, was bathing his mouth and temples with cool water.

**Time and Temperature.**—A Massachusetts physician recently in this city for a few days' sight-seeing was waylaid and deprived of his valuables, including a gold watch. The thieves left the doctor's thermometer, which the morning papers said was because it was "chained to the vest." We presume the unfortunate physician is now measuring his patients' fever more accurately than ever, while guessing at the pulse-rate, and possessing his soul in patience with the thought that those who take time in the here are apt to do time in the hereafter.

**The Lying-In Hospital.**—The plans of the new building to be erected by Mr. J. P. Morgan for the Lying-In Hospital provide for a terra-cotta, brick, and limestone structure with a steel frame, nine stories in height. The building will occupy the west side of Second Avenue from Seventeenth to Eighteenth Street, fronting one hundred and eighty-four feet on the avenue, eighty-two feet on Seventeenth Street, and one hundred and sixty-five feet on Eighteenth Street. The main entrance will be on the avenue side. The lower part will be built of limestone, and the superstructure of brick with terra-cotta facings.

**The Cultivation of the Bacillus Lepræ.**—At a recent meeting of the National Academy of Medicine of Bogota, Dr. Carrasquilla asserted that he had successfully cultivated the bacillus lepræ on sloped solidified human serum and on beef bouillon prepared according to the method of Thoinot and Masselin. The bacillus was then cultivated from serum to serum, and from bouillon to bouillon, pure cultures being always obtained. Dr. Carrasquilla further states that he observed the bacillus in motion in two stages of its development—as long, slender bacilli, which move in an undulatory manner; and as short, coarse, almost ellip-

tical bodies moving rapidly in a straight line. In the latter he fancies he has observed flagella, but he is not positive as to this. His results do not entirely accord with those obtained by Professor Spronck, of Utrecht, who has also claimed to have cultivated Hansen's bacillus. Professor Campana, of Rome, has also convinced himself that he has successfully cultivated the bacillus lepræ. These experiments require confirmation and extended observation before they can be accepted as absolute.—*British Medical Journal.*

**An Epidemic of Tetanus** has followed the noisy demonstrations on Independence Day, and we may once more ask ourselves if the Chinese method is the best one for the celebration of our national holiday. The Chicago *Tribune* has published figures gathered from correspondents throughout the country, showing a loss of one hundred and forty-one lives as a result of the last Fourth-of-July celebration. Some of these died on July 4th, and the others from injuries received then. Tetanus caused the death of eighty-three out of the one hundred and forty-one. Twenty-six deaths from tetanus occurred in this city and its immediate environs during two weeks following the Fourth. The serum treatment has had a quite extensive trial and appears to have been rather unsatisfactory in its results. It will not improbably be found that Baccelli's carbolic-acid treatment is more reliable and productive of better results than orrhotherapy as at present employed.

**The Hospital Ship "Relief"** is expected shortly in San Francisco with about two hundred and fifty sick soldiers from Manila. She was considerably delayed off the China coast by a succession of heavy storms.

**Special Allowance for Sick Soldiers.**—In an order recently issued by the War Department special provision is made for soldiers sick in hospital by the allowance of forty cents a day a man for the purchase of delicacies and extra diet.

**Sneak Thieves in a Hospital.**—Two sneak thieves entered the Monmouth Memorial Hospital one day last week and succeeded in carrying off money and gold watches and rings worth several hundred dollars. The men told the matron that they had been sent there to put up gas fixtures, and while the matron and the nurses were at lunch the men ransacked their rooms and escaped.

**A Corps of Female Army Nurses.**—An order has been issued for the organization of an army nurse corps, under the direction of the surgeon-general. The corps will be under the immediate supervision of Dr. Anita McGee. It will consist of chief nurses, nurses, and reserve nurses. The surgeon-general may assign female nurses to duty at all army hospitals where the cases treated require the care of trained nurses. Contracts for nurses will be for one year, except for immune nurses, who will not be required to sign for any definite period. For service in the United States a nurse will receive $40 per month, and in any of the colonies $50. Chief nurses over from five to ten nurses will receive $10 additional, and those over ten or more nurses $25 additional. In case a nurse becomes ill while in the service, medical attendance and care will be furnished, but extra leave, with pay, will not be allowed.

**A Protest Against Christian Science.**—A meeting was held in this city on Thursday evening of last week, at the instance of the Medical and Legal Relief Society, to discuss plans for the abatement of the abuse of Christian Science. The draft of a proposed bill was presented, the bill providing that any person advising another person not to call a doctor or surgeon in case of illness or injury should be deemed guilty of a misdemeanor, and, if the illness or injury resulted in death, of manslaughter. There were members of the sect present, and they seized upon the opportunity thus presented of expounding their tenets and reviling all sane objectors. The proposed bill was faulty in many respects, and the meeting adjourned without recommending that it be enacted. The chairman announced that he would appoint a committee to consider the bill.

**The Yellow Fever in Santiago** is believed to have been stamped out, no new cases in the city or camps having been reported at present writing, for several days. The last case was that of a hospital nurse who was supposed to be an immune. General Wood announces the end of the epidemic, but has ordered that the troops be kept in the mountains until the end of the rainy season in November.

**Dr. A. Jacobi,** of this city, has been made an honorary president of the thirteenth International Medical Congress, to be held in Paris in the summer of 1900. It is gratifying to learn that an American has been selected among those to be honored in this way, and upon no one could the honor be more fittingly bestowed than upon Dr. Jacobi, who has in many of these international gatherings done so much to promote the interests and widen the fame of American medicine.

**The Plague** is still raging in Hong Kong, there being from twenty-five to thirty deaths a day and nearly double that number of new cases. The disease is confined to the Chinese part of the city, no Europeans having been attacked. The sensational papers here are making the most of an alleged alarmist article in the *British Medical Journal* predicting an invasion of Europe and America by the disease, and urging the sending of an international commission to avert the evil. There is undoubtedly some danger that the plague may invade certain countries of Europe, such as Turkey and Spain, where cleanliness and sanitation are but little practised, but the fact that cleanly Europeans in the East so seldom fall victims would indicate that there is little cause to apprehend an epidemic of the disease in any civilized region of Europe or America. A correspondent of the *Evening Post* states that great interest has been aroused by the extended tests to which Dr. Haffkine's plague prophylactic is to be put. Captain Leumann, of the Indian medical service, who has been lent to the government of Natal

to introduce inoculations there, has taken fifty thousand doses with him. Lieutenant Stephens has been lent to the government of Mauritius, and has taken twenty thousand doses. At the request of the Chamber of Mines of Johannesb rg, ten thousand doses have been sent there. The consul-general at Zanzibar has applied for ten thousand doses, the crown agents of the Gold Coast Colony for three thousand, and one thousand have been sent to the Russian governor at Nicosia. The Italian government has applied for small quantities, and a supply also has been sent on private demand to Hong Kong.

**University of Pennsylvania.**—The faculty of the University of Pennsylvania has recommended the election of Dr. James Tyson as professor of medicine, of Drs. John H. Musser and Alfred Stengel as professors of clinical medicine, of Drs. Judson Daland, M. Howard Fussell, John K. Mitchell, and F. A. Packard as assistant professors of medicine, and Dr. Gwilym G. Davis as assistant professor of applied anatomy.

**Instruction in Diseases of the Nervous System in London.**—American physicians visiting London during the autumn are often disappointed at finding most of the better known physicians away from town, and the various clinics either closed or left in the hands of younger men. The staff of the West End Hospital for Diseases of the Nervous System, 73 Welbeck Street, have therefore decided to give a short course of clinical demonstrations for practitioners visiting London during a part of August and September. These will be given each Tuesday and Friday afternoon, commencing August 18th.

**Infant Mortality.**—In a recent report, Dr. S. W. Abbott, of the Massachusetts board of health, says that, while very marked improvement has taken place, in Massachusetts, in most directions as a result of sanitary work on the part of the health authorities, very little progress appears to have been made in limiting the death rate of infants. Beyond all question, he thinks, the most important factor in diminishing the infantile death rate lies in the direction of the food supply. "Further improvement of the milk supply of our cities is needed; the co-operation of women's sanitary associations, whose organizations should be encouraged; the intimate control by boards of health of the methods of feeding among the laboring classes; the establishment of day nurseries, or crêches, in manufacturing cities, under careful sanitary control, and the circulation of literature generally aimed at improvement in this line of sanitary work."

**Prize Essay on the Tropical Army Ration.**—Appreciative of the necessity for proper food for the men of the army and navy serving in tropical climates, Dr. Louis L. Seaman, late major-surgeon First Regiment United States volunteer engineers, has offered through "The Military Service Institution of the United States" the sum of $100 in gold (or a medal of that value as the successful competitor may elect) for the best thesis on "The Ideal Ration for an Army in the Tropics." This competition is open to all commissioned medical officers of the army and navy (volunteer or regular). The executive council of the Military Service Institution, at its meeting of the 14th inst. at Governor's, Island, adopted a resolution of thanks to Dr. Seaman for his handsome offer, and decided that all papers on this subject should be submitted by March 1, 1900, and that Colonel Weston, acting commissary-general, Lieut.-Col. Charles Smart, deputy surgeon-general, and Lieut.-Col. William E. Dougherty, Seventh United States Infantry, be requested to act as the board of award.

**Dr. Charles Lewis Allen**, of Washington, D. C., has been appointed pathologist and second assistant physician at the New Jersey State Hospital at Trenton.

**Medical-License Decision.**—The Dauphin County (Pa.) court has declined the request of Dr. George W. Ludwig, of Chambersburg, to mandamus the State Medical Council to issue a license to him to practise medicine in the State of Pennsylvania on the ground that a license obtained in the State of Maryland gives him this authority. The Medical Council having stated under oath that the medical law of the State of Maryland fails to meet the demands of the medical law of Pennsylvania, and that its requirements for licensure are not substantially the same, the court held that the council is by act clothed with discretion in the premises, and the rule was discharged.

**A City Hospital for Norfolk.**—A correspondent writes that probably no city of its size in the South needs a city hospital as badly as does Norfolk. Two hospitals exist there now, but the Protestant hospital being inaccessible, necessity compels the drift of patients to the other.

**The Colorado Medical-Practice Bill,** known as the Cannon bill, passed both houses of the legislature by a good majority, but was vetoed by the governor on the ground that "medicine is not a science which has reached perfection, but merely a series of experiments." The proposed law was not a very stringent one, but still called for an examination as a test of fitness.

**Validity of a Legacy to a Physician.**—A decision has recently been rendered by the surrogate of Rensselaer County, in this State, whereby a physician's wife was debarred from receiving a legacy from one of her husband's patients. This patient, a man eighty years of age, while in his last illness revoked a will leaving his property to a sister who had lived with and attended him, and made a new one devising nearly the whole of his estate to the wife of his attending physician. The will was contested by the legal heirs, and the surrogate revoked the probate of the will, holding that there being no sufficient explanation of the man's action in revoking his former will and devising his property to one who was no relative and a comparative stranger, the presumption remained that undue influence had been exerted by the attending physician.

**Navy Department,** Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending

July 15, 1899. July 8.—Surgeon L. B. Baldwin detached from the Key West naval station and ordered to hospital, New York, for treatment; Past Assistant Surgeon R. G. Brodrick granted sick leave for six months; Assistant Surgeon R. K. McClanahan detached from the naval hospital, Philadelphia, Pa., and ordered to the Key West naval station. July 10.—Past Assistant Surgeon L. L. Young sick leave extended three months. July 13.—Surgeon J. M Steele detached from duty in connection with recruiting rendezvous at Baltimore, Md., and ordered home to wait orders.

**The Late Dr. William H. Neilson.**—At a special meeting of the New Rochelle Medical Society, held July 7, 1899, the following resolutions were adopted:

"*Resolved*, That the members of the New Rochelle Medical Society desire hereby to express their deep regret at the sudden death of their late associate, Dr. William H. Neilson, and the great loss the profession and the community have suffered by the untimely removal of one of its most accomplished members.

"The society further desires to express the deepest sympathy for his family in their bereavement.

"*Resolved*, That as a further mark of respect for the late Dr. William H. Neilson, the above resolutions be spread upon the minutes of the society, a copy be sent to the family, and published in the MEDICAL RECORD and the New Rochelle papers.

"R. CONDIT EDDY, M.D., T. PASSMORE BERENS, M.D., C. NELSON RAYMOND, M.D., *Committee*."

**Obituary Notes.**—DR. J. WILLIAM NIEDECKER, of Brooklyn, died of apoplexy on an elevated road station July 17th. He was born in Cleveland, Ohio, and was thirty-eight years old. He was a graduate of Columbus College and of the Long Island Medical College. He began practice in Brooklyn about nine years ago. He leaves a widow and four sons.—DR. GEORGE W. BABCOCK, of Chelsea, Mass., died July 14th, at the age of eighty-four years. He was one of the founders of the Massachusetts Society of Medical Examiners.—DR. RUSSELL STURGIS, of Boston, died July 17th. He was a graduate of the Harvard University Medical School in the class of 1881.—DR. EDWARD S. GARNER, of St. Joseph, Mo., died July 6th, after a brief illness. He was a graduate of the College of Physicians and Surgeons, New York, in the class of 1883, and served on the house staff of the Presbyterian Hospital from 1883 to 1885. He was chief surgeon of the St. Joseph and Grand Island Railroad and was a member of the Missouri State board of health. He went to St. Joseph soon after finishing his studies here, and rapidly gained reputation and success as a surgeon.—DR. CHARLES J. SIGLINGER died of pulmonary tuberculosis at Philadelphia on July 12th, at the age of forty-two years. He was graduated from Jefferson Medical College in 1890.—DR. KATHARINE N. NORTHROP, resident physician at the Pennsylvania State Asylum for the Chronic Insane at Wernersville, died suddenly at Reading on July 15th. She was a graduate of the Woman's Medical College of Pennsylvania in 1889.—DR. JAMES GEARY, coroner's physician in the borough of the Bronx, died suddenly at his home Monday night, of heart disease. He was born in Morrisania in 1869, and was educated at St. John's College, Fordham. He received his medical degree from the Bellevue Hospital Medical College in 1892. In 1893 and 1895 he was house physician at St. Francis' Hospital. He leaves a widow.

## Obituary.

### JAMES ELLIOT GRAHAM, M.D.,

TORONTO, CANADA.

DR. J. E. GRAHAM, President of the Ontario Medical Association, and who was one of the best known members of the profession in Canada, died of diabetic coma July 7th, in his fifty-third year. He received his early education at Upper Canada College and graduated in Medicine at Toronto University in 1869, being gold and star medallist of that year. The following year he was resident physician at Brooklyn City Hospital, and left there on his appointment as surgeon without rank in the Prussian army, a position which he held through the Franco-Prussian war. After pursuing a post-graduate course in Vienna and London, where he obtained the diploma of L.R.C.P., he returned to Canada and commenced practice in Toronto in 1872. During the early years of his professional career he became identified with the medical faculty which has since been federated with Toronto University. In 1887, he was appointed professor of clinical medicine and medical pathology, and lecturer on dermatology. In 1892, he was appointed professor of medicine, which position he held at the time of his death.

Dr. Graham was president of the Canadian Medical Association in 1887, of the American Dermatological Association in 1889, and was one of the original members of the Association of American Physicians. He was largely instrumental in the organization of the Ontario Medical Association, and has always been numbered among the most active of the members of that society. His unanimous election to the position of president of that organization at its last meeting was a just and worthy tribute to one whose zeal for the welfare of the profession was at all times untiring. In matters pertaining to medical education he always took a deep interest and exercised great influence. His aim was ever to raise the standard. He took special interest in the practical aspects of medical education. He was himself an admirable clinical teacher, and did a great deal toward placing clinical instruction in the important position it now occupies in Canadian medical institutions. His position as a member of the senate of Toronto University gave him excellent facilities for fostering and developing the best interests of everything relating to medical education.

Dr. Graham was the first physician in Ontario who gave up general practice and devoted himself entirely to internal medicine. He was also the first physician in Ontario who became purely a consulting physician. For several years before his death he was generally recognized as one of the most prominent physicians in Canada. He loved the practice of medicine. Year after year he pursued his labors with a quiet sustained enthusiasm that could spring only from a genuine scientific spirit. Death took him in the plenitude of his powers. It has taken from the Canadian profession one who was always alert to its truest and best interests, and from his friends one whose place in their hearts can never be filled.

# Reviews and Notices.

THE PRINCIPLES OF BACTERIOLOGY. By DR. FERDINAND HUEPPE. Translated by DR. E. O. JORDAN. Chicago: The Open Court Publishing Co.

THIS is a very instructive book on the details of bacteriology, comprising a critical and comprehensive exposition of the same, based on scientific conceptions. The standpoints of the botanist, the general biologist, and the chemist have been utilized for the completeness of the work. The book is interspersed with illustrations, thus adding to its value. The translation has been well accomplished, and the book will certainly be a welcome addition to the physician's library.

DIE LARYNGO- UND RHINOLOGISCHEN UNTERSUCHUNGS-METHODEN. Von DR. GUSTAV ABELES, Assistent des Kaiser Franz Josef (früher Mariahilfer) Ambulatoriums in Wien, praktischer Arzt. Mit 25 Abbildungen im Texte. Leipzig: C. G. Naumann. 1899.

IN this little book of one hundred and fifty pages, the various methods in use for making nose and throat examinations are fully and clearly discussed. The first few pages are devoted to a *résumé* of laryngo- and rhinological technique, and the rest of the work is divided into three sections. The first of these treats of the examination of the mouth and the external parts; the second deals with laryngoscopy proper, together with the various manipulations that are practised on the larynx; while the third is devoted to the nares and nasopharynx. The book is written from the beginner's standpoint, and the many difficulties and mishaps inevitable to the tyro at this especially trying branch of surgical manipulation are described in turn, and their remedies suggested. The different models of instruments, lamps, etc., are well illustrated, and their comparative merits set forth. It would be unjust to the author not to mention the entertaining way in which he handles his subject and makes his little work most interesting reading, and it is to be hoped that it will meet with the recognition it deserves.

DIET IN ILLNESS AND CONVALESCENCE. By A. W. WINTHROP. New York: Harper & Brothers. 1899.

THIS little book is founded on "Diet for the Sick" published in 1885. Experience gained at Montauk Point, and suggestions from surgeons and nurses at the hospital camp, have been utilized. Valuable recipes, taken from the lips of accomplished cooks, have been printed, and thus we have before us one of the most valuable and instructive books on dietetics that have been published in years. At the same time we feel that illustrations (very poor ones) of patches in typhoid fever are certainly out of place, and can well be left out. Otherwise the book well fills its mission and can be utilized to advantage. The chapter on "Infant Feeding" is certainly very superficial, and cannot be used as a guide for the proper feeding of children.

CLINICAL LECTURES DELIVERED BEFORE THE STUDENTS OF THE IMPERIAL MOSCOW UNIVERSITY. By G. A. ZACHARIN, M.D., Late Professor (Emeritus) of Clinical Medicine and Director of the Therapeutical Faculty Clinic of the Imperial Moscow University; Honorary Member of the Imperial Academy of Sciences at St. Petersburg. Translated from the fifth Russian edition by ALEXANDER ROVINSKY, M.D., Member of the Massachusetts Medical Society. 487 pages. Boston: Damrell & Upham. 1899.

WE should feel extremely grateful that an opportunity is afforded us to read in English the ideas and teachings of the great Russian physician, he who did so much for his profession in his own country both scientifically and socially, who made it respected as it should be where, before his influence was felt, the doctor received scant courtesy. The lectures are most instructive, and we notice that unusual attention has been paid in them to the method of examining patients and to their treatment. His system of interrogation is an especially complete one, and will be of great interest to teachers of medicine. So, too, his careful hygienic instructions, the minute individual teaching which he gives each patient, the thorough exposition of his ideas concerning the mineral waters—how, when, at what temperature, and what kind should be given—all are particularly interesting The volume is so arranged that we have the history, physical signs, and laboratory evidences before we reach the diagnosis and treatment, thus arousing our interest and affording us as practical experience as could be given in a book. Among the many diseases presented to his clinic we notice those of the gastro-intestinal tract, pancreas, liver, and gall bladder, joints, kidneys, blood, and lungs. Twenty-three pages are devoted to balneotherapy, and as many more to cholera Among special articles are those on bloodletting, on calomel, on syphilis of the lungs and heart, and the treatment of fever.

A TEXT-BOOK OF ANATOMY BY AMERICAN AUTHORS. Edited by FREDERIC H. GERRISH, M.D., Professor of Anatomy, Bowdoin College. Illustrated. Philadelphia and New York: Lea Brothers & Co. 1899.

IN this very handsome volume we have probably the best American contribution to didactic anatomy. The authors in their preface have stated their desire to present a work to take as much as possible the work of the living teacher, and they have omitted the enormous mass of detail which has accumulated in anatomical literature in the last decade. The book is divided into sections written by various authors, so that one or more sections form monographs by particular men on particular subjects, usually with very satisfactory results. The plates showing the origin and insertion of muscles are particularly good, and these, as well as those showing the vessels and ligaments, are up to the best standard. The plates of the bones are not quite up to the standard set by one or two other anatomical works. The book ought to make a very excellent one for the student to learn from, and will also serve as a refresher for the surgeon, Many of the figures are copies from several sources, notably Testut, and of this due acknowledgment is made.

LES VERRES ISOMÉTROPES. Par le DR. DE BOURGON. Paris: A. Maloine. 1899.

THIS monograph is a treatise on the physical and optical properties of spectacle lenses made of a new glass, of secret composition, devised and patented by Mantois, who, for some reason unexplained, has named it isometropic. A year ago these lenses were put on the market by la Maison Fischer, Paris, and they have been favorably reported on by several oculists and exploited in the lay press. The advantages of the new glass over the crown glass commonly used in spectacle lenses are, first, that it is more homogeneous, limpid, and transparent; and, second, that it is harder and of higher refractive index, so that for a lens of given focus the curvature is less and there is consequently less spherical aberration. On the other hand, the disadvantages of the new glass are its great dispersion and its excessive chromatic aberration, which render strong lenses of this composition useless. Pebble lenses, while hard and beautifully transparent, must be cut in a certain relation to the axis of the crystal in order to be satisfactory. The most singular property of the new glass is its impenetrability to the Roentgen rays, and while lenses of pebble or of crown glass, even though tinted, come out pale in a skiagraph, the isometropic lens comes out quite black. By thus cutting off the Roentgen and ultra-violet rays, the author states that the wearing of plane isometropic glasses alone has sufficed to relieve retinal asthenopia in several patients.

The treatise is very complete, and the author seems to have considered every aspect of his subject.

CHIRURGIE DE L'ESTOMAC. Par F. TERRIER, Professeur à la Faculté de Médecine, etc.; et HARTMANN, Professeur agrégé à la Faculté, etc. Paris: G. Steinheil, Editeur. 1899.

THIS volume is a complete work on the subject of its title. There are more than three hundred pages very well printed, and there are also scores of excellent engravings, many of them semi-diagrammatic and exceedingly helpful in elucidating the text. The first two chapters give us very complete descriptions of methods of examination of the stomach, and of the proper way of performing lavage. The operative surgery of the organ is then taken up, beginning with gastrotomy and going on through every operative procedure which has been attempted. The descriptions are concise and clear, and the bibliographical references unusually complete. The recent successes in removing the whole stomach are mentioned, and a very full description of the first case is

given. For the surgeon who wishes to know the present status of the surgery of the stomach, this is undoubtedly the book—if he can read French.

ELECTRO-HÆMOSTASIS IN OPERATIVE SURGERY. By ALEXANDER J. C. SKENE, M.D., LL.D., Professor of Gynæcology in the Long Island College Hospital, etc. New York: D. Appleton & Co. 1899.

THIS is, as it were, a supplement to the author's larger work on women's diseases. Advances in methods, instruments, and technique have been given greater elaboration. The work of one hundred and seventy-three pages is freely illustrated, and much explanatory description is rendered unnecessary by the drawings. The author advances some original and radical views upon the subject of electro-hæmostasis, which are of decided interest.

THE SURGERY OF THE HEAD AND NECK. By LEVI C. LANE, A.M., M.D., Professor of Surgery in Cooper Medical College, San Francisco. Second edition. Philadelphia: P. Blakiston, Son & Co. 1898.

THE author of this volume has attempted to make his work a complete treatise on the surgery of the head and neck. He has been successful in one way, and that is from the point of completeness, for on reading the pages it is next to impossible to think of any condition belonging under this title which has not been commented upon. The question of utility, however, is quite another matter, and the usefulness of a work of this kind is, we think, doubtful. The average reader or investigator wants rather monographs upon individual subjects by men who have been devoting special attention to those subjects, and he does not care to run through the numerous pages of a treatise of this sort only to find some more or less general information upon the matter in which he is interested. This book shows extensive knowledge and experience upon the part of the writer, who is also a man of erudition, and parts of it make interesting reading for the surgeon. There are very few illustrations for a book of its size, and the bookmaker's work leaves much to be desired.

RAILWAY SURGERY. A HANDBOOK ON THE MANAGEMENT OF INJURIES. By CLINTON B. HERRICK, M.D., Lecturer in Clinical Surgery, Albany Medical College, Surgeon to the D. & H. and the Fitchburg Railways, etc. Profusely illustrated. New York: William Wood & Co. 1899.

WE have in this volume a handbook upon a subject of growing interest and importance, on account of the increasingly prominent part taken by railways in modern life. The author has given us a volume of nearly three hundred pages, in which he discusses systematically the various forms of traumatism which occur among railway workers and passengers. There is a useful chapter upon sterilization and emergency work, and a description of a car hospital, which shows how far some railroads have advanced in this direction. The chapters upon the very severe crushes are naturally the most interesting in a work of this kind, since these are the most characteristic injuries. Conservatism, wherever possible, is strongly advised, and excellent advice for the performance of amputations, when necessary, is given. The illustrations are numerous, and of very high class. There is also a chapter upon traumatic neurasthenia.

CYCLIC LAW. By THOMAS E. REED, M.D., Middletown, Ohio. 1898.

SINCE a supra-eminent German professor, who administered remedies for chronic diseases according to the ebb and flow of the tides, taught the author that births occurred at the flow and deaths at the ebb, he has for many years made the matter a subject of investigation, and now publishes the results of his observations for the edification of the profession. In one hundred and sixty-seven 16mo pages are discussed many problems, including the laws governing sex and tide cyclic influence in the obstetrical field. Many "original observations" are made, which the author believes if applied in practice will be found "vastly valuable" in prolonging and saving human life. The reader will undoubtedly be edified by this book, and at its completion will agree with the writer "that which we know is little, that which we are ignorant of is IMMENSE."

# Clinical Department.

## A CASE OF COMPLETE LARYNGECTOMY FOR EPITHELIOMA—RECOVERY.[1]

By F. C. ARD, M.D.,

ASSISTANT SURGEON NEW YORK EYE AND EAR INFIRMARY; ATTENDING SURGEON EYE AND EAR DEPARTMENT, MUHLENBERG HOSPITAL, PLAINFIELD, N. J.

THE patient I present for your examination this evening has recovered from two radical operations on the larynx within the past five months. The first, a partial laryngectomy, was done on November 28, 1898, and owing to a recurrence of the growth within a few weeks a complete laryngectomy was done on February 19, 1899, from which she has made an excellent recovery.

Mrs. H——, married, aged forty-one years, was referred to me in June, 1898, by Dr. W. H. Murray. At that time the only symptom of which she complained was hoarseness. The family history, so far as it could be obtained, was good; her mother is living at the age of eighty years. There was neither history nor evidence of syphilis. She has always enjoyed good health with the exception of annual attacks of tonsillitis. The hoarseness dates from one of these attacks in October, 1897, and had been continuous up to the time of her first visit to my office. On laryngoscopic examination I discovered an irregularly shaped mass of reddish color situated just above the anterior commissure of the vocal cords and projecting into the cavity of the larynx. There was no infiltration of the surrounding tissues. The vocal cords were normal in appearance, with movements unimpaired, and the growth was not ulcerated. There was absence of pain, dysphagia, and dyspnœa, and there was no evidence of glandular infection. The growth had every appearance of a papilloma, and I so considered it at that time. Within a few weeks a troublesome cough developed with considerable inspiratory dyspnœa, and as alcohol sprays had been tried faithfully, and the patient had taken liberal doses of potassium iodide without results, I removed the growth in the latter part of July, using the McKenzie forceps. Shortly after this I left town on my vacation, and did not again see the patient until early in September. She then stated that for a period of two or three weeks after the removal of the growth she had been very comfortable; she had had no dyspnœa, her voice was much improved, and she had had very little cough, but the symptoms had gradually returned until her condition was, as she expressed it, "as bad as ever." Examination showed a recurrence of the growth at the original site, and it was almost as large as before.

The tissue removed in July, having been preserved, was handed to Dr. B. Van D. Hedges, pathologist to Muhlenberg Hospital, for microscopical examination. He reported the growth to be an epithelioma, and that his diagnosis had been confirmed by Dr. Tuttle of the Presbyterian Hospital laboratory. Specimens were also sent to the laboratory of the College of Physicians and Surgeons, and the following report was received:

"Typical epithelioma; the whole specimen is overrun by branching and anastomosing columns of epithelial cells which do not repeat the normal structure of the corium; hypertrophy of papillæ is insignificant, and the growth has no resemblance to any of the papillomata. There are many epithelial pearls and cell nests, and masses of prickle cells. The cells in general are very large and atypical, many of the nuclei

[1] Read before the section on laryngology and rhinology, New York Academy of Medicine, March 22, 1899.

showing karyokinetic division figures, and the tumor looks as though it could grow rapidly. There is a moderate degree of inflammation, but in the specimen no ulceration. The whole thing is purely an epithelial invasion."

Dr. Emil Mayer saw the case with me at this time and stated his belief that the growth was an epithelioma. The diagnosis of malignancy being established and the case being a favorable one for operative procedure owing to the localized character of the growth, I referred the patient to Dr. George Emerson Brewer for an opinion. He advised a partial laryngectomy, and on November 24th, at the hospital of the Private Hospital Association, did a partial laryngectomy, a preliminary tracheotomy having been done several days before. An incision, extending from the hyoid bone to the first ring of the trachea, was made into the larynx. The growth with the vocal cords and the anterior third of each thyroid cartilage was removed. The patient left the hospital in about two weeks.

Shortly after she returned to Plainfield I made an examination of the larynx, and found in the same situation what closely resembled granulation tissue. As this has been mentioned in the history of cases reported particularly by Semon, it gave me no concern, but its subsequent growth, together with the rapid development of former symptoms, soon demonstrated that we had to deal with a recurrence. The patient's condition was such on February 18th that I removed her to Muhlenberg Hospital, where a tracheotomy could be quickly done if necessary, and on February 19th I asked Dr. Brewer to see her again with Dr. Murray and myself. The result of the conference was to offer the patient the only chance for recovery by advising a complete extirpation of the larynx. The patient and her family accepted the advice, and she was immediately prepared for operation.

Under chloroform anæsthesia, Dr. Brewer made an incision in the median line, from the body of the hyoid bone to the suprasternal notch. The trachea was opened below the isthmus of the thyroid, the upper segment of the tube was plugged with sponge, and the cannula was introduced. From the upper extremity of the incision were made two additional incisions extending obliquely upward toward the angles of the jaw. The two superior thyroid arteries were found and ligated, and although no enlarged lymphatic glands were found, the areolar tissue surrounding the vessels was removed. The larynx and upper part of the trachea were then cleaned and separated from their muscular attachments; the trachea was divided and the posterior surface of the cricoid carefully dissected from the œsophagus. The pharynx was not opened until the larynx had been entirely freed from its attachments to all surrounding structures, when the two were separated. The resulting pharyngeal wound was completely united with catgut, the trachea sutured to the skin, and the incision partly closed and packed.

The patient's condition after coming from under the anæsthetic was excellent, due, I believe, to a rapid and almost bloodless operation and the skilful manner in which Dr. Murray administered the chloroform, alternating it with oxygen so that she received a very small quantity of the former. The patient was placed in bed, and gauze compresses of warm boracic solution, changed every five minutes, were kept over the tube. The temperature for the first few days was above normal, ranging from 100° to 102° F. The tube in the tracheotomy wound was retained for forty-eight hours and then removed, owing to the irritation it was causing, and the patient was allowed to breathe through the upper end of the trachea, which was sutured to the skin margin of the wound. That same night I was called hurriedly to the hospital to find the upper end of the trachea almost filled with a gummy material, and the patient breathing with considerable difficulty. The emergency had been met by the nurse inserting the trachea forceps in the tracheotomy wound, and administering oxygen until my arrival. With some difficulty the tube was inserted in the upper opening, and the patient again breathed comfortably. For the first four days the patient was nourished by rectal enemas, and on the fifth day teaspoonful doses of milk and Vichy were given by the mouth. This was gradually increased until she was able to take four ounces at a time. Slight leakage through the pharyngeal wound was noticeable for a few days, but was not sufficient to cause us to discontinue nourishment by the mouth. The cough has been troublesome at times, and prompt action has been necessary on occasions when the tube became plugged with thick, tenacious mucus. For two weeks after the operation the patient was not left alone for a moment, and I believe this constant watchfulness and care have in no small degree contributed to her recovery. At the present time the patient is able to converse with her friends in a whisper, and is easily understood.

Plainfield, N. J.

## INTESTINAL OBSTRUCTION IN A NEWBORN CHILD.

By G. HERBERT CARTER, M.D.,
Huntington, N. Y.

The following case has been instructive to me, and is, I think, quite unusual.

Mrs. C——, aged twenty-two years, was delivered of her first child March 10th, at 8 P.M. The labor was normal. The child appeared normal at birth. I called on March 11th, at 10 A.M., and found that the child had had no movement of any sort. Repeated enemas (soapsuds) were given, with no result. That evening the child began to vomit; the abdomen began to swell, and the child seemed to be in some pain. He was put on small, repeated doses of castor oil, and later of calomel, but vomited everything put into the stomach. For three hours enemas of warm water, glycerin, and castor oil were given, with absolutely no effect except to bring away a little bright blood.

No tumor could be felt anywhere in the abdomen, but the swelling (tympanites) steadily increased.

This state of affairs continued during the 12th, and on the evening of that day vomiting became distinctly fecal. In consultation with Dr. Lindsay it was decided not to operate, the surrounding conditions not being encouraging, and the child apparently being near its end.

Fecal vomiting continued during the 13th and 14th, day and night. Tympanites increased and became enormous. The child rapidly lost flesh and seemed completely exhausted. On the 15th all attempts at feeding were stopped, and vomiting then stopped. Enemas then had no result and seemed to give great pain.

At 5 A.M. of the 16th, *i.e.*, when the child was five and one-half days old, and had had absolutely no movement, not even the passage of flatus, since birth—he began to cry hard and strain, and soon had a large, black, tarry, very offensive movement. At intervals of half an hour his bowels kept moving all day, so that during the day he passed an enormous amount of fæces. In twenty-four hours he showed the first signs of hunger and took the breast for the first time, and has gained in weight ever since; the tympanites rapidly subsiding.

The child gave every symptom of a complete congenital intestinal obstruction, persisting for five and one-half days, and yet, contrary to the prognostications of his physicians, he entirely recovered.

I confess my ideas as to when we should operate on a case of intestinal obstruction have become confused.

# Society Reports.

## THE PRACTITIONERS' SOCIETY.

*One Hundred and Forty-Seventh Regular Meeting, Held on Friday, April 7, 1899.*

W. GILMAN THOMPSON, M.D., PRESIDENT, IN THE CHAIR.

**A Case of Secondary Carcinomatous Infiltration Treated with Guaiaquin.**—This case was presented by DR. BEVERLEY ROBINSON. The patient was a woman, forty-six years old, a seamstress by occupation, who was operated on at the Newport Hospital for carcinoma of the breast in August, 1896. About a year later a second operation was found necessary. Subsequent to this operation, the patient's arm on the affected side became swollen and painful, and she came to Dr. Robinson for relief. After employing several remedies ineffectually, the speaker said, he was induced to try guaiaquin (guaiacol bisulphonate of quinine), which was supposed to possess the characteristic properties of both guaiacol and quinine. The patient began taking three grains of this drug three times daily in October, 1898, and continued it steadily for four months; during this period she improved markedly; both the swelling and pain disappeared, the patient slept better, and she felt better generally. In February, 1899, when the administration of the guaiaquin was interrupted for three weeks, the patient had a relapse; the arm again became swollen, and the supraclavicular space was evidently more infiltrated, although her pain did not return. During the past month the patient had resumed the use of the drug, and the swelling of the arm had again disappeared, at least to a large extent. During the past few days she had complained of an aching pain in the arm, which a tight glove seemed partially to relieve. Massage had also been useful at times. Several examinations of the patient's blood had been made by Dr. Frederic E. Sondern with negative results. Dr. Robinson said he was induced to try guaiaquin in this case as an experiment, and he simply reported the result in the hope of inducing other members to give it a trial under similar circumstances, because these cases were often very troublesome and painful, and any remedy which would mitigate the symptoms should certainly be welcomed. Furthermore, recent investigations seemed to demonstrate that carcinoma was a parasitic disease, and from that standpoint medical intervention, with the use of drugs or serotherapy, again assumed practical value. The speaker said he had tried guaiaquin in several cases of malaria with rather uncertain results.

**Three Cases of Drop-Finger.**—DR. ROBERT ABBE showed a photograph of a case of what he had called "drop finger" five years ago, when he reported two cases (*New York Medical Journal*, January 13, 1894). He drew particular attention to the disproportion between the cause of the accident and the accident itself. The extensor tendon was torn from its attachment to the back of the near end of the last phalanx of the finger by some apparently insignificant force, well illustrated in the three cases reported. This patient, a lady, was pressing her fingers down her thigh, holding a towel, after her bath, and suddenly noticed that the right ring finger had dropped at the end joint and was useless. There had been no pain accompanying it, and there was no hemorrhage about the joint. In the second case, an architect was brushing the crumbs of rubber from his drawing paper, and the end joint of his middle finger dropped useless, also with little more than a sensation, but not pain. In the third case, a lady was taking off her stocking after a walk, and on pressing it down the outer side of the calf of her leg, which was damp, suddenly felt the end joint of her middle finger drop helpless.

Dr. Abbe's explanation of the accident was that the tendon was very thin as it expanded to be attached to the broad base of the bone, and that while the force exerted ordinarily to extend the end would be very great before the tendon would snap, if it was exercised in the axis of the finger it would take but little force to tear it if the finger was pressed sidewise during the extensor strain. The principle was illustrated by a narrow strip of paper which would bear great strain lengthwise, but would tear if a trifling force was applied at the edge.

FIG. 1.

All three cases reported he had operated on successfully under cocaine applied along a dorsal incision. The capsule of the joint was found to have fallen into the joint, while the lacerated tendon was but slightly displaced. Two finest silk stitches served to keep the parts apposed, and excellent repair followed.

**Pancreatic Cysts: Three Cases.**—Dr. Abbe presented drawings and histories of these cases, remarking that they illustrated well the relation of the stomach and colon to the cyst. It had been shown by Körte ("Surgical Diseases of the Pancreas," Stuttgart, 1898) that these relations were not at all constant. In Fig. 2, shown by Dr. Abbe, the stomach was below the cyst, in Fig. 3 above it, and in Fig. 4 upon it. The speaker said that a knowledge of this wide variation was valuable, and aided much in making the diagnosis in two of his cases. It occurred rarely that the colon lay upon or even above the major part of these cysts. In the three cases narrated, a prompt and radical cure was effected by drainage.

CASE I.—The patient was a woman who was referred to Dr. Abbe in July, 1898, by Dr. Bogardus. She had previously been operated on by a surgeon in a neigh-

boring city, who, upon opening the abdomen, found a large tumor, which he regarded as a cancer of the

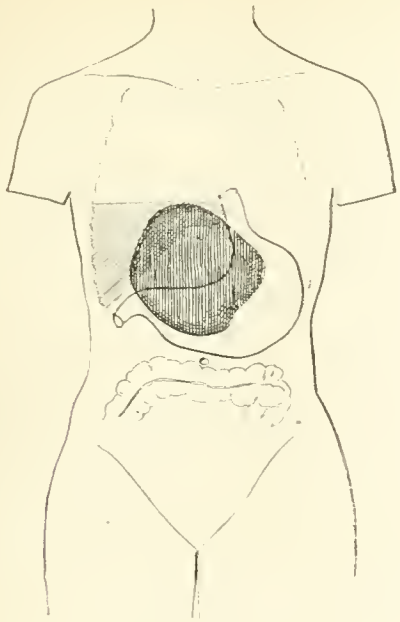

Fig. 2.—Case I.

stomach and pronounced it inoperable. Dr. Abbe performed a second laparotomy, and found a large pancreatic cyst lying behind and above the stomach; it was filled with a clear fluid and its walls were everywhere lined by shreddy tissue, semi-necrotic in character, and mixed with much calcareous matter in cakes and rough pieces. The cyst was cleaned and drained, and the patient made an excellent recovery.

Case II.—The patient was a woman, who gave a long-standing history of stomach trouble. More re-

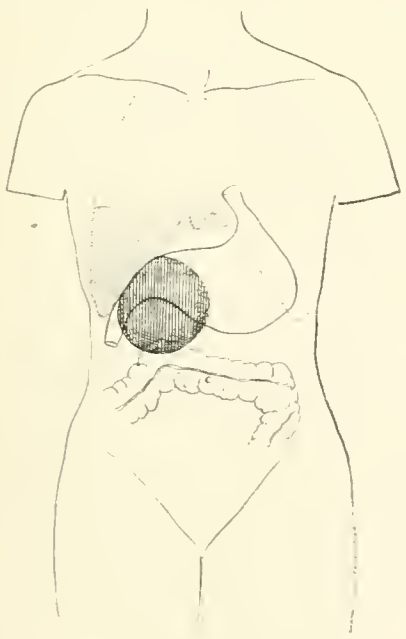

Fig. 3.—Case II.

cently she complained of acute pain, intermittent in character, and the presence of an epigastric tumor, which occasionally grew smaller and then enlarged again. At times she vomited a dark, clear fluid and had bloody dejections, followed by clay stools for a day or two. Examination showed an oval tumor, like a greatly distended gall-bladder, extending from the tenth cartilage to the navel. The pylorus and stomach were raised on the upper part of the tumor, along the edge of the ribs. The patient was operated on by Dr. Abbe on September 6, 1898. A pancreatic cyst, filled with coffee-colored fluid, was found; it also contained a number of small-sized calculi. The cyst drained for

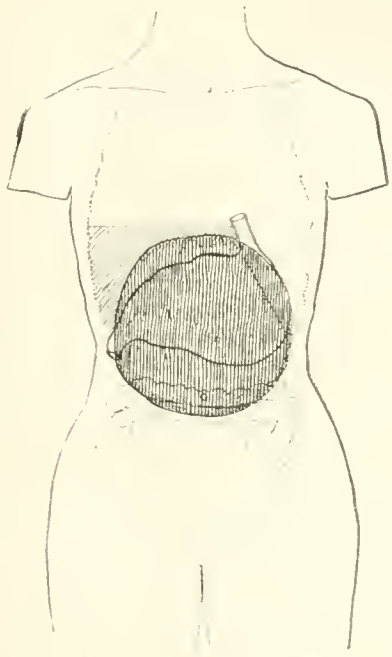

Fig. 4.—Case III. Front View.

some time, the sinus finally closing in December, 1898. The patient made a good recovery.

Case III.—The patient was a woman, thirty-two years old, who for eight months had suffered from pain in the back, with vomiting. No jaundice. Soon afterward an abdominal tumor was noticed. The vomiting gradually passed off, and there were no other digestive symptoms. The tumor gradually increased in size, however, and gave rise to much discomfort and some difficulty in breathing. It was oblong and

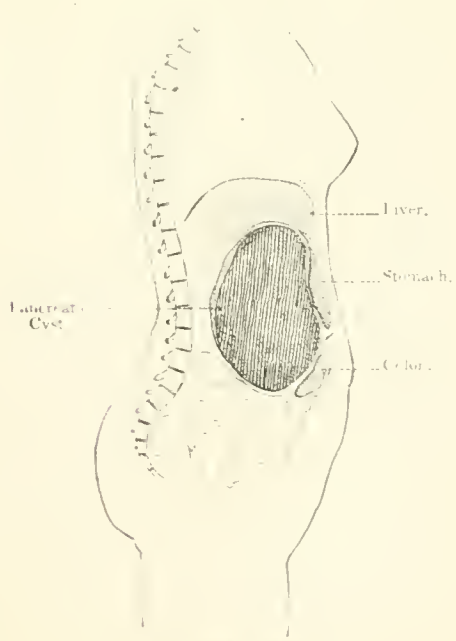


Fig. 5.—Case III. Side View.

spherical, extending into both lumbar spaces. The patient was operated on by Dr. Abbe on April 7, 1899. He found, as he had expected, a pancreatic cyst, which contained about half a gallon of a clear, coffee-colored

fluid, the specific gravity of which was 1.016; it was markedly alkaline and contained about twenty-five per cent of albumin, also some cholesterin crystals; no sugar. It was capable of digesting both starch and albumin. The cyst was incised and drained through the gastrocolic omentum. The patient made an uneventful recovery.

Dr. G. L. Peabody thought it was rather unusual not to have jaundice in these cases, as the cyst, if of large size, generally pressed on the common duct. Several years ago, the speaker said, he saw a case of pancreatic cyst which had been mistaken by several physicians for cancer of the stomach. The true diagnosis was not made before the autopsy.

Dr. Abbe, in reply to a question, said that drainage seemed to effect a permanent cure.

Dr. E. G. Janeway said the presence or absence of jaundice depended somewhat upon the location of the cyst. He had seen two cases, in both of which jaundice occurred. If the head of the pancreas was not involved, there might be no jaundice. The speaker referred to two cases of pancreatic cyst coming under his observation in which no tumor could be made out, and the condition was not recognized during life. Regarding the etiology of some of the deep abdominal cysts, some writers have regarded them as originating from the remnants of the Wolffian bodies. Dr. Janeway also drew attention to the possibility of some of the supposed pancreatic cysts being intraperitoneal.

In reply to a question by Dr. Robinson, Dr. Abbe said that in the cases which he had observed there was nothing in the stools to aid in the diagnosis. He regarded them as retention cysts.

**Combined Sclerosis of the Cord, and Spinal-Cord Changes in Pernicious Anæmia.**—Dr. Charles L. Dana read a paper on this subject, and in connection therewith showed a number of microscopic sections (see p. 897, vol. 55).

In reply to a question, Dr. Dana said that in a large proportion of cases of pernicious anæmia—over one-half—there were some slight changes in the cord. In about twenty per cent. of cases of combined sclerosis we got pernicious anæmia.

Dr. Janeway said that some of the nervous symptoms sometimes observed in cases of pernicious anæmia might be due to the toxic doses of arsenic which were often administered in this disease. He had seen cases of pernicious anæmia of a very severe type without any accompanying dementia or nervous phenomena. Four such cases had very recently been under his observation. Of course, in some cases the nervous symptoms were quite marked; in others there was an absolute failure of nutrition, the functions of the stomach being almost entirely in abeyance.

**Shock in Modern Surgery.**—Dr. George F. Shrady read a paper with this title (see p. 112).

Dr. Clement Cleveland said that in his special field of surgery he saw very little of shock, and he no longer feared it as much as formerly as a factor in abdominal or intrapelvic work. It had been almost entirely eliminated. He ascribed this marked change to the fact that in doing his operations he almost invariably placed his patients in the Trendelenburg position the very position which Dr. Shrady, in his paper, said he regarded as a factor in the production of shock. In the Trendelenburg position, the intestines, with their sensitive serous covering—the most sensitive membrane in the body—were carried out of the way of the field of operation and were in consequence very little disturbed or handled. Dr. Cleveland mentioned, as a second factor in the prevention of shock, the use of decinormal salt solution, which had now become so general. It was rapidly taken up by the peritoneum, which was really one immense lymphatic sac, and thus reached the general circulation, and was as potent in this way as a restorative agent as if it had been injected directly into a vein.

Dr. Dana said that, in operations on the brain, one of the most important factors in the prevention of shock was to get through the skull quickly and without hammering. This had been the uniform experience of all neurologists who had watched cranial surgery. The operation of craniectomy, for example, as formerly done with the hammer and chisel, was attended with a mortality of over ninety per cent.; now, by means of the electric saw, the operation could be done in fifteen minutes, with a mortality of not over five or six per cent. This applied particularly to children, on whom the operation should be done even more quickly than on adults.

Dr. V. P. Gibney said he agreed with what had been said and fully indorsed Dr. Shrady's plea for less prolonged operations and the use of a less quantity of ether or other anæsthetic. Many surgeons were in the habit of unnecessarily delaying an operation after the patient had been anæsthetized; instead of permitting the patient to be soaked with the anæsthetic while the surgeon was preparing himself, the latter ought to be ready before the anæsthetic was given, unless his time was too valuable. Dr. Gibney also suggested that shock might in some cases be averted if the anæsthetic was given, so far as was possible, by men specially trained for that work. In London a society of anæsthetists had been formed, who were making advances along this line quite rapidly. He said he was glad to hear Dr. Cleveland's remarks about the Trendelenburg position. In his own operative work he was careful to see that the foot of the operating-table was raised quite high, and he felt convinced that this procedure was of value. In operations on the long bones, he thought the chisel was superior to the saw, quicker and more thorough work being done. This, of course, did not apply to operations on the skull.

Dr. Abbe said that, while he was interested in the revival of this question, he was not inclined to believe that the length of time of an operation was of such grave import as Dr. Shrady ascribed to it. Of course it had some influence on the production of shock, but frequently, in order to do the operation thoroughly, it was necessary to prolong the anæsthetization for an hour or even longer, and these patients did not die of shock. In most instances when shock occurred it could be traced to extensive injury of the cranium, or, in abdominal surgery, to strangulation or prolonged cleansing or manipulation, or to excessive hemorrhage. The speaker said he had come to regard hemorrhage as a more important factor than time. In the prevention of shock he laid great stress upon sustaining the bodily temperature during the operation. The sudden exposure of the surface of the body to the air produced considerable shock, even when one was well and conscious, and the surgeon was apt to overlook this when dealing with the unconscious patient. In order to guard against it, only that part of the body which was to be operated on should be exposed; and if much surface was exposed, hot cloths should be kept on the epigastrium. In doing his operations, he always assigned one nurse to do this work. In children, who are especially prone to shock, he had been able, in three cases, to remove enormous kidney tumors through large abdominal incisions and avert shock simply by keeping the patients enveloped in cotton and, in addition, covered with warm blankets and lying on a warm table. In cases in which an excessive quantity of blood was lost, saline infusions were always desirable, and their value was beyond question.

Dr. Francis P. Kinnicutt said it had recently been stated by apparently careful English observers that a large proportion of the deaths following operation

were the result neither of shock nor of the various other factors which had been mentioned, but were due to ether pneumonia. He had personally observed a certain number of such cases. The professional anæsthetists had become fully alive to this danger, and recently had tried to combat it by rendering as aseptic as possible the mouth and nasal passages of the patient before administering an anæsthetic, thus hoping to diminish the number of cases of ether pneumonia.

Dr. Janeway said he had seen cases of ether pneumonia, but in such instances death did not occur within twenty-four or forty-eight hours, as it did usually from shock. The possible occurrence of such a pneumonia is one of the reasons advanced by English and German surgeons for preferring chloroform to ether.

Dr. Beverley Robinson said that surgeons were sometimes not quite careful enough to allay the apprehension of the patient prior to the operation.

Dr. Shrady, in closing, said that he was much gratified that his paper had elicited so much profitable discussion. In reference to employing the Trendelenburg position, he did not intend to imply that it should be ignored entirely; in fact, many operations could scarcely be done without it. In his paper he referred more particularly to those instances in which the extreme position was resorted to, especially in prolonged operations on fat persons with heavy abdominal organs. Under such circumstances he had seen some alarming symptoms which disappeared when the patients were put in the horizontal position. He said he had seen cases of ether pneumonia not infrequently, especially since his attention had been called to it by the English writers. In such cases the urgent symptoms usually appeared within twenty-four hours, and death occurred in two or three days.

**A New Sphygmometer.**—Dr. Walter B. James demonstrated the workings of a new sphygmometer devised in England by Messrs. Hill and Barnard. By means of this apparatus the pressure of the blood in the blood-vessels could be demonstrated and recorded.

## AMERICAN NEUROLOGICAL ASSOCIATION.

*Twenty-Fifth Annual Meeting, Held at Atlantic City, N. J., June 14 and 15, 1899.*

Dr. James Hendrie Lloyd, of Philadelphia, President, in the Chair.

*First Day—Wednesday, June 14th.*

The annual address was delivered by the president.

**The Nervous Equivalents of Fever.**—This paper was read by Dr. Henry S. Upson, of Cleveland. He said that although it was usually easy to distinguish organic from functional disease in the nervous system, the problem became a difficult one when it was necessary to differentiate functional nervous troubles pure and simple from disease of other organs with nervous symptoms. After citing several illustrative cases, the following conclusions seemed to the speaker to be warranted: (1) Fever was a nervous reaction, usually to toxins; (2) fever was often accompanied by other nervous reactions; (3) other nerve reactions to toxins, whose form was largely determined by the predisposition of the patient, might occur without fever, and might replace it. These reactions might simulate very closely hysteria, mania, and melancholia.

**Isolated Finger Paralysis.**—Dr. William Browning, of Brooklyn, presented photographs, post-mortem findings, and histological report of a case of this character. The patient was a vigorous man over seventy years old, in whom at an interval of one and one-half years the extensors of the right middle and ring fingers became suddenly paralyzed. Each attack occurred at the instant of muscular effort. The condition remained unchanged until death some years later. The autopsy showed destructive lesion of the corresponding muscles and tendons.

Dr. F. X. Dercum, of Philadelphia, thought the subject was unique, inasmuch as nothing was known about the senile changes that took place in the tendons. In the case reported the break in the tendon was produced by muscular effort, and the other changes were the ultimate result.

Dr. Browning was inclined to attribute these changes to the obliterating endarteritis which was present.

**Amaurotic Family Idiocy.**—Dr. Hugh T. Patrick, of Chicago, exhibited water-colors of fundus appearances in two cases of amaurotic family idiocy, and briefly narrated the histories. One of the children was of Christian parentage.

Dr. Joseph Collins, of New York, asked for further information regarding the clinical history of this case, as all of the cases thus far reported had occurred in Hebrew children.

Dr. W. M. Leszynsky, of New York, had seen four cases of this disease. From the ophthalmoscopic picture alone he would be unwilling to make the diagnosis, for the condition of the fundus in this affection bore a striking resemblance to that seen in embolism of the central artery of the retina.

Dr. Patrick said that the diagnosis seemed reasonably sure. His own case was that of a child aged sixteen months, who had developed perfectly up to the age of nine months. Then it began to fail. It did not speak or attempt to speak now, and had the general nervous condition that was so characteristic of these cases. The other child had not been under his observation. He had merely presented the picture of its ocular fundus.

**The Unity of the Acute Psychoses.**—This was the title of a paper by Dr. Philip Coombs Knapp, of Boston. He stated that there were several forms of melancholia, differing so much in type as to suggest different diseases. Melancholy seemed rather a symptom than a disease by itself. The existence of mania, acute paranoia, and many other acute mental diseases was questioned, most writers disagreeing in their classification. A symptomatic classification of mental diseases was often fallacious and unsatisfactory. Alcohol might cause a number of different types of psychosis. The acute psychoses were often of toxic origin; they might attack healthy persons, they might cause death by exhaustion, recover completely, or end in dementia or chronic delusions. They were regarded as probably one affection, under the general heading of Meynert's amentia.

Dr. Charles K. Mills, of Philadelphia, said it seemed to him that much in the paper meant a distinct step backward in our method of looking at these diseases. If the author pretended to place together diseases so distinct clinically, pathologically, and etiologically as paranoia, melancholia, and mania, he had no ground whatever upon which to stand. One point in the paper, that of the unity of certain acute psychoses, in a general way might be admitted, but it was by no means a new thought, for it had long been discussed as to whether acute mania and acute melancholia, and perhaps acute delirium, were not diseases of the same origin, whether that be toxæmia or not. Because some cases of melancholia passed to dementia, and because all cases of paranoia did so, was no reason why they should be regarded as the same disease, either pathologically or clinically.

Dr. F. X. Dercum, of Philadelphia, agreed with the views expressed by Dr. Mills. In his opinion

there was no resemblance between neurasthenia and melancholia because a patient who developed melancholia passed through a series of vague symptoms that resembled neurasthenia. Regarding the different forms of insanity, he thought that if Dr. Knapp's views were adopted it would be necessary to abandon all that had enabled us to sift out these disorders.

Dr. H. T. Patrick, of Chicago, said that there could be no objection to placing all the psychoses in one general class with similar symptoms. He agreed, however, with Dr. Mills that in adopting such a standard we should be making a step backward. The tendency was and should be toward a differentiation between these diseases if it would help in the treatment.

Dr. Henry S. Upson, of Cleveland, did not believe that acute melancholia and acute mania were the same. He believed that these diseases had a definite chemical basis that probably would be proved ultimately to be toxic, and probably back of that to be due to bacteria, but meanwhile the best thing would be to make the classification from the symptom complex.

Dr. Joseph Collins, of New York, saw no objection to considering all the forms of insanity as of a smilar nature. If all psychoses were looked upon as having a definite unity, the treatment would be hampered.

Dr. J. W. Putnam, of Buffalo, said that it was not possible to tell what type of mental change was going to result from a given etiological factor; as the result of fright there might be acute dementia, melancholia, or mania. He assumed that Dr. Knapp himself would make his prognosis depend largely upon the etiology.

Dr. Knapp, in closing the discussion, said that Dr. Mills and Dr. Dercum had misunderstood him in supposing that he would place paranoia, melancholia, etc., in the same group with acute diseases. He did not attempt and should not think of classifying the true typical paranoia, the true general paralysis of the insane, with the acute mental disturbances, such as acute mania, acute melancholia, and acute confusional insanity. In his paper he spoke of the similarity of the acute psychoses. He agreed with Dr. Upson that the cases could not be classified on an absolutely anatomical basis. The prognosis was judged by the severity of the attack, and by its whole clinical aspect, but the whole number of cases was regarded as one disease, though the prognosis depended upon different symptoms in the individual cases. One would not treat every case of typhoid fever in the same way, and it was not necessary to treat all cases of mental disease in the same way simply because they belonged to a given class.

**Tumor of the Medulla.**—Dr. F. X. Dercum read the report of a case of tumor of the medulla, presenting ataxia and astereognosis as the most prominent early symptoms.

**Tumor of the Pituitary Body.**—Dr. George L. Walton, of Boston, reported a case and exhibited the morbid growth. The patient was a physician, twenty-six years of age, who first came under Dr. Cheney's observation with unilateral hemianopsia (right) and asthenopia (left). Optic atrophy followed, with increasing loss of vision in both eyes. Later homonymous hemianopsia appeared, and still later achromatopsia in the otherwise normal half field of the right eye. Muscular weakness, apathy, intense headaches, and somnolence appeared and increased. A striking feature of the case was the fact that the patient had always had very large extremities and features, with large jaws and separation of the teeth. The hair was dry and crisp. The autopsy showed angiosarcoma of the hypophysis with disappearance of portions of the sella turcica. Certain remains of normal gland structure were found. He drew the following conclusions: (1) Congenital peculiarities in growth resembling those of acromegaly might point to defective structure of the gland later the seat of new growth; (2) the persistence of even a small amount of healthy gland tissue sufficed fairly to carry on its function; (3) the combination of general symptoms of new growth with loss of one or both temporal fields and optic atrophy practically established the diagnosis of tumor of the pituitary body, (4) hemiachromatopsia was not necessarily of central origin.

**Glio-Sarcoma of the Middle Fossa of the Skull.**—This case was reported by Dr. Morris J. Lewis, of Philadelphia. The patient was a girl, eleven years of age. Soon after extraction of the lower right molar tooth she had considerable pain, quickly followed by right-sided earache, and in three weeks by right facial palsy, soon becoming total. Four months later a trophic ulcer appeared on the cornea. Subsequently there was complete right facial palsy, the muscles presenting the reaction of degeneration. The tongue was protruded to the right; the sense of taste was destroyed on the right side of the tongue except at the tip and base, in which it was impaired, sensation being destroyed over the posterior two-thirds. The fundus of the right eye could not be seen on account of cloudiness of the media, but a commencing optic neuritis was detected, which rapidly increased to 3 D. The ear showed evidences of past suppurative changes. The second, third, fifth, sixth, seventh, eighth, and ninth nerves on the right side were all more or less implicated, but absolutely no symptom referable to implication of the trunk or extremities could be detected. Violent headache and retraction of the head, coming and going, appeared before death, which occurred forty days after admission to the hospital. Treatment was of no avail. The autopsy revealed a large glio-sarcoma filling the whole of the right middle fossa of the skull, with erosion of the sphenoid and temporal bones and protrusion of the mass into the pharynx. The right temporal lobe of the brain was completely hollowed out by pressure.

**Tumor of the Brain.**—Dr. James Hendrie Lloyd, of Philadelphia, presented a specimen of tumor of the brain. The growth sprang from the membranes on the left side of the pons and medulla. It had made pressure upon the left lobe of the cerebellum, which was much flattened by it. It was in position to involve the seventh and eighth nerves on the left side, and also to press upon both sixth nerves. It did not extend so far as the fifth nerve. The symptoms had been quite characteristic, and led, without difficulty, to a correct diagnosis during life. The patient had been under observation for one year and a half before death. The early symptoms had been vomiting, headache, vertigo, and diplopia. Very soon a conjoint paralysis of the left sixth and seventh nerves developed. Deafness on the left side supervened. Later the right sixth nerve also became involved. The general symptoms of brain tumor (with optic neuritis progressing to total blindness) increased in gravity. There was never hemiplegia or paralysis of any kind in the limbs. No anæsthesia occurred. There were no convulsions or any distinct cerebellar symptoms, such as ataxia or forced movements. Considering the large size of the tumor (about as large as a hen's egg), the absence of cerebellar symptoms or of pressure symptoms in the pons or medulla was noteworthy. It was difficult to see how the middle cerebellar peduncle escaped, and yet no forced movements to either side were observed. In another case observed by Dr. Lloyd, in which the tumor was in much the same location as this one, forced movements were the most marked symptom, and the seventh nerve entirely escaped. The difference was explained by the fact that the tumor was only half as large as the present one

and was embedded slightly farther in the middle cerebellar peduncle. The motor and sensory tracts in both pons and medulla escaped in the present case, although the growth was in nearly the same position as the one just described by Dr. Dercum, in which motor and sensory symptoms were marked. These differences strikingly illustrated the well-known fact that brain tumors in practically (but of course not identically) the same position could give rise to widely differing clinical pictures.

These four papers were discussed together.

Dr. F. W. Langdon, of Cincinnati, in referring to Dr. Dercum's case, said that the stereognostic sense is formed by fusing a great many sensations. The location of the lesion was significant in this case, as it involved the labyrinth, and it would have been of interest to test the functions of the internal ear in such a case.

Dr. Dercum replied that the ears were examined, but there was nothing found to suggest the involvement of the fibres coming from the labyrinth.

Dr. Walton added that his final conclusions were almost to be taken for granted, as the combination of general symptoms of new growth with loss of one or both temporal fields and optic atrophy practically established the diagnosis of tumor of the pituitary body.

**Asthenic Bulbar Paralysis.**—This was the title of a paper by Dr. Wharton Sinkler, of Philadelphia, who said that the attention of the medical profession was directed to this disease in 1892. Up to 1895 there had been twenty-two cases reported. Twelve additional cases had since been published. Three of these were in America. The speaker laid stress upon the fact that the essential feature of the disease was the rapid fatigue which was shown in the affected muscles when used, and the fact also that there was not complete paralysis of any muscles, but rather a tendency to give out upon use. The intensity of the symptoms varied from time to time, and there were marked periods of remission. The disease began in the intrinsic ocular muscles; ptosis, with or without diplopia, being usually the first symptom. Then the muscles connected with speech and deglutition were affected, and the upper and lower extremities were sooner or later involved. The affection differed markedly from bulbar paralysis of organic origin, in that in asthenic bulbar paralysis there was never muscular atrophy, even in the tongue, nor were fibrillary muscular twitchings observed. There was no complete paralysis of the muscles of the lip. In true bulbar paralysis there was seldom involvement of the third nerve, of the lower facial, or the minor branch of the fifth. The speaker called attention to the liability of mistaking asthenic bulbar paralysis for hysteria in the early stages. The pathology of the disease was regarded by all writers as infectious in character, and in none of the fifteen autopsies which had been made had any lesion been found in the nervous system. The case reported exhibited typically the essential features of the disease. The patient was thirty-seven years of age, married, and had six children. The disease developed after an attack of typhoid fever. There was marked ptosis of both eyes, more especially the left, with almost complete paralysis of the left external rectus and partial paralysis of the left superior rectus. There was difficulty in deglutition; the speech was markedly affected; the gait was awkward and shuffling, and after exertion both the arms and legs became much worse. After speaking for a short time the speech was much more indistinct and nasal, and in eating, after chewing and swallowing for a short time, deglutition was difficult. There were no sensory changes, no atrophy, and no fibrillary tremor. A feature of the case, to which the writer called especial attention as bearing upon the pathology, was the fact that two brothers of the patient had nystagmus with rotary tremor of the head, and that two of her own children had precisely the same condition.

**Asthenic Bulbar Paralysis.**—This was a case reported by Dr. John Punton, of Kansas City. The patient was a woman twenty-five years of age. The symptoms were of three years' duration. Among the first manifestations were general muscular weakness, diplopia, ptosis of the left eye, difficult mastication and deglutition, impaired articulation with nasal tone of voice, and paralysis of the soft palate. Two years later there were ptosis of the right eye, restricted movement in all directions of both eyeballs, and paresis of facial muscles. Her weight had decreased from one hundred and fifty-three pounds to one hundred and six pounds. All of the earlier symptoms had become aggravated. There was neither atrophy, nor tremor, nor fibrillary twitching in any of the muscles involved. Sensory symptoms were absent. Electrical irritability of muscles was normal. He considered the condition as a purely motorial defect.

Dr. Collins expressed the view that the disease was one of the motor-nerve system. There was very little in the clinical manifestations of the disease to prompt him to take it out of the domain of the sympathetic nervous system. Its phenomena were manifested largely through the motor system, but its most important symptomatology was due to trouble in the sympathetic system. In all probability there was some poison or infectious material continuously operative upon the vegetative portion of the body, that manifested its destructive effect periodically, whenever the vitality was sufficiently low to allow the poison to get the upper hand.

Dr. William G. Spiller, of Philadelphia, considered the symptom of fatigue as a very important element in this disease. In Dr. Punton's case that element was not nearly so prominent as in that of Dr. Sinkler. He therefore suspected that it might be a case of pseudo-bulbar paralysis. He thought that point should be carefully considered, for it was possible that there were regions of softening scattered about that might cause the symptom complex described.

Dr. H. M. Thomas, of Baltimore, said he had had a patient under observation for two years, who seemed to be in the early stages of this disease. There was no definite paralysis of the motor nerves of the eye, nor of the muscles of the face when the patient had rested. In the morning she was in pretty good condition. She could speak fairly well for a half-hour, when her voice gave out, and when she began to eat breakfast she ate well enough at first until she had masticated for a few minutes, when eating became progressively difficult.

Dr. Punton in closing said that the question of syphilis was very carefully considered in his case, and also the question of pseudo-bulbar paralysis, and he came to the conclusion that the case did not belong to that class, so there was nothing else to call it but asthenic bulbar paralysis.

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*Second Day—Thursday, June 15th.*

**Hemorrhagic Pachymeningitis.**—Drs. Charles W. Burr and Daniel J. McCarthy, of Philadelphia, reported a case of hemorrhagic pachymeningitis, external and internal, of the convexity and cord, in a patient with multiple tuberculous tumors. This patient was a laborer forty-one years of age, who after a convulsion developed a left hemiplegia. Bulbar symptoms followed. Headache, vomiting, and double optic neuritis were present. Death occurred from tuberculosis. In the light of the pathological report, the bulbar symptoms were of central origin and due to the

pachymeningitis on either side of the convexity. The etiology was of interest on account of the presence of tuberculosis.

**Purulent Encephalitis.**—Dr. Guy Hinsdale, of Philadelphia, exhibited a brain showing purulent encephalitis and cerebral abscess due to infection through the umbilicus in a new-born child. The mother had a painful pregnancy, and after labor lasting forty hours pus from the uterus followed the placenta. The child died on the thirteenth day, after symptoms of meningitis. All the surfaces of the cerebrum and cerebellum were covered with a fibro-purulent exudate; a pus cavity was in the left anterior lobe and a large hemorrhage in the right. There were innumerable hemorrhages through the cortex with destruction of the infiltrated nervous tissue. The bacteriological examination showed a pathogenic organism corresponding in its description with the colon group, probably the bacillus coli immobilis.

**Muscular Dystrophy.**—Dr. William G. Spiller, of Philadelphia, read a paper on this subject and reported two cases with necropsy. One of these was of the facio-scapulo-humeral type and had been reported clinically by Duchenne, of Boulogne, Landouzy and Dejerine. The other case was also from the service of Dr. Dejerine, and in this patient the muscular atrophy began in the lower limbs. An examination of the tissues in these cases had been made microscopically by Dr. Spiller. The mother and elder brother of the first patient had muscular atrophy. In the patient the alteration in the muscles of the face was said by the mother to have begun when the boy was three years old, and the atrophy at that time was quite rapid. Muscular atrophy was seen in the trunk and lower limbs when the patient was five years old, and was seen in the upper limbs between the sixth and seventh years. Duchenne, of Boulogne, saw the boy in 1868 for the first time, when the latter was nine years old, and the face then presented the character so well described later by Landouzy and Dejerine. Contractures of all the limbs became very great before death. A necropsy made on this patient when he was about thirty-three years of age showed intense muscular atrophy, involving also the facial muscles except those of the eyes and the muscles of mastication. The central and peripheral nervous system was normal. The muscular atrophy in the second case was not hereditary. It began quite acutely in the lower limbs when the boy was eight years old, and extended to the trunk and upper limbs, and the patient became almost completely paralyzed in the trunk and extremities. The patient died at the Bicêtre, Paris, at the age of twenty years. The muscles were found to be intensely atrophied.

Dr. Spiller discussed the subject of muscular atrophy in general, and gave as his conclusions: (1) That cases of muscular atrophy occurred which presented the well-known localizations regarded as characteristic of the different forms of muscular dystrophy. In the large majority of these cases the spinal cord and peripheral nerves were normal. (2) In other rare cases presenting the clinical features of muscular dystrophy the nervous system was more or less involved. (3) The histological changes in the muscles were not pathognomonic of any form of atrophy. (4) It was proper to regard muscular dystrophy as a disease usually distinct from spinal muscular atrophy, but transitional forms connected the myopathic and myelopathic types of atrophy.

Dr. Thomas said that there had been many essays written upon this subject, trying to bring together all the cases of muscular dystrophy and atrophy, but he believed it would be necessary to wait for further investigation before anything more could be done than Dr. Spiller had pointed to in his conclusions.

**Subdural Hemorrhage.**—Dr. G. M. Hammond, of New York, briefly reported a case of subdural hemorrhage causing partial word-deafness, in which there was a marked inability to name objects and persons. The site of the lesion, which was of traumatic origin, was disclosed by a surgical operation.

**Motor Aphasia.**—This paper was by Drs. B. Onuf and T. Fränkel, of New York. It was based upon an analysis of one hundred and three autopsies reported in medical literature. It was claimed that the evidence was strongly against the view that the pathway went directly from Broca's centre to the bulbar nerve nuclei. It was probable that the insula participated in the function of speech in a similar manner as did Broca's centre. Attention was also called to a test used by them to demonstrate the preservation or abolition of internal language, and which was believed to be important for the distinction between cortical and subcortical motor aphasia, especially in illiterate persons.

**Anomia and Paranomia.**—This paper, "with some considerations regarding a naming-centre in the temporal lobe," was read by Dr. Charles K. Mills, of Philadelphia. The details of the case of a man who was unable to recognize objects by sight, hearing, touch, taste, and smell were first given. The patient, after an apoplectic seizure, developed a peculiar form of aphasia, apparently without any preceding paralysis or any other symptoms of focal lesion like visual blindness, hemianopsia, etc. When examined about nine years after the onset of the aphasia he had almost complete inability to name persons and objects which he was able to recognize through all his special senses. He had also a marked form of paralexia or paranomia. When he attempted to read, although he understood what he was reading, he repeated an absurd formula of a few phrases. He had limited spontaneous speech, even using short sentences without concrete nouns correctly. He could write many single words correctly, sometimes misspelling, however. He held his pen or pencil correctly and wrote such words as he did write with ease and firmness. He was not a motor agraphic. He was not word-blind nor letter-blind. He could not repeat a few letters (w, x, l). While the case was one of optic aphasia, it was in reality more than this. Dr. Mills believed that the evidence was sufficient to warrant the view that destruction of a region more or less concentrated or diffused, and probably mid-temporal in location, would cause the phenomena observed in cases of anomia and paranomia. While this was true, it did not follow that these speech disturbances could not be produced by lesions in other locations. Most of the regions destruction of which would lead to inability to name persons and objects had been summarized by Bramwell. Inability to name objects and persons might be due to (*a*) destruction of the "naming"-centre, (*b*) destruction of the nerve fibres which passed from that "naming"-centre to the motor-vocal speech centre, or (*c*) destruction of the motor-vocal speech centre by which these impulses were emitted. To this enumeration he would add that anomia or paranomia with associated phenomena would also be produced by destruction of the sensory percept centres and tracts leading from these centres to the naming or concept centre.

Dr. Collins, of New York, said that Dr. Hammond's case absolutely contradicted the existence of a special naming-centre, for here we had a lesion of the temporal convolution, just in the location where the auditory percipient and the memorizing centre were concerned. The case that Dr. Mills reported was absolutely parallel to Dr. Hammond's case. He did not deny that there was a naming-centre, but he did deny the position of a special naming-centre in the posterior part of the third temporal convolution. There was no fixed

position to which the name "naming-centre" could in every case be given.

Dr. E. D. Fisher, of New York, could see no reason why one should expect to find such a fixed centre.

Dr. Spiller agreed with Dr. Onuf that the word subcortical must be given up, for it could not be consistently used at the present day.

Dr. Knapp was unwilling to accept Dr. Mills' "naming-centre," and objected to the opinion brought forward by Drs. Hammond and Collins on the strength of the case reported. The general experience with traumatic injury of the brain was that one could not be certain of the lesion by considering it through a trephine opening. If there was a "writing-centre," as he believed, it was the last stage in the evolution of speech, and of course did not exist in a great number of people, for only a small number of the human race were able to write at all, and in a very large proportion of the illiterate it took all the muscles of the body to assist in writing.

Dr. Hammond said that in this case a piece of bone of sufficient size to expose completely the fissure of Sylvius and the brain tissue about it had been removed. Here was a well-marked case with a very definite lesion, and the man had anomia pure and simple. It seemed to him that in this particular case the irritation of the naming-centre was clearly defined, but it did not prove that the naming-centre need be in that position in every case.

Dr. Onuf also held the opinion that one could not speak of a naming-centre, for the function of naming an object was not a function of one region of the brain, but several centres participated in it.

Dr. Mills, in closing the discussion, said that even his friends who opposed him were coming to the point of view that there was a naming-centre. The only difference seemed to be that they had half a dozen naming-centres. Bramwell said it was a component part of the auditory centre. Just so long as there were concepts that could be recognized, just so long must there be other centres than the auditory centre for the recognition of them. This region was a higher evolution of the zone of language, and had been formed in the process of evolution.

**Anniversary Address.**—Dr. Wharton Sinkler, of Philadelphia, delivered an address commemorative of the twenty-fifth anniversary of the association. He called attention to the fact that the American Neurological Association was the third of the national associations which had been organized. At the time of its formation, there were but two neurological associations in Europe, both being in Germany. The first meeting was held in New York, June 2, 1875. Dr. Jewell, of Chicago, was the first president. There were thirty-five original members, and the limit of membership was fixed at fifty. A few years ago, the limit was increased to one hundred, and at the present time there were ninety-seven members. After speaking of the advances made in neurological science during this period, and referring especially to the advance made in cerebral and spinal localization by American neurologists, he concluded with a list of books and monographs contributed by members of the association.

**Facial Paralysis of Unusual Distribution.**—Dr. F. W. Langdon, of Cincinnati, read a paper illustrated with diagrams and photographs from a case of congenital, unilateral facial paralysis of unique distribution. On the left side there was total absence of action in the occipito-frontalis, pyramidalis nasi, levator labii superioris alæque nasi, levator labii superioris and risorius; the orbicularis palpebrarum was absent in its mesial half only. The eye could not be closed owing to this defect. The oral group of muscles, except the risorius, acted well, but less vigorously than on the healthy side. Neither contracture nor reaction of degeneration was present. There was corneal opacity resulting from the lagophthalmos. The congenital nature of the paralysis was evidenced by a clear history. No instruments were used at birth, nor was there any evidence of ear disease or defect of hearing or taste. Electrical treatment had produced only slight improvement in the lagophthalmos.

Dr. W. M. Leszynsky, of New York, said he had recently under his observation a patient in whom there had been facial paralysis involving all branches, and recovery had occurred in all except the orbicularis palpebrarum, which was usually the first muscle to recover its motility. He thought that Dr. Langdon's case, if not of congenital origin, might be looked upon as one of those cases in which a partial recovery had taken place. Several years ago he had reported two cases in which peripheral facial paralysis had existed for two years and yet the faradic irritability was preserved in the paralyzed muscles.

Dr. Thomas said that one could readily suppose, as had been said, that this was a case of facial paralysis in which recovery had not occurred.

**Sensory Disturbances in Epilepsy and Hysteria.**—This was the title of a paper by Dr. E. D. Fisher, of New York. He said that in both conditions hemianæsthesia might be present, but it was more frequent in hysteria. General or bilateral anæsthesia was not uncommon. He found this condition often existing independently of any seizures, and reported two cases. The first was that of a woman aged seventeen years. She had a history of true epileptic seizures since her first menstrual period three years previously. Examination showed complete anæsthesia of all forms of sensation over the middle of the forehead, both shoulders, the dorsal surface of both hands, and the extensor surface of forearms. The second case was that of a woman twenty-four years of age. A diagnosis of hysteria was made. There was anæsthesia of both shoulders, dorsal surface of the hands, and extensor surface of the forearms. In both cases the condition was permanent and probably of cerebral origin. It was evidently not of peripheral origin. In view of these cases and the literature on the subject, it would be well to examine for sensory symptoms in all cases of epilepsy.

Dr. Knapp said he had occasionally noted the presence of such sensory disturbances in epileptics, when it seemed pretty clear that the attacks were of epileptic character. In hysteria, he thought more would probably be found if a careful comparative test of the sensibility of the two sides was made.

Dr. Fisher in closing said that in these cases it was probable that some central nervous disturbance was concerned.

**Hæmatomyelia.**—Dr. James Hendrie Lloyd, of Philadelphia, read a paper on "Hæmatomyelia and Other Traumatic Affections of the Cervical Region of the Spinal Cord, including a Case Simulating Syringomyelia." The principal case was that of a man who had received severe injuries to the cervical spine many years before his death, and who had developed paraplegia with exaggerated reflexes but without involvement of the sphincters; there was atrophy with fibrillations of the muscles of the shoulders and upper limbs; and the dissociation symptom of syringomyelia was confined to one side. The lesion was found to be a necrosis involving largely the gray matter, caused by a fracture of the spine. Dr. Lloyd, therefore, concluded from observation of this case that the fibres for tactile sense passed in the posterior columns on the side of entrance of the sensory neuron, but that the fibres for pain and temperature entered the gray matter and passed to the opposite side, and then up through the antero-lateral column. The speaker also reported

a case of hæmatomyelia, in which the hemorrhage was largely in the anterior part of the posterior columns, involving slightly the posterior horns in the cervical region. The patient had lived nine days and had symptoms of a complete transverse lesion, except that the knee jerks were not involved.

Dr. Spiller exhibited microscopic sections from this case showing that the lesion commenced in the sixth cervical segment in the posterior column. There were considerable necrotic tissue with cell infiltration and a large number of swollen axis cylinders. The nerve cells in the area of greatest degeneration showed distinct chromatolysis.

Dr. H. T. Patrick thought these injuries to the cervical portion of the cord without fracture were not very rare, as he had seen several of them. He advised against operation, believing that the lesion was in the substance of the cord, and the subsequent course of these cases seemed to justify his conclusion.

Dr. Onuf had observed a patient with fracture of the lumbar vertebræ and complete paraplegia; but sensation was preserved in one extremity, and in the other it was preserved in the thigh but was completely absent in the foot and leg. The patient made a partial recovery.

**Landry's Paralysis.**—This was the title of a paper by Drs. Philip Coombs Knapp and John Jenks Thomas, of Boston. They stated that Landry's paralysis was now recognized as an acute parenchymatous degeneration of the peripheral motor neuron of toxic infectious origin. A few cases had recently been reported, in which, even by modern methods, no changes had been found. Three cases were given. The first patient was a young woman who was suddenly attacked with weakness and later complete paralysis of the legs, extending to the arms, eyes, and throat with some involvement of the sphincters, slight sensory disturbances, loss of reflexes, and diminished reaction to faradism. She died in fifteen days. The autopsy showed degeneration of the ganglion cells in the anterior horns, of the anterior and posterior roots, and of the peripheral nerves. The second patient was a man suddenly attacked with weakness of the legs, increasing to paralysis, extending to the abdominal muscles, the arms, and the left side of the face, with loss of reflexes, sensory disturbances, and loss of control of the sphincters. He made a partial recovery, with marked muscular atrophy. The third patient was suddenly attacked with weakness of the legs, increasing to paralysis and extending to the abdominal and respiratory muscles, and the muscles of the face, jaws, and throat, with loss of reflexes and some atrophy. He recovered completely.

Dr. Langdon had recently seen this disease in a man in whom the early symptoms were numbness in the upper extremities and slight interference with respiration. There was a distinct alcoholic history. Death occurred after a few days' illness.

**The Arrangement and Function of the Cell Groups in the Sacral Region of the Spinal Cord.**—Dr. B. Onuf, of Brooklyn, presented this subject by demonstration of diagrammatic charts. He explained that the various cell groups enumerated were not represented at all levels of the sacral cord, some of them extending only through one or two segments. They were distributed so typically that by studying their arrangement in a given section one could define rather exactly the level from which such segment was taken. Regarding the function of the various cell groups the following conclusions were drawn: The antero-lateral, postero-lateral, and post-postero-lateral groups presided probably over the muscles of the lower extremities. The antero-mesial group evidently supplied the very lowest division of the back muscles. The postero-mesial group probably was destined for the perineal muscles, including the sphincters of the rectum and bladder.

**Internal Hemorrhagic Pachymeningitis.**—Drs. William G. Spiller and D. J. McCarthy, of Philadelphia, reported such a condition occurring in a child nine years of age, with changes in the nerve cells throughout the central nervous system. The child was an idiot. She had never had convulsions and was not paralyzed, but presented signs of rachitis and congenital syphilis. About a year previous to her death she began to emaciate, and this emaciation became extreme. At the necropsy, a new membrane was found adherent to the under surface of the dura over the entire convexity of the cerebrum, and two or three ounces of fluid blood escaped when the membranes were incised on the left side. Comparatively little attention had been paid to the existence of internal hemorrhagic pachymeningitis in children, and no case in a child as old as the one reported was on record. Several writers spoke of the condition as occurring in early infancy. The authors found that intradural hemorrhage produced in animals led to the formation of an intradural vascular membrane, and these experiments convinced them that one cause of internal hemorrhagic pachymeningitis might be intradural clot. The changes in the nerve cells consisted of tumefaction and chromatolysis. Motor paralysis had not been observed during life, notwithstanding the existence of these cellular alterations, and these findings confirmed the view now held by some, that changes in the chromophilic elements of the nerve cell were not necessarily indicative of disturbed function. The theory of a reticular structure of the nerve cell was also discussed, and the existence of such a structure visible in the cells in their case was noted.

Dr. Fisher said that pachymeningitis hemorrhagica was quite prevalent in the almshouses. In children the hemorrhage was probably due to rupture of the thin-walled vessels.

Dr. McCarthy explained that the etiology of the case was rather obscure, there being evidence both of otitis and syphilis. For a short time before death there was a severe intestinal diarrhœa, but that probably had no causative relation to the presence of the membrane itself.

Dr. Spiller, in closing the discussion, said these cases were not so uncommon in the insane, but they were uncommon in childhood. So far as he knew, there was no other case reported as occurring in a child about nine years of age, though there were cases reported at an earlier age.

Dr. McCarthy said that the statistics showed that ten per cent. of the entire number of cases occurred during the first year of life.

**Election of Officers.**—*President*, Dr. E. D. Fisher, of New York; *First Vice-President*, Dr. Morton Prince, of Boston; *Second Vice-President*, Dr. J. W. Putnam, of Buffalo; *Council*, Drs. J. H. Lloyd, of Philadelphia, and J. Collins, of New York; *Secretary and Treasurer*, Dr. G. M. Hammond, of New York.

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**Tachycardia.**—(1) Treatment of attack: Complete repose. Place the patient on the right side with head lowered to avoid fainting. Spray the precordial region and the back of neck near vertebra prominens, with chloride of methyl. Morphine and antipyretics give good results; digitalis is often of no use. If syncope is imminent give hypodermic injections of caffeine and ether. (2) Treatment between attacks: Discontinue the use of coffee, liquors, and tobacco if the patient be addicted to them; make the invalid avoid all mental and physical overwork. Prescribe prolonged use of arsenic, and for arterial hypotension administer quinine, ergot, or ergotin.—*Cincinnati Lancet Clinic*, March 4th.

# Correspondence.

## OUR LONDON LETTER.

(From our Special Correspondent.)

HAFFKINE'S PROTECTIVE INOCULATION, CHOLERA, PLAGUE, TYPHOID—MOORFIELDS HOSPITAL—INJUSTICE TO A SCOTCH PRACTITIONER—WOMEN'S INTERNATIONAL CONGRESS—DR. BOND'S SUSPENSION—EPILEPTIC COLONIES—BAZAAR.

LONDON, June 30, 1899.

THE important investigations carried out in India by Mr. W. M. Haffkine, C.I.E., lend additional interest to the lecture he delivered lately before the Royal Society on preventive inoculation. His methods were lucidly described and the results stated without any effort to produce effects; in fact, the true scientific spirit was manifest throughout. At the outset Mr. Haffkine observed that the immediate effect of a given virus or its derivate differs with the kind of virus, the process of modification it has been submitted to, and the species of animal to which it is applied. As an example the Indian monkeys (gray or brown) are very susceptible to plague virus, as also are rabbits and guinea-pigs; but the horse is not affected. But if the microbes in a plague culture are killed by heat, the relations of monkey and horse seem to be reversed; the guinea-pig becomes scarcely susceptible to large doses, but the rabbit remains so. There are animals in which inoculation leaves no lasting effect, others in which a temporary immunity is set up, others in which susceptibility seems increased, others in which great and lasting immunity is produced. Again, the study of anti-cholera inoculation in India shows that while the absolute number of cases and deaths is strikingly decreased, the proportion of deaths to those attacked is not affected. This is in accord with laboratory experiments which tend to show that immunity against the living microbe may differ from that due to its products. Mr. Haffkine endeavored in his anti-plague virus to combine if possible a reduction of attacks with a lower case mortality by treating the system with the bodies of the microbe as well as their concentrated products. The effect of his prophylactic having been worked out on animals and the absolute harmlessness of the inoculation having been demonstrated on man, comparative tests were carried out on a larger scale. At the Byeulla jail epidemic one hundred and fifty-four prisoners volunteered and were inoculated, one hundred and eighty-three remaining without the treatment. For seven days (except the fourth) after the inoculation cases occurred among the uninoculated—twelve cases and six deaths. In the inoculated group one case occurred next day in which the patient rapidly recovered, and one on the last day, in which also recovery occurred. From these figures it was seen that inoculation was useful in a localized, already existing epidemic extending over seven days. The next trial was made in the Umerkadi jail, Bombay, where plague broke out at the end of December, 1897, and by January 1, 1898, three cases occurred, all fatal, and fatal cases occurred for thirty days. On January 1st half the prisoners were inoculated, and all continued in exactly the same circumstances. Some of each group were discharged, and thus their cases were removed from observation. The average daily strength of those in jail to the end was: uninoculated, one hundred and twenty-seven; inoculated, one hundred and forty-seven. In the former ten cases occurred, six being fatal; in the one hundred and forty-seven inoculated three cases occurred, and all recovered. In the third jail (Dharwar) five fatal cases occurred, and then all the prisoners, numbering three hundred and seventy-three, volunteered and were inoculated. One case occurred two days after the operation, and recovery took place. That was the only one.

Among the free population a remarkable experiment was carried out at the village of Undhera, where plague had carried off seventy-nine victims. Then inoculation was tried in seventy-one families, but not in sixty-four others. In the seventy-one there were eight cases with three deaths; in the sixty-four, twenty-seven cases with twenty-six deaths. Mr. Haffkine gave full details of these trials, as they were most precise. But there were also more extended trials among various populations devastated by plague, as in the Damion epidemic extending over four months and in the towns of Hubli, Dharwar, and Gadag, where some eighty thousand persons were inoculated. The difference in the mortality was estimated to be over eighty per cent., often approaching ninety, in favor of the inoculated. The case mortality of those treated in the larger hospitals was fifty per cent. less in those inoculated.

The question of the duration of immunity is unsettled, but Mr. Haffkine observed that for the present it may be said that the effect of inoculation lasts the length of one epidemic, which on the average extends over four to six months. The Indian government has recognized inoculation certificates as exempting the holders from plague rules for six months, with the understanding that if accurate data are forthcoming of the effect lasting longer they will be exchanged for other certificates without re-inoculation.

Having mentioned the further problems which are engaging the Bombay plague-research laboratory, Mr. Haffkine spoke in favor of the new campaign which has been inaugurated against typhoid fever. He pointed out the resistance of the microbe of this disease as compared with that of cholera. But he found circumstances in connection with both which led him to expect from typhoid inoculation in man a similar protective effect to that obtained by cholera inoculation. Should this prove to be so it will be a triumph of even greater importance to Europeans.

Moorfields is a name that at once calls up the thought of the great ophthalmic hospital of which the fame has gone forth into all countries. The old building became too straitened for its work, and removal was determined on. A site in the City Road was secured, and the Prince of Wales laid the foundation stone of the new hospital in 1897. On Tuesday last the Duke of York, accompanied by the Duchess, performed the ceremony of opening the new buildings. Moorfields has long been the resort of all ophthalmologists who visit London, and is likely to maintain its honorable position as a scene of important discovery and a school of ophthalmic medicine and surgery. As a hospital it is so famous that there is no doubt that at times it has been resorted to by many well able to pay. It is hoped that this abuse will in future be kept in check.

Sir C. Cameron, M.D. and M.P., has issued a pamphlet exposing a gross case of "the maladministration of justice in Scotland." The case is that of Dr. Lamont, who was a poor-law official in the Hebrides. His zeal and fidelity in the care of the poor have only brought him injury so gross that Sir Charles tried by questions in Parliament to obtain redress, but without success. An epidemic in an island in Dr. Lamont's district caused such a panic that the people would not attend the sick or place the dead in coffins. The Scottish government board after an inquiry into the epidemic censured the parish council, but at the same time praised Dr. Lamont. A few months later the council took its revenge and dismissed Dr. Lamont, who was afterward arrested on a charge con-

nected with vaccination work, but acquitted. Sir C. Cameron's history of the case will perhaps bring some redress, and should go far to convince Parliament that appointments should not be terminable by the mere will of a parish council.

The International Congress of Women has been sitting this week. On Tuesday the discussion was on "The Training and Qualifications of Women Doctors," opened by Dr. Sarah Stevenson from the United States. Another paper was on "Women's Work as Doctors in Hospitals and in Private Practice." To-day nursing is the subject under consideration. This congress seems to be an outcome from the women's whiskey war in the States some twenty-five years ago, which about eleven years ago led to the International Council of Women. The organization seems now to be very widespread and is giving considerable attention to medical and sanitary questions. Nine countries sent delegates, and representatives came from eight others. There were also seven vice-presidents from different countries.

The local government board has declined to indorse the suspension of the medical officer of health by the St. Olive's vestry which I lately reported. The origin of the matter was in the removal of bodies from the parish church, which had been superintended by the doctor. The vestry has been curtly told that the medical officer had not exceeded the duty imposed by Parliament on him in conjunction with the bishop and ecclesiastical commissioners.

The Duke and Duchess of York are keeping up the royal reputation for interest in our hospitals and other charities. On Saturday they went to Chalfont and opened four new homes in the colony which has been established there by the National Society for the Employment of Epileptics. The Duke is president of this useful society.

Charing Cross Hospital will benefit by the great bazaar at the Albert Hall to the amount of over £13,000, thus capping the Press Bazaar of last year by some £3,000.

## Medical Items.

**The Contagiousness of Leprosy.**—With respect to this point Mr. Jonathan Hutchinson says in his *Archives:* "In leper asylums the doctors, nurses, and servants never contract the disease. Inference, it is not contagious. When lepers are imported into countries where the disease does not prevail, as, for instance, from Norway into the United States, they never communicate the disease to others. Inference, it is not contagious. In further confirmation of the last proposition it may be stated that no year passes without the introduction into England of a certain number of lepers—Englishmen who have developed the disease abroad. In all the nature of the malady is carefully concealed, and they mix with their friends without any special precautions. No single instance of any suspicion of contagion has occurred."

**A Psycho-Physical Study of Colored Children.**—As the outcome of a special study of ninety-one colored children, Macdonald (*Journal of the American Medical Association*, May 27, 1899, p. 1,140) has determined that colored children are much more sensitive to heat than are white children, which probably means that their power of discrimination is much better, and not that they suffer more from heat. Colored girls have a larger circumference of head at all ages than white girls. White children not only have a greater standing height than colored children, but their sitting height is still greater; yet colored children have a greater weight than white children, as white children relative to their height are longer-bodied than colored children. The percentage of long-headedness—dolichocephaly—among colored boys is more than double that of white boys. This may be due to racial influences.

**Prof. Ewart on Zebras.**—At the Royal Institution recently Prof. J. Cossar Ewart began the third and last of his lectures on "Zebras and Zebra Hybrids" by describing the various types of zebra that occupied East Africa, and pointing out how they differed in the arrangement and width of stripes, the form of the hoof, the length of the ears, etc. Westward a still greater variety was found, including the typical Burchell zebra, which differed from others in having white legs and very few stripes on the shoulders. From this animal it was only a step to the extinct quagga, which he thought might be regarded as the one effort of the African continent to form a true horse. The interest in these animals lay in the fact that they illustrated an enormous amount of variation, an amount scarcely to be expected in a group of wild animals in so limited an area. Discussing this circumstance, he found reason to doubt some prevailing views about heredity, and quoted instances to show that owing to prepotency in one of the parents intercrossing did not always lead to swamping. As to the use of zebras, he said they were sometimes perfectly docile. But even the quietest, if they imagined something was going to leap upon them, would make a bound which was quite uncontrollable, and unless they could be educated out of that habit he did not think they were likely to be of much service to man. The immunity of the zebra from the tsetse-fly disease had been taken for granted, but no experiments had been made to prove the immunity alleged. The probability was that zebras living in a fly country were immune, but not others.

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ending July 15, 1899:

SMALLPOX—UNITED STATES.

| | | Cases. | Deaths. |
|---|---|---|---|
| Florida, Jacksonville | July 1st to 8th | 3 | |
| Illinois, Chicago | June 24th to July 1st | 2 | |
| Kentucky, Louisville | June 23d to July 6th | 2 | |
| Louisiana, New Orleans | June 24th to July 8th | 3 | 1 |
| Shreveport | June 24th to July 8th | 1 | |
| Massachusetts, Boston | July 8th | 3 | 2 |
| Mississippi, Natchez | July 7th | 1 | |
| New York, New York | June 24th to July 8th | 7 | 1 |
| North Carolina, Charlotte | June 1st to 30th | 1 | |
| Ohio, Cincinnati | July 7th | 2 | |
| Cleveland | July 1st | 2 | |
| Oregon, Portland | June 29th to date | 4 | |
| Pennsylvania, Philadelphia | July 1st to 8th | 4 | |
| Virginia, Cape Charles | July 8th | 1 | |
| Danville | July 6th | 3* | |
| Norfolk | July 8th | 6 | |
| Portsmouth | July 8th | 4 | |
| Washington, Tacoma | July 10th | 3 | |

*Total 30.

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Argentina, Buenos Ayres | April 1st to 30th | | 1 |
| Brazil, Rio de Janeiro | May 27th to June 3d | 77 | 29 |
| China, Fuchow | May 6th to 13th | Prevalent. | |
| Cuba, Havana | June 29th | | 1 |
| England, London | June 17th to 24th | 1 | |
| France, Marseilles | June 23d to July 2d | 1 | |
| India, Bombay | June 6th to 13th | | 4 |
| Madras | May 27th to June 2d | | 2 |
| Mexico, Mexico | June 23d to July 2d | 8 | 3 |

YELLOW FEVER.

| | | | |
|---|---|---|---|
| Argentina, Buenos Ayres | April 1st to 30th | | 4 |
| Brazil, Rio de Janeiro | May 27th to June 9th | | 19 |
| Cuba, Havana | July 6th | 2 | |
| Santiago | June 18th to July 10th | 148 | 28 |
| Mexico, Vera Cruz | June 28th to July 6th | | 25 |

On bark *Dolores Romano* at Vera Cruz, Mexico, July 1, 7 cases.

CHOLERA.

| | | | |
|---|---|---|---|
| India, Bombay | June 5th to 13th | | 1 |
| Calcutta | May 27th to June 5th | | 33 |
| Madras | May 27th to June 2d | | 3 |

PLAGUE.

| | | | |
|---|---|---|---|
| Egypt, Alexandria | June 16th to 23d | 4* | |
| India, Bombay | June 6th to 13th | | 53 |
| Calcutta | May 27th to June 3d | | 32 |
| Japan, Formosa | April 25th to May 3d | | 147 |

*Remaining.

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 56, No. 5.
Whole No. 1499.

NEW YORK, JULY 29, 1899.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### A REPORT OF TWELVE CASES OF PROSTATIC HYPERTROPHY BENEFITED BY THE BOTTINI OPERATION, WITH A FEW COMMENTS AND SUGGESTIONS.[1]

BY RAMON GUITÉRAS, M.D.,

NEW YORK.

SOME time ago I published an article in the *New York Medical Journal*, entitled "The Technique of the Bottini Operation," for the purpose of giving some of the minor details connected with this procedure, which are important in an operation that has to be performed so rapidly.

In looking up the literature of the subject, I was surprised to see how many cases were referred to, and yet how few in comparison had been systematically reported.

It was accordingly with regret that I looked over the meagre statistics of the cases upon which I had operated and felt that they were not worth reporting. The results, however, were so good that I have decided to do so, at the same time feeling that I should make a plea to my colleagues to be more careful in their own observations than I have been, in order to produce records which will be more interesting and instructive. The cases that I shall report are twelve in number, the patients ranging in age from forty-nine to seventy-nine years. They were all in fair physical condition at the time of the operation, and I might consider some of them cured if I felt certain that the improvement they have already shown would continue. The reason why I was not more careful in my records was because I was rather sceptical concerning the good results that were claimed for the operation, and felt that I was trying a procedure which was painted more brightly than it deserved to be. So far, however, my cases have progressed very favorably, and I have been more than pleased with the appearance of the patients that I have treated.

The report of these cases is as follows:

CASE I.—Captain, aged sixty-five years, tall, of slender build, looking pale and cachectic. The patient was suffering from almost complete retention and had not been able to pass any urine for several months, excepting a few drops in the morning. He had been broken into catheter life and used his instrument regularly three times a day.

Examination: Palpation of kidneys, negative. Suprapubic examination was also negative, as the patient did not have much urine in his bladder at the time of the examination. His external genitals were normal and of medium size. Rectal examination of internal genitals showed the prostate to be only slightly enlarged and of ordinary consistence. Seminal vesicles, negative. The urethral examination showed an impediment at seven inches, but a slight push sent a No. 14 straight soft-rubber catheter through. The remainder of the canal was of good calibre. Seven and one-half ounces of urine were withdrawn, which represented that part of the residual urine in the bladder at the time. The urine escaping through the catheter came away with considerable force, indicating that the tone of the bladder wall was good.

The report of the analysis of the urine made by Dr. George Blanchard was: Pale, turbid; specific gravity, 1.013; albumin, trace; sugar, none; urea, 1.3 gm. to litre; sediment, large quantity of pus with mucus and some bladder epithelium, and many bacteria.

Operation: The bladder was washed through the catheter until the washings came away clean. One ounce of a three-per-cent. solution of eucaine was then injected into the bladder and along the urethra. The usual six ounces of boric-acid solution were then injected and allowed to remain. The incisor was then immediately introduced and stuck in the prostatic urethra. Elevation of the hips on a sand bag and a sudden pushing in of the instrument, while the handle was depressed, made it enter the bladder. The forefinger of the left hand was then inserted into the rectum and placed on the margin of the base of the prostate, and the incisor was drawn forward until its beak was over the end of the finger in the rectum. Three incisions were then made: (1) Posterior 3 cm. long; time two minutes; current 37½ amperes. (2) Right lobe 2¼ cm. long; time one and one-quarter minutes. (3) Left lobe, same.

The patient said that he felt very little pain while being operated upon. At 9 P.M. he had not passed any urine since the operation. He was accordingly catheterized, and the catheter allowed to remain. The patient passed a comfortable night; no elevation of temperature; pulse normal. The urine drained away clear.

This patient was operated upon out of town, and I did not see him for some time afterward. The report of the attending physician two weeks afterward was as follows: "The patient made a rapid and complete recovery; suffered no shock. Highest temperature, 99° F.; highest pulse rate, 70. He now passes from one and one-half to three pints of urine in the twenty-four hours, from two to four ounces at a time. In spite of this quantity voided, there still remains between one-half pint and one pint to be withdrawn by catheter morning and evening. One piece of blood clot was passed five days ago, and several pieces of prostatic tissue this morning, since which he has urinated more freely than at any time." A report two weeks later from the doctor stated that the patient had been passing blood in his urine and that a few drops came away after urinating. On a subsequent visit I cystoscoped the patient, but the manipulation of the instrument increased the bleeding and obscured the field to such an extent that the examination revealed nothing. It seemed probable that the bleeding was due to granulations at the seat of the prostatic incisions. Instillations of nitrate of silver were ordered, since which time no report of the case has been received.

Note: The report of this case shows marked improvement, as from an almost complete retention he has been brought into a condition in which he can pass from twenty-four to forty-eight ounces of urine a day voluntarily. I think that the reason why he still has some residual urine is because in making the incision I drew out the instrument until its beak in the bladder

[1] Read before the New York Academy of Medicine, May 9, 1899.

was just over the tip of the rectal forefinger at the margin of the base of the prostate, and that probably in drawing it forward to this point it was brought beyond the vesical margin of the base of the gland, which probably extended back farther than the rectal base. In this case the incision was not begun precisely at the vesical base of the gland, but a little in front of it, thus allowing some obstruction to remain. The bleeding, I think, has been caused by the frequent catheterization since the operation, which has irritated the prostatic urethra, during the time that the sloughs were being thrown off, sufficiently to cause the formation of granulation tissue. I think that this is a case for a second operation.

Case II.—Sea captain, aged fifty-eight years, short, well-nourished, of limited intelligence. Patient has been troubled for some months with frequency of urination during the day and night, and dribbling (incontinence).

Examination: Kidneys negative; external genitals normal. Rectal examination showed the right lobe of the prostate to be normal and the left to be about one-half inch longer than the right; seminal vesicles were not felt. Urethral examination showed the meatus to be contracted, admitting only a No. 16 French coudé catheter, which passed through the remainder of the urethra into the bladder. There were two ounces of residual urine present.

The report of the urinary analysis made by Dr. George W. Blanchard was: Urine turbid, pale yellow; specific gravity, 1.018; trace of albumin; no sugar; urea, 1.8 gm. to litre. Sediment, large amount of pus; mucus; bladder epithelium in large amount; few prostatic cells; many bacteria.

Operation: The patient's bladder was anæsthetized with a three-per-cent. solution of eucaine, and the regular amount of boric acid (six ounces) was injected. It was found that the meatus would not admit the incisor, and accordingly it had to be cut up to a sufficient size to allow the instrument to enter. Much difficulty was encountered in passing the incisor through the prostatic urethra, which imparted the feeling of extreme hardness. This was accomplished, however, after putting a support under the sacrum. The finger in the rectum gave the patient considerable discomfort and caused him to close his thighs so tightly that it was almost impossible to feel the base of the prostate. Three incisions were made: Posterior, 3 cm. long, time two minutes, current 40 amperes; anterior, 2 cm. long, time one minute, current 40 amperes. At this juncture the water in the cooler gave out, and the operation had to be postponed until the reservoir could again be filled. The current of electricity was immediately shut off, but by this time the effect of the eucaine had evidently worn off. Notwithstanding this, the third incision was made as follows: Left lobe, 3 cm. long; time two minutes; current 44 amperes.

The patient felt dizzy after the operation. He was put on benzoic acid, gr. xv. t.i.d., and instructed to drink plenty of water. On the evening of the operation his temperature was normal and pulse 60. He passed urine during the night without difficulty.

The physician's report two weeks later was as follows: "The patient made a good recovery. He had a slight chill on the first attempt to pass urine after the operation, which was followed by a rise of temperature to 100.2° F. His dribbling, of which he complained greatly before the operation, has entirely ceased, and he has but three drachms of clear residual urine." Since then I have heard nothing more of the case, excepting that he still continues to improve.

Comment: This patient has certainly been very much benefited by the operation. His frequency of urination has been lessened; his dribbling has ceased, and he now has only three drachms of residual urine, which is not sufficient to cause much bladder disturbance. It was unfortunate that there were two causes of delay during the operation: the first, that of cutting the meatus, should have been anticipated by doing it at the time of the first examination; the second, that of the failure to fill the reservoir, was a matter of carelessness and shows the importance of seeing to every detail before the operation is begun.

Case III.—Ship-caulker, aged sixty-seven. Has the appearances of a hard-working man, rather slight and bowed with age, although his general condition was good for one of his years. His family history was negative. He had had a urethritis when a young man, but no other venereal trouble. Twelve years ago he had an attack of retention, but since then he has been able to urinate freely until his present trouble began. For three years past he has been suffering from frequency of urination, accompanied by pain and tenesmus. Three months before the operation he came to me for treatment, complaining of pain in the perineum and over the pubes, together with burning during micturition. He was passing his urine every two hours during the day and every hour during the night. I treated him with palliatives, antispasmodics, urinary antiseptics, and bladder irrigations, and for a while he was improved, but then relapsed again, and finally after three months of treatment he concluded to undergo an operation.

Examination before operation: His heart and lungs were normal. Palpation of his kidneys was negative. There was no suprapubic dulness. His external genitals were normal and well-formed.

Per rectum: His prostate did not seem to be enlarged, although the left lobe was somewhat longer than the right. His seminal vesicles could not be felt. There was no bladder tenderness.

Urethral examination showed an obstruction to a straight catheter at seven inches. The urethra up to this point was normal and of a size admitting a No. 28 French sound. A coudé catheter, No. 20 French, slipped into the bladder, and two ounces of residual urine were drawn off. The bladder was found capable of containing eight ounces, and its walls did not show any marked atonicity.

Urine examination made by Dr. Brooks, Post-Graduate Laboratory, showed it to be of light color, fairly clear, with a nebulous sediment; reaction acid, specific gravity 1.015. Small amount of albumin, no sugar.

Microscopical examination: A considerable amount of pus, a few blood cells, some round bladder epithelium, and some mucus threads. No crystals. Some bacteria were present.

This seemed to be a good case for operation; the patient's bladder had not suffered to any marked degree, and his kidneys were in good condition. On entering the hospital, his temperature was 98° F., his pulse 60. He was put on salol gr. x. t.i.d. and prepared for operation. He passed forty-eight ounces of urine.

Operation: This was performed under four-per-cent. eucaine anæsthesia, about half an ounce being used in the anterior and posterior urethra. Six ounces of boric-acid solution were injected into the bladder. A sandbag was placed under the hips to elevate the pelvis. Three incisions were made—one posterior and two lateral. (1) Posterior, 2¾ cm. long; time two and one-quarter minutes; current 45 amperes. (2) Left lateral, 2¼ cm. long; time two minutes; current 45 amperes. (3) Right lateral, 2 cm. long; time one and one-half minutes; current 45 amperes.

After operation: The patient did not suffer much pain during the operation. He did not attempt to pass water afterward, and was immediately put to bed. He had been cystoscoped on a previous occasion.

On the following day his temperature went up to 101.2° F., and for about a week it ranged from 98.4°

to 100.4° F. His pulse ranged from 68 to 90. When he left the hospital his temperature had been normal for several days.

| Date. | Temp. | | Pulse. | | Respiration. | Urine. Ounces. | Stools | |
|---|---|---|---|---|---|---|---|---|
| | P.M. | A.M. | A.M. | P.M. | | | | |
| | Degrees. | | | | | | | |
| 1st day. | .. | 98.3 | .. | 60 | 20 | | | |
| 2d day. | 98.0 | 100.6 | 75 | 80 | 18 | 56 | .. | He had slept well during the night, although he had a slight cough for which Stokes' expectorant mixture was given. Salol gr. x. t.i.d. was continued. |
| 3d day. | 98.6 | 100.0 | 84 | 88 | 20 | 31 | 1 | Saline purge given. Patient had slept well all night; he complained of pain over the pubes and perineum, although he had been passing his urine very frequently. As the amount had been only thirty-one ounces, a catheter was passed to see if his discomfort was due to an accumulation of urine in the bladder. Only about two ounces were drawn off (the regular amount of residual urine). |
| 4th day. | 98.2 | 99.0 | 76 | 89 | 18 | 40 | 2 | As he has been taking large quantities of water this did not seem to be sufficient, and he was accordingly put on a mixture containing sweet spirits of nitre, gtt. xv.; acetate potassium, gr. xv. t.i.d. |
| 5th day. | 98.0 | 98.4 | 78 | 80 | 20 | 32 | 1 | |

Result: The patient seems to be much improved. He urinates about every three hours during the day and three times during the night. Otherwise he feels better and more active. He complains principally of a burning feeling in the neck of the bladder. His residual urine has diminished to one-half an ounce. There is no obstruction to the passage of a straight catheter into his bladder. His urine is clear, there are no shreds; reaction acid; no albumin; microscopically, a little pus; no blood. There is still a small amount of bladder epithelium.

Note: The patient passed sloughs from the seventh to the last day, at which latter date he brought to the hospital a large slough three-fourths of an inch long and one-third of an inch wide, passed in perfectly clear urine. He is still on treatment. He drinks plenty of water. He takes belladonna and benzoate-of-sodium mixture t.i.d., and has his bladder washed out twice a week with a 1:4,000 nitrate-of-silver solution.

Case IV.—Machinist, aged sixty-five years. A man slightly above medium height, thin, nervous, and looking older than the age given.

The patient stated that he was well up to three years ago, when he began to suffer from frequent and precipitate urination, the act being accomplished after a good deal of straining toward the end. He said that he had at no time suffered any pain, although there was a feeling of heaviness in his perineum and some burning as the urine passed through his urethra. After these symptoms had continued for about a year, he consulted a physician, who told him that he could not empty his bladder and that he should catheterize himself twice a day. He accordingly started in on his catheter life, which he has continued up to date. During the last six months, as his condition has been growing worse rather than better, he has been in the habit of washing out his bladder once a day with a boric-acid solution. This relieved him somewhat at first, but he still urinates every hour during the day and every two hours during the night, and the act is attended by considerable straining and pain in the bladder and back. The patient also suffers from incontinence (dribbling), for which condition he wears a urinal.

Examination: Palpation of the kidneys reveals no enlargement, although there is some pain on pressure over the right organ. Suprapubic examination was negative. His external genitals are normal. Rectal examination shows the lateral lobes of the prostate to be elongated, the right being the longer. The seminal vesicles cannot be detected. Examination of the urethra shows it to be normal, barring the elongation and bulging of the prostatic portion. The amount of residual urine is seven ounces, the bladder capacity twelve ounces.

The report of the urinary analysis made by Dr. Brooks, Post-Graduate Laboratory, is: Color, amber; fetid; cloudy; reaction, alkaline; specific gravity, 1.016; albumin, trace; no sugar; pus abundant; few blood cells; bladder epithelium; no casts. Examination by the cystoscope showed the bladder wall to be dark red and congested. The inner border of the prostate could be clearly seen, and the middle lobe seemed to project quite prominently. There were no shreds or streamers hanging from the wall.

Operation: The bladder was washed out thoroughly, and an ounce of eucaine solution was injected into the urethra and bladder, after which eight ounces of boric acid were injected and allowed to remain. The patient was then brought into the lithotomy position, and the instrument inserted. Three incisions were made: (1) Posterior, 3 cm. long; time three minutes; current 40 amperes. (2) Right lobe, 2½ cm. long; time two and one-half minutes; current 40 amperes. (3) Left lobe, 2¼ cm. long; time two and one-quarter minutes; current 40 amperes. The latter part of the operation was clearly painful to the patient, as the effect of the eucaine had evidently worn off. Some whiskey and strychnine were accordingly given. The patient was put to bed and ordered to take urotropin gr. x., t.i.d., and to drink large quantities of water.

| Date. | Temp. | | Pulse | | Respiration. | Urine. | Stools. | |
|---|---|---|---|---|---|---|---|---|
| | A.M. | P.M. | A.M. | P.M. | | | | |
| | Degrees. | | | | | | | |
| 1st day. | .. | 99.0 | .. | 68.0 | 20 | Patient passed from 38 to 50 ounces of urine a day. | .. | Patient put on urotropin, gr. x. t.i.d. Patient slept well; could not pass urine. Catheter inserted. |
| 2d day. | 98.6 | 99 4 | 76.0 | 72.0 | 22 | | .. | Patient passed a good day. Is draining well through the catheter. |
| 3d day | 99.8 | 100.0 | 100.0 | 74.0 | 24 | | 1 | Patient felt nauseated during the morning. Catheter was removed; cathartic given. |
| 4th day. | 98.2 | 70.0 | 98.4 | 70.0 | 22 | | 2 | Fairly good night. |
| 5th day. | .. | 98.0 | .. | 80.0 | 24 | | 1 | Again nauseated. Ordered sodii bicarb., gr. v.; bismuth, gr. x.; salol, gr. v. |
| 6th day | 99.6 | 99.8 | 74.0 | 80.0 | 22 | | .. | Washed out bladder with boric acid. Ordered codeine, belladonna, sod. benzoate, in aq. menth. pip. |
| 7th day. | 98.8 | 99.2 | 76.0 | 80.0 | 22 | | | |

The remainder of his convalescence was normal. He was allowed to be up and about at the end of the week.

On the tenth day a number of sloughs were passed, one-fourth inch by three-fourths inch. On the twelfth day patient passed chunks of slough which almost blocked the urethra. One month after the operation patient had only one-half ounce of residual urine.

A report of this case later, coming from a competent surgeon with a well-equipped laboratory, was that the urine was normal, but that the patient was in a hysterical condition. The last time that I saw him he was very neurasthenic, and his urine was of low specific gravity, and showed a slight trace of albumin and some hyaline and fine granular casts.

Comment: This patient has certainly been much benefited by the operation, as his residual urine has been reduced in quantity from seven ounces to one-half ounce, and the tone of his bladder wall has been in a great measure restored.

It has taught me that the strain of an operation under a local anæsthetic is often considerable, and that

this, together with the preparatory purging which the patient has to undergo and the nervous tension under which he is before going upon the table, is sufficient to give him quite a shock.

Anything that postpones the operation after the eucaine has been injected, such as cystoscopy, the failure of water supply in the cooler, the cutting of the meatus, spasms of the vesical sphincter or cut-off muscle, allows the anæsthetic effect to wear off and thus causes the patient to suffer more, and consequently increases the danger of shock. Another interesting point is the question of nervous conditions arising here, as they do after other operative procedures for hypertrophied prostate.

Case V.—Railroad man, aged fifty-seven years. A tall, powerful man of healthy appearance.

History: No venereal history. Five years ago he began to have trouble in passing urine and was obliged to get up at night. He dribbled at times. Occasionally his urine stopped suddenly. He also has had a good deal of pain in the back and in the region of his bladder. Of late, his pain, frequency, and dribbling have continued to increase to such a degree that he decided to enter the hospital. He also has had chilly sensations for the last few days. The patient urinates eight or nine times a day and twelve or fourteen at night.

Examination: Palpation of kidneys, negative; suprapubic, negative; external genitals are large; varicocele on left side. Per rectum: Prostate large, hard, and sensitive; right lobe the larger; bladder, negative. Per urethram: Meatus small, admits a No. 23 French. The remainder of the urethra is free down to the prostatic portion, where a small straight catheter (18 French) encounters obstruction; a small soft-rubber coudé catheter enters and draws off two ounces of residual urine.

Report of urine (by junior assistant): Color, yellow; cloudy; odor, not pronounced; specific gravity, 1.025; chemically—reaction acid; albumin, a trace; no sugar. Microscopically—moderate number of pus cells.

Operation: Patient under local anæsthetic, three-per-cent. eucaine. Three incisions were made: (1) Posterior, 3 cm. long; time two minutes; current 45 amperes. (2) Anterior, 2 cm. long; time one and one-half minutes; current 45 amperes. (3) Right lobe, 2½ cm. long; time one and three-quarters minutes; current 45 amperes.

After operation: The patient suffered no immediate shock; he felt the pain very much.

| Date. | Temp. A.M. | Temp. P.M. | Pulse. | Respiration. | Urine. | Stools. | |
|---|---|---|---|---|---|---|---|
| | Degrees. | | | | | | |
| 1st day. | .. | 99.0 | 76 | 20 | | 1 | Operation performed at 2:30 P.M. |
| 2d day. | 98.2 | 98.2 | 80 | 24 | | | |
| 3d day. | 98.0 | 98.2 | 84 | 22 | | 1 | Salol gr. x., t.i.d. The patient was kept on fluid diet for two days, and then, as there was no elevation of temperature, regular diet was given. Purge given. |
| 4th day. | 98.4 | 98.0 | 80 | 20 | No report of urine made. | | |
| 5th day. | 98.2 | 99.0 | 78 | 18 | | | |
| 6th day. | 99.3 | 98.2 | 82 | 24 | | | |
| 7th day. | 98.3 | 98.2 | 74 | 22 | | 2 | |

The patient was kept in bed for one week, after which he was allowed to be up and about. His recovery was uneventful. Shreds were passed from ten to eighteen days after the operation, at the expiration of which time he passed urine three or four times during the day and went from 9 P.M. to 5 A.M. without urinating. At the expiration of twenty-one days he passed urine five times during the day and four times during the night, accompanied by great straining and pain in the end of the penis. He then passed a clot of blood, which relieved him greatly. Belladonna and sodium benzoate mixture was ordered, and salol discontinued.

Twenty-four days after he is urinating five times a day and once at night; feels comfortable. One month after operation the condition is the same. Residual urine, one ounce.

Comment: This was certainly a good result. The patient then passed from under my observation, and I have not seen him since. An interesting point in this case is the fact that about three weeks after the operation, on examining the patient by rectum, I noticed a marked linear depression between the two lobes, and called the attention of the house staff to it, as the line of atrophy caused by the throwing off of the slough. On consulting the dictated history of the case, however, I found that the same groove had been detected on the first rectal examination.

Case VI.—Tailor, aged fifty-eight years. Tall and thin, looking pale and depressed.

History: Patient has been troubled with frequency of urination during the last year, not only during the day, but also at night. Sometimes he has had great difficulty in starting his stream, and on one occasion, six weeks ago, he had had an acute attack of retention, for the relief of which he had entered the hospital. This was easily relieved, and he was put on urinary antiseptics and antispasmodics. The rest in bed, combined with the use of these remedies, benefited him considerably. As the patient had been suffering from a hydrocele for a number of years, and was very desirous of having it cured, he took advantage of this stay in the hospital to be operated on. The operation was successful. When he left the hospital and began to work, the frequency of urination returned, accompanied by pain and burning. He urinated four or five times a day and five or six times at night.

Examination: Palpation of kidneys, negative. Suprapubic examination was also negative. The external genitals were normal, with the exception of the thickened feeling of the left testicle following the hydrocele operation. There was also a hernia on the same side. Rectal examination showed the whole of the prostate to be enlarged and hardened, the left lobe being the larger. The seminal vesicles were not felt. The urethra admitted a 24 straight French catheter down to the prostatic urethra. An elbowed catheter of a smaller size had to be used to enter the bladder, as there was a marked impediment at its entrance. There were two and one-half ounces of residual urine present. Examination for stone was negative.

Report of analysis of the urine (Brooks): Yellow; moderate nebulous sediment; no shreds; reaction neutral; specific gravity 1.015; albumin, a trace; sugar, negative; pus abundant in single cells and in groups; no crystals; epithelia, a few round bladder cells and caudate from the neck of the bladder; casts, hyaline, granular, and epithelial.

Operation: Bladder washed out until clear. One ounce of a four-per-cent. eucaine solution was injected into the bladder and the urethra. Patient was operated upon in the dorsal decubitus with the legs extended. Only one cut was made: Posterior, 3 cm. long; time two minutes; current 40 amperes. After the first incision was made, the current was turned off until the instrument was in position for the next incision. When it was in place, the current was again turned on, but the hand of the disk only registered 10 amperes, which was not sufficient to heat the blade; therefore the operation was discontinued.[1]

The patient remained in hospital for another week for the sake of a longer rest, during which period his temperature and pulse were normal. He passed the bulk of his sloughs on the eighth day. Two weeks after the operation the patient had two ounces of residual urine. This was thick and foul-smelling. The

[1] It is important to know that the battery contains only enough electricity for two or three operations.

belladonna and benzoate-of-sodium mixture was given. The patient has a good deal of burning and still some frequency. Advised him to keep up his irrigations until his cystitis was cured. The patient came very irregularly, however. One month after the operation he had but one-half ounce of residual urine.

| Date. | Temp. A.M. | Temp. P.M. | Pulse. | Respiration. | Urine. Ounces. | Stools. | |
|---|---|---|---|---|---|---|---|
| | Degrees. | | | | | | |
| 1st day. | 98.0 | 98.0 | 92 | 24 | 19 | 1 | Gave hypodermic of morphine. Slept well all night. |
| 2d day. | 98.0 | 98.0 | 80 | 16 | 30 | .. | Catheterized and washed out with boric acid. Two compound cathartic pills given. Slept well. |
| 3d day. | 99.0 | 100.2 | 84 | 16 | 16 | 1 | Catheterized to see if there was any urine in bladder. In great pain. Gave morph. gr. ¼. |
| 4th day. | 99.0 | .. | 88 | 20 | 10 | 3 | Slept fairly well. |
| 5th day. | 98.4 | 99.0 | 92 | 20 | 69 | 2 | |
| 6th day. | 97.8 | 98.2 | 88 | 24 | 114 | .. | Bladder irrigated with boric acid and pulv. glyc., 3 ii. |
| 7th day. | 97.8 | 97.2 | 86 | 24 | 52 | 2 | Slept well. |

Comment: Very interesting, as only one incision was made, and the result was good.

Case VII.—Tailor, aged forty-nine years. Medium height, black hair and beard, slightly bald, well-nourished.

History: Patient came from out of town for operation. He stated that he had been well up to four years ago, when, while bending over to pick up something from the floor, he had felt a cold sensation on the left side of the abdomen extending down into the groin. He had gone to a physician, who had treated him by passing sounds twice a week for a short time. After this he began to pass his urine frequently, both during the day and the night, and to have pains in his lumbar and inguinal regions. At present he passes urine every hour and a half, both day and night, and complains of pain in the perineum and over the pubes.

Examination: Lumbar and hypogastric percussion and palpation, negative; external genitals normal. Per rectum: The prostate is found to be markedly enlarged, especially on the left side; bladder tender, but nothing abnormal detected. Urethra free down to the prostatic portion, in which there is a marked impediment. Cystoscopy shows a chronic cystitis and an elevation of the base of the prostate. There were six ounces of residual urine.

Urinary analysis (Dr. Brooks): Yellow, foul odor, cloudy, acid; specific gravity, 1.015; albumin, trace; no sugar; moderate amount of pus; blood present; epithelia, squamous and round, from bladder; casts, few hyaline, granular, and epithelial.

Operation: When the patient came in for operation, it was found that his temperature was 103.6° F.; pulse, 110; respiration, 46. Examination showed that he was suffering from influenza with a "grippal" pneumonia of the right lung. This delayed the operation for ten days, as it was thought best to wait until his temperature had been normal for a few days. Three incisions were made: (1) Posterior, 3 cm. long; time two minutes; current 40 amperes. (2) Anterior, 2 cm. long; time one and one-half minutes; current 40 amperes. (3) Left lobe, 2½ cm. long; time one and three-quarters minutes; current 40 amperes. The patient was ordered ten grains of salol three times a day and instructed to drink plenty of water.

The patient's pulse and temperature were normal during the second week, so no record was kept. He passed sloughs from the eighth to the twelfth day. He called at the clinic two weeks after operation, and had only one-half ounce of clear residual urine.

Comment: This was also a successful case, as on his last visit he had only one-half ounce of residual urine, which was one-twelfth less than the amount found at the first examination. The character of the urine had also changed, and it was then clear, whereas before the operation it had been cloudy. The frequency had also diminished. This patient has not been heard from since his return, which leads me to think that he is much improved, as he was instructed to write if any unfavorable symptoms occurred.

His record after the operation was:

| Date. | Temp. A.M. | Temp. P.M. | Pulse. | Respiration | Urine. Ounces. | Stools. | |
|---|---|---|---|---|---|---|---|
| | Degrees. | | | | | | Operation 4 P.M. under eucaine. |
| 1st day. | 98.0 | 98.4 | 76 | 20 | 22 | 1 | Slept well all night. |
| 2d day. | 99.4 | 98.6 | 66 | 20 | 21 | 2 | Gave calomel, gr. ii. Slept well. |
| 3d day. | 98.0 | 98.4 | 72 | 28 | 32 | 0 | Slept well. |
| 4th day. | 98.0 | 98.0 | 78 | 20 | 47 | 1 | Slept fairly well. |
| 5th day. | 97.6 | 98.2 | 64 | 18 | 57 | 1 | |
| 6th day. | 97.0 | 98.0 | 60 | 28 | 32 | 2 | Epsom salts every half hour for eight doses. Slept well. |
| 7th day. | 97.6 | 98.2 | 68 | 20 | 61 | 4 | Slept well. |

Case VIII.—Cooper, aged sixty years. Strong, well-nourished man, about medium height.

History: The patient had been well up to sixteen months ago, when he began to pass urine with increased frequency, which troubled him, especially at night. At present he urinates six or seven times during the day and five or six times during the night. He does not experience much pain.

Examination: Palpation of kidneys, negative; no suprapubic tenderness or dulness. External genitals normal; rectal examination shows the seminal vesicles to be normal; prostate increased in size about one-half or three-quarters. Urethral examination shows the canal to be of a calibre of 26 French for six inches, when there is an impediment. A No. 18 French coudé soft-rubber catheter passes this and draws off two ounces of residual urine. A straight catheter of the same size would not pass the prostatic urethra. Catheterization causes some hemorrhage. The impediment in this case does not seem to be so great by urethra as the prostate indicates by rectal touch, which leads me to think that it must be an enlargement of the lateral lobes.

Urine analysis (Dr. Brooks): Pale reddish-yellow, acid, faintly cloudy; sediment nebulous, faint; specific gravity, 1.014; urea, 1.6 per cent.; total solids, 3.22 per cent.; albumin, distinct trace with Heller's test, heavy trace with Esbach's. Microscopically—innumerable pus cells, often in irregular masses of twenty to forty cells; occasional blood corpuscles; numerous atypical vesical epithelia; occasional small hyaline, finely granular, and epithelial casts.

Operation: On account of the spasmodic condition of his deep and posterior urethra, it took considerable time to wash out his bladder and cocainize it and the urethra. It also required six minutes to pass the instrument into the bladder after his hips had been elevated by a sandbag. Three incisions were made: (1) Posterior, 3½ cm. long; time two minutes; current 42 amperes. (2) Right lateral, 3¼ cm. long; time one and three-quarters minutes; current 45 amperes. (3) Left lateral, 3¼ cm. long; time one and three-quarters minutes; current 45 amperes.

At the end of the first cut the carbon burned out, and there was a delay of about five minutes until a new attachment was made, so that the patient must have been nearly from under the influence when the last two cuts were made. He was perfectly quiet, however, throughout the entire operation, although he said afterward that it had hurt him considerably He was able to walk about immediately after the operation.

From this date his temperature and pulse were normal. He passed sloughs for ten to twenty days.

Comment: This was an extremely interesting case on account of the spasmodic condition of the urethra, the burning out of the carbon, the elevation of temper-

ature, and the small amount of urine passed after the operation.

| Date. | Temp. A.M. | Temp. P.M. | Pulse. A.M. | Pulse. P.M. | Respiration. | Urine. Ounces. | Stools. | |
|---|---|---|---|---|---|---|---|---|
| | Degrees. | | | | | | | |
| 1st day. | .. | 99.0 | .. | 80.0 | .. | .. | .. | Patient put on salol, gr. x, t.i.d. Slept well. |
| 2d day. | 105.6 | 104.4 | 99.0 | 102.0 | 36 | 20 | 1 | Good appetite. No pain. Alcohol sponge bath. Patient very nervous. Passes urine in small quantities every hour. Urine pale, cloudy, does not show blood. His terminal circulation is poor, and his heart action weak. Ordered whiskey, ℥i. every two hours. Toward morning patient began to vomit. Diet, milk and Vichy. |
| 3d day. | 103.0 | 101.4 | 79.0 | 87.0 | 23 | 22 | .. | Patient is passing very little urine, notwithstanding the fact that he is taking a considerable amount of fluid. His stomach is now quieter. Ordered mixture containing potass. acetat., spir. ætheris nitr. in aq. gaultheriæ, ℥i. t.i.d. |
| 4th day. | 98.4 | 100.0 | 64.0 | 63.0 | 17 | 28 | | |
| 5th day. | 97.8 | 98.0 | 58.0 | 54.0 | 16 | 38 | 1 | |
| 6th day. | 99.4 | 99.0 | 78.0 | 76.0 | 20 | 40 | .. | Patient is beginning to rally; is much improved; takes full diet; does not complain of any pain. |
| 7th day. | 98.. | 99.0 | 70.0 | 74.0 | 17 | 54 | 2 | Patient is now passing urine very freely in large quantities. |

The spasmodic condition in this case was marked, although I do not know if it was any more so than in some of the others. At any rate, it made more of an impression upon me, as I had for some time been considering the question as to whether or not this operation should be performed under general anæsthesia. The burning out of the carbon also caused some delay, as it required some minutes to adjust another, and I think that perhaps it would have been better for the patient if I had desisted at this point, which was after the posterior incision, and continued the operation at some other time. Such a postponement would certainly have saved the patient several minutes of pain. This was the first case in which I had used the electric current by means of a transformer instead of the portable battery, and the burning out of the carbon led me to think that perhaps in the future it would be better to use the battery in preference. I decided, however, not to abandon it without another trial. The elevation of temperature, in this case 104.4° F., was greater than that in any other on which I had previously operated, and I was quite alarmed about the patient during the first forty-eight hours. Just what the cause of this was I do not know, as the patient was in better condition before the operation than others upon whom I have operated. This case again showed me the value of a diuretic when the kidneys are not excreting sufficient urine. Since the operation I have not had an opportunity of examining his urine, and do not know the amount of residual urine present in his bladder. He has, however, told me that he urinates only three times a day and once at night. He attributes his arising to pass urine to the fact that he takes tea with his evening meal and sleeps between nine and ten hours a night.

Case IX.—Journalist, aged sixty-one years. A thin but well-nourished man, above medium height, looking somewhat older than the age given.

History: He had noticed for some years that his frequency of urination was increasing, although it had not begun to trouble him until ten months ago, when he found that the desire to pass water was rapidly becoming more frequent and imperative, so that it was annoying during the day and at night interfered with his rest. At times during the day he could not hold it, and at night it often escaped during his sleep, notwithstanding the fact that he was in the habit of arising many times to pass urine. He estimated that he generally urinated every hour or hour and a half during the day and every half-hour during the night. The act of micturition was preceded and accompanied by a great deal of pain. He stated that he had never had an attack of retention. He had had in his younger days four or five attacks of urethritis, each lasting from several weeks to a year.

Examination: External palpation of kidneys, negative; percussion and palpation of the bladder negative. External genitals normal. Rectal examination shows the prostate to be increased about one-third in size, the left lobe being the larger. Seminal vesicles negative. Urethral examination—calibre of canal, 26 French down to the deep urethra, where considerable narrowing is noticed. There are two points of obstruction, one at six inches, the other at seven. The residual urine drawn off by a No. 12 catheter amounts to nine ounces.

Urinary report (Dr. Brooks): Yellow, fetid odor; ammoniacal, ropy in consistence; sediment, yellowish-green, mucoid, abundant; transparency, very cloudy; specific gravity, 1.024; urea, 1.6 per cent.; total solids, 3.22 per cent.; albumin, heavy trace with Heller's test; strong with Esbach's. Microscopically—innumerable pus embedded in mucus; numerous red blood corpuscles; occasional flakes of vesical epithelia; small number from deeper layers and from prostatic region; numerous large triple phosphate crystals.

Operation: The washing out of the bladder in this case was very tedious, requiring about three-quarters of an hour, on account of the small size of the catheter and the amount of solution which had to be injected before the washings were clear. After the bladder was clean, one-half ounce of eucaine solution was injected into the prostatic urethra and vesical neck and then along the urethra, while the catheter was being withdrawn. It was then almost impossible, on account of the spasm, to push the catheter back again, in order to inject the necessary six ounces of fluid into the bladder prior to the operation, notwithstanding the fact that the mucous membrane of the bladder and entire urethra was under the anæsthetic effect of the eucaine. This was finally accomplished, however, and more eucaine was injected before the water, and the catheter was then quickly withdrawn with the purpose of immediately inserting the instrument and operating before the combined action of the eucaine injections had passed away. A sandbag was placed beneath the hips, and after ten minutes of patient manipulation the instrument was finally introduced into the bladder. The beak of the instrument was then turned downward and pulled up against the base of the prostate. The introduction of the finger into the rectum was attended with great difficulty on account of the spasm of the adductor muscles of the thigh. Three cuts were made, a posterior and two lateral, and were accompanied by a great deal of pain: (1) Posterior, 3½ cm. long; time three minutes; current 45 amperes. (2) Left lateral, 3 cm. long; time two and one-half minutes; current 45 amperes. (3) Right lateral, 3 cm. long; time two and one-half minutes; current 45 amperes. The patient was in fair condition after the operation, although he had suffered considerably.

The patient passed the last slough on the seventeenth day. At present, two months later, he has no pain at all. Sometimes he can pass the entire night without urinating, although he has usually to get up once or twice. He urinates two or three times during the day. There is no burning. Residual urine, three and one-half ounces. The patient has been much improved by the operation, as can be judged from the absence of pain and the diminished frequency and also the diminution in residual urine. The operation has cured the patient of two of his most annoying symptoms, dribbling during the day and incontinence at night.

Comment: This last case has firmly convinced me

that, notwithstanding the statements of others, many of these operations are attended with pain and spasmodic contractions of the vesical and urethral sphincters, and that in every case in which there is a delay in the preparation for the operation after the introduction of the eucaine, or in which muscular spasms are present, a general anæsthetic should be given.

| Date. | Temp | | Pulse. | | Respiration. | Urine. Ounces. | Stools. | |
|---|---|---|---|---|---|---|---|---|
| | A.M. | P.M. | A.M. | P.M. | | | | |
| | Degrees. | | | | | | | |
| 1st day. | .. | 99.0 | .. | 90 | .. | .. | .. | Ordered salol, gr. x. t.i.d. Milk diet. Passed a restless night. Voided urine four times with great difficulty and pain. |
| 2d day. | 98.2 | 98.2 | 80 | 80 | 20 | 24 | .. | Patient feels well. Urine clearer. No pain. |
| 3d day. | 99.9 | 99.6 | 90 | 95 | 16 | 16 | 1 | Uneventful. |
| 4th day. | 98.2 | 99.6 | 78 | 84 | 19 | 18 | 1 | No pain on micturition. Urine has a pea-soup appearance. Appetite good. |
| 5th day. | 98.0 | 97.8 | 80 | 80 | 21 | | | |
| 6th day. | 99.0 | 100.0 | 84 | 90 | 19 | 18 | 3 | Cathartic given. |
| 7th day. | 99.0 | 99.4 | 80 | 70 | 16 | 24 | 1 | Condition remains satisfactory. Is comfortable and cheerful. Passes urine freely and without pain. Eats and sleeps well. During the last twenty-four hours has passed forty-eight ounces of urine. Patient up and about. |

Case X.—Engraver, aged fifty-nine years. Man of medium height, bald, gray, having the appearance of a man prematurely old.

History: Family history negative. The patient had two or three slight attacks of neuritis when a young man. He has been troubled for some months with frequency of urination at night. During the day he passes urine five to six times, and during the night four or five times. Pain is not marked. He complains principally of frequency.

Examination: Palpation of the kidneys is negative; there is no suprapubic tenderness on palpation or dulness on percussion. His external genitals are normal. Rectal examination shows the prostate to be only slightly enlarged and flattened, and an enlargement of the seminal vesicles on the left side.

Urinary report (Dr. Brooks): Pale yellow; ammoniacal odor; slightly cloudy; sediment white, moderate; alkaline; residual urine, two ounces; specific gravity, 1.008; albumin, by Heller's test, negative; faint trace with Esbach's; no sugar. Microscopically—occasional leucocyte; no blood; innumerable triple phosphate crystals; no casts. Examination of urethra: Meatus small; after cutting admitted a catheter, 26 French, as far as six inches, when an impediment was found, by which only a 12 French soft-rubber coudé could be passed without an anæsthetic. Residual urine, one and one-half ounces.

Operation: The bladder was washed out with boric-acid solution and injected with four-per-cent. eucaine solution, as was also the urethra. An attempt was then made to pass the incisor, but after ten minutes of manipulation it was found impossible to introduce it into the bladder. As it appeared to me that this was due to a spasmodic condition, the patient was put under nitrous-oxide anæsthesia. The instrument was then inserted without difficulty.

Three incisions were made through the gland: (1) Posterior, 3 cm. long; time eighty seconds; current 45 amperes. (2) Anterior, 2 cm. long; time fifty seconds; current 45 amperes. (3) Left side, 2½ cm. long; time seventy seconds; current 45 amperes. The electric current, in this instance, was also obtained by means of a transformer attached to the electric light of the chandelier by which the hospital was illuminated. The operation, from the time that the anæsthetic was administered to its completion, was but five minutes, almost immediately after which the patient got up and walked away. The bladder was washed out with boric-acid solution before the anæsthetic was administered, and six ounces were left in his bladder.

| Date. | Temp | | Pulse. | | Respiration. | Urine. Ounces. | Stools. | |
|---|---|---|---|---|---|---|---|---|
| | A.M. | P.M. | A.M. | P.M. | | | | |
| | Degrees. | | | | | | | |
| 1st day. | .. | 99.9 | .. | 88 | .. | .. | .. | Patient passed a quiet night. Salol. |
| 2d day. | 98.4 | 100.0 | 78 | 90 | 18 | 44 | 1 | Urinated without much pain. Saline purge given. |
| 3d day. | 98.9 | 90.6 | 84 | 72 | 18 | 26 | 2 | |
| 4th day. | 98.0 | 99.2 | 70 | 80 | 17 | 43 | 1 | Appetite good. Slept well. |
| 5th day. | 98.0 | 99.0 | 74 | 70 | 18 | 52 | 1 | Put on regular diet. |
| 6th day. | 98.3 | 99.0 | 68 | 72 | 17 | 53 | 2 | Uneventful. |
| 7th day. | 98.0 | 99.4 | 72 | 70 | 18 | 45 | 1 | Uneventful. |

The patient was kept in bed for four days after this, eleven days in all, during which time his diet was general, and he was instructed to drink plenty of water, no tea or coffee, and his salol was kept up. After this, all treatment was discontinued. He now urinates four times during the night; no burning during micturition. Residual urine, a few drops.

Comment: This patient has improved greatly. He had a comparatively small amount of residual urine before the operation and his bladder possessed good tone. He was at a point, however, where he would probably have become rapidly worse had it not been for the operation. The striking feature of this case, in looking at the man, is the change in his personal appearance. Before the operation he looked like a man who was prematurely old and infirm; now he appears younger, stronger, and full of vigor. His eyes are brighter and clearer. Laughing-gas, in his case, proved a most successful means of producing general anæsthesia. The patient was quickly anæsthetized and came out almost immediately. A comparison of the ease with which this case was handled under general anæsthesia and the difficulty encountered with cases in the past under local anæsthesia has wedded me to the idea that this operation should be performed under the influence of a general anæsthetic, laughing-gas preferred.

Case XI.—Hatter, aged seventy-nine years. A well-preserved man, compactly built, having a large trunk and short but well-rounded extremities.

History: Past history negative. The patient states that he has always been a very healthy man. He has never had any venereal disease. He has been suffering from frequency of urination and pain and heaviness in the perineal region for some years, these symptoms varying at different times. At present he feels quite comfortable and is passing urine two or three times during the day and the same number of times at night, although occasionally when he has so-called "attacks" he passes it much more frequently.

Examination: Palpation of kidneys, negative; suprapubic palpation and percussion, negative.

Examination of external genitals shows the epididymis and testis on the right side to be quite enlarged, although not typical of any particular pathological condition; on the left side the gland was normal. Per rectum—the prostate was found to be about three times the normal size, well-rounded, and bulging into the rectum as a globular mass about the size of a small orange. Personally, I was able to slide the end of my finger up to the base of the gland, although none of the other surgeons present could succeed in accomplishing it. This was one of the so-called glandular hypertrophies and one favorable for enucleation. On urethral examination, the anterior part of the canal was of good calibre, but the posterior portion was tight, and a No. 10 French soft-rubber catheter passed with difficulty, causing some bleeding. Two ounces of residual urine were found to be present. It was evidently a case in which the hypertrophy of the lateral lobes was predominating. Enucleation, however, was out of the

question, as the patient would consent only to the electrical process, "the Bottini."

Examination of the urine showed: Color, reddish-yellow; slightly cloudy with a faint nebulous sediment; acid; specific gravity, 1.016; urea, 1.8 per cent.; total solids, 3.68 per cent.; albumin, Heller's test negative, Esbach's faint trace. The microscope showed numerous fine hyaline and granular casts, occasionally epitheliated; occasional leucocyte; rarely a red blood corpuscle; a small number of vesical epithelium from the superficial layers; urates, a trace.

Operation: The patient's bladder was washed out clean with boric acid, and six ounces of the solution were allowed to remain. The electrolyzer was then inserted, but stopped at the prostatic urethra. As this was thought to be due to a spasm, the patient was anæsthetized by means of nitrous-oxide gas, after which the incisor slipped quite easily into his bladder. Three cuts were then made: (1) Posterior, 4 cm. long; time, two minutes; current 45 amperes. (2) Right lateral, 4 cm. long; time two minutes; current 45 amperes. (3) Left lateral, 4 cm. long; time two minutes; current 45 amperes. These were the longest incisions that could be made by means of the incisor.

| Date. | Temp. | | Pulse. | | Respiration. | Urine. Ounces. | Stools. | |
|---|---|---|---|---|---|---|---|---|
| | A.M. | P.M. | A.M. | P.M. | | | | |
| | Degrees. | | | | | | | |
| 1st day. | .. | 99.0 | .. | 80 | 16 | 30 | 1 | Patient urinated frequently during the evening. Put on salol, gr. x. t.i.d., and instructed to drink plenty of water. Diet, milk and Vichy. Passed thirty ounces of urine during the night. |
| 2d day. | 98.2 | 99.0 | 68 | 70 | 17 | 48 | 2 | Urine dark but clear. Condition satisfactory. Gave water every hour. Bowels moved with Rochelle salts. |
| 3d day. | 98.4 | 98.4 | 72 | 70 | 16 | 46 | 2 | Patient seems to be feeling well. Treatment continued. |
| 4th day. | 98.2 | 98.4 | 70 | 68 | 17 | 49 | 1 | No elevation of temperature. Patient feeling well. Gave regular diet. |
| 5th day. | 98.0 | 99.2 | 70 | 70 | 17 | 42 | 1 | |
| 6th day. | 98.2 | 99.2 | 70 | 70 | 17 | 41 | 1 | |
| 7th day | 98.4 | 99.3 | 70 | 74 | 17 | 49 | | |

The patient has been in good condition for several days; temperature and pulse normal. He has been passing the normal amount of urine. His appetite is good and bowels are regular. The patient was allowed to be up and about. He passed sloughs from the twelfth to the fourteenth day. Two months later the patient stated that he had no pain at all; that he urinated but twice at night. Examination by the rectum shows the patient's prostate to have diminished one-half in size and to be very hard. Examination of the urethra shows that an 18 French soft-rubber catheter can be easily passed into the bladder, the obstruction having greatly diminished, and only one ounce of residual urine being present.

Comment: This case has been one of unusual interest, as it was one of the large orange-like hypertrophies that are considered the most suitable for enucleation, and if I had had the consent of the patient I should have preferred to enucleate.

Case XII.—Clerk, aged sixty-four years. The patient is a man a little above medium height, strong, compact, and well preserved physically.

History: Family history negative. Past history of urethritis of short duration, when a young man; no complications. His present trouble has come on gradually, beginning about a year ago with frequency of urination, which has steadily increased, although for some time before this he has had local trouble once in a while. Now he has to get up at night four or five times to urinate, although during the day he passes urine normally. He has considerable urinary hesitancy, having to wait always a little before his urine begins to flow. There is a feeling of fulness over his pubes and a sense of heaviness in his perineum. He has never had an attack of retention, nor has he ever passed blood in his urine.

Examination: External—palpation of kidneys, negative. No dulness on percussion over the pubes; right testicle enlarged and soft, although there does not seem to be any characteristic pathological process going on; left testicle normal. Per rectum—the prostate seems to be increased one-half in size; left lobe larger than the right. Seminal vesicles and bladder, negative. Anterior urethra of good calibre, although a No. 14 French coudé catheter had to be used to enter the bladder, where two ounces of residual urine were found to be present.

Urinary examination, by Dr. Brooks, as follows: Color, pale yellow; odor, aromatic; clear with a nebulous sediment; reaction, acid; specific gravity, 1.020; albumin, minute trace by Heller's test, distinct by Esbach's; urea, 2.3 per cent.; total solids, 4.6 per cent. Microscopically—occasional hyaline and finely granular cast, rarely an epithelial; occasional single leucocyte; no blood corpuscles; occasional uric-acid crystals.

Operation: The bladder was washed out with difficulty and then cocainized, and the regular six ounces of solution injected into the bladder. The patient's hips were elevated by placing a sandbag under them, and an attempt was made to pass the instrument into the bladder. The contractions of the bladder sphincter were so strong that after ten minutes' trial it was considered desirable to perform the operation under general anæsthesia. Accordingly the patient was given the laughing-gas and was almost instantly under its influence. The instrument, which I had had so much difficulty with under local anæsthesia, now passed without difficulty through the urethra as far as the prostate, when, the handle having been pressed down, a little upward push sent it easily into the bladder.

Three cuts were made: (1) Posterior, 3½ cm. long; time one and one-half minutes; current 45 amperes. (2) Anterior, 2½ cm. long; time one minute; current 45 amperes. (3) Left lateral, 3 cm. long; time one and one-fourth minutes; current 45 amperes.

The patient came from under the influence of the anæsthesia after receiving a little pat on the cheek, and quickly got down off the table as if nothing had happened, and was able to pass a little fluid from his bladder.

| Date. | Temp. | | Pulse. | | Respiration. | Urine. Ounces. | Stools. | |
|---|---|---|---|---|---|---|---|---|
| | A.M. | P.M. | A.M. | P.M. | | | | |
| | Degrees. | | | | | | | |
| 1st day. | .. | 99.0 | .. | 90 | .. | .. | .. | The operation was performed at 4 P.M. The electricity was taken from the street current by means of a transformer. The patient passed a good night after a hypodermic of morphine, passing twelve ounces of urine before going to sleep. Patient was given salol, gr. x. t.i.d., and instructed to drink freely. Diet, milk and Vichy. |
| 2d day. | 100 | 101.0 | 104 | 100 | 25 | 56 | 2 | Patient passed fifty-six ounces of urine during the day and night, and his bowels moved twice after taking a saline. |
| 3d day. | 101 | 100.0 | 100 | 94 | 24 | 46 | 0 | Patient has no pain. Feels comfortable. |
| 4th day. | 100 | 100.4 | 88 | 84 | 21 | 59 | 0 | Urine cloudy but not bloody. Appetite good. Takes water every hour to flush his kidneys. |
| 5th day. | 100 | 100.4 | 86 | 84 | 20 | 45 | 1 | Ordered Rochelle salts every hour until bowels move. Results good. |
| 6th day. | 98 | 99.4 | 74 | 70 | 18 | 51 | 2 | Patient put on regular diet. |
| 7th day. | 99 | 99.3 | 70 | 70 | 18 | 50 | 1 | Patient feels perfectly well. |

From this date the patient's recovery was uneventful. He passed sloughs from the eighth to the eighteenth day. I have seen this patient once since the operation, but did not have an opportunity of examin-

ing his bladder. He stated, however, that he felt much improved, that the feeling of heaviness and pain had disappeared, and that at present he never passed his urine more than twice during the night. He expressed himself as extremely pleased with the result.

In closing the discussion, I will say that the cases calling for operation are those in which the following conditions occur: Frequency of urination associated with the presence of residual urine; an increasing amount of residual urine; a troublesome cystitis due to obstruction; retention associated with catheter life; when tenesmus and irritability are so great that catheterization and vesical irrigations do not relieve; when catheterization is followed by bleeding and bad cystitis. It is my opinion that cases of hypertrophy should be operated on as soon as symptoms of bladder strain begin, as shown by frequency of urination and the presence of residual urine, and that we should not wait until a troublesome cystitis or marked retention develops. Symptoms of bladder strain are usually shown when from one to two ounces of residual urine are present.

Contraindications: When the patient's kidneys are in bad condition, an operation should not looked upon favorably, and if undertaken the patient and his relatives should be informed of the dangers to be encountered. In such cases it is advisable first to try by palliative methods to put the kidneys and bladder of the patient in the best possible condition by the administration of diluents, internal urinary antiseptics, and bladder irrigations. Care should be especially exercised in these cases not to empty too quickly the bladder of its urine, if much is present, as uræmia may then set in and place the patient in a position from which it would be impossible to rescue him. Cases of this kind are far more common than the general practitioner imagines.

The question of the diagnosis between stone and enlarged prostate is an interesting one. The symptoms of these two troubles are different when they occur separately, but if they were to occur together some confusion might be caused. Naturally, it would not be wise to do a Bottini operation on a case of vesical calculus when no hypertrophy was present; but I do not think that it would do any harm to operate on a case of hypertrophy of the prostate because a calculus happened to be in the bladder, as the cutting down of the prostatic impediment would enable the operator better to enter a lithotrite and evacuate the fragments, and if suprapubic lithotomy were performed the wound would be better able to heal if the prostatic impediment was a minimum one.

I do not follow the rule that a cystoscopic examination should immediately precede prostatic operations, as I consider the cystoscopy in these cases just as painful as the operation by the incisor, and also find that the cystoscope is at times more difficult to introduce. I can attribute a death of one of my former patients directly to cystoscopy performed before a proposed enucleation. The patient's kidneys were involved, and the cystoscopic examination brought on an attack of uræmia. The autopsy in this case showed the presence of pyelonephritis. I think that in almost all these cases a Thompson searcher can detect the presence of a calculus. In fact, I do not remember failing to detect a calculus in more than one case with a searcher in which I discovered it later with a cystoscope. If the cystoscope is to be used, this should be done at the time of the examination and not just before the operation.

An important question is the use of local or general anæsthesia in these cases. The majority of patients operated upon by me under local anæsthesia have complained of a great deal of pain at the time of the operation, and I know of other cases in which it has taken four or five men to hold a patient upon the table. It, therefore, seems to me that it is better to give a general anæsthetic, and of these I prefer nitrous-oxide gas, as scarcely any time is required for its administration, and the patient comes from under its influence almost immediately. It is also not dangerous and has no appreciable action upon the conditions of the kidneys. Of the two remaining, chloroform and ether, the first I consider dangerous, and the second affects the kidneys. Again, eucaine and cocaine are both considered dangerous because they produce syncope, although personally I have never had any bad effect from either of them. The amount of gas in a small cylinder of nitrous dioxide is about sufficient for three operations, and corresponds almost exactly to the amount of electricity in the storage battery used for this operation. One has often to choose between operating with the portable battery or by means of the current used for illuminating purposes. If one is operating in a private house, the battery is generally used, but in a hospital it is much more convenient to take the electricity from the fixture by means of a transformer. In the twelve cases here reported I have used the battery seven times and the so-called street current five times. The battery has failed me once, and the street current also once. It was much easier, however, to substitute another carbon in the second case than it would have been to procure another battery. The patient's heart should also be taken into consideration, as one with a weak action, due either to valvular trouble or fatty changes, does not bear an anæsthetic well, and also is not so well able to stand the shock of an operation.

Stricture of the urethra is another condition which would interfere with an operation. It is rather a rare occurrence to find a small stricture in an old prostatic, as generally it would have caused the patient trouble before he reached the prostatic age. If one is present, however, it should be dilated or cut by the regular methods some time before a Bottini operation is performed, so that when we come to use the incisor it can be easily inserted. In one of the cases upon which I contemplated a Bottini I found that the instrument caught in the deep urethra and postponed the operation until the attending physician could enlarge the stricture sufficiently to allow the incisor to be introduced.

In two other cases at the time of the opreation I found that the meatus was too small to admit the instrument, and on both these occasions it was cut immediately before inserting the incisor. In one case this caused considerable delay, and in both there was a great deal of bleeding connected with the operation. In still two other cases I had to abandon the operation on account of inability to introduce the incisor through the cut-off muscle, notwithstanding the fact that the pelvis was elevated and the parts were thoroughly anæsthetized. In two others upon whom I operated, and could not pass the incisor under a local anæsthetic, I had no difficulty in doing so under general anæsthesia. In another case I could insert the instrument through the compressor urethræ muscle into the posterior urethra, but then could not pass the bladder sphincter. On account of unwillingness on the part of this patient to take a general anæsthetic I was obliged to abandon the operation.

In regard to the preparation of a patient for the operation it is simply necessary to have him under the influence of some urinary antiseptic such as salol, urotropin, or one of the benzoates. I usually give ten grains of salol three times a day before and after the operation, unless the urine is ammoniacal, in which case I prescribe the same amount of urotropin. The patient's bowels should be washed out before the opera-

tion, and it is better to give only a fluid meal, although with a local anæsthetic or laughing-gas the operation can usually be done on a full stomach without causing the patient to vomit.

The important parts of the preparation are the solutions, and the arrangement of the cooling apparatus, battery, etc., as well as seeing that all the instruments necessary are at hand. The instruments and apparatus required are a soft-rubber elbow catheter; a large rubber hand syringe and a small urethral one; a scalpel; a Bottini incisor; a fountain syringe, and two pieces of tubing, one leading from the douche bag to the instrument, the other from the instrument to the receptacle on the floor; a galvano-cautery battery, or a transformer with a portable amperemeter; glycerin, solution of eucaine (four per cent.), saturated solution of boric acid, and a cylinder of laughing-gas.

Steps of the operation: "Place the patient on his back on the table, the bowels having been washed out. Hang the fountain syringe on the wall to the patient's left, connected with the incisor. Place the battery on the stool on the left of the patient and within reach of the operator. Pass a catheter lubricated with glycerin into the bladder and wash it out by means of a large rubber syringe until clean. Inject a eucaine solution (four per cent.) into the neck of the bladder and urethra by means of a urethral syringe through the catheter as it is being slowly withdrawn. Inject six ounces of boric-acid solution into the bladder and allow it to remain. Pass the incisor into the bladder. If it will not enter readily, put a pillow under the hips. If then the incisor cannot be made to enter, give an anæsthetic (laughing-gas preferably). Connect the incisor in the bladder by means of the cable with the battery. Turn the incisor so that its beak will point downward. Insert the left forefinger into the rectum and hook it over the base of the prostate. Pull the incisor forward until its tip is felt on or near the finger in the rectum. Withdraw the finger and take hold of the handle of the instrument with the same hand. See that the contact screw is turned tight and that the water is running through the cooling apparatus. Throw in the two cells and turn on the current to forty or forty-five amperes. Turn the wheel until the knife has gone forward and backward through the floor of the prostate. Turn the instrument at a right angle and cut through the larger lateral lobe, and then turn it again at a right angle and cut through the upper or anterior part. Return the patient to bed. If the operation is followed by retention, pass a catheter and allow it to remain for one or two days. After-treatment: Urinary antiseptics, diluents, and antispasmodics."

One writer recommends that an assistant should hold his finger in the rectum while the operation is being performed. This I mention simply to condemn it, as in order to feel the tip of the instrument some upward pressure has to be made, which might push up the anterior wall of the rectum sufficiently to allow the cautery knife to cut through and make a recto-vesical or urethral fistula.

Frequent questions that are asked regarding the operation are: Which cuts are best to make? What length should they be? What amount of electricity should be used? What time should be taken for each cut? These are all very interesting and were the ones that puzzled me the most in the beginning.

In regard to the first question, I find that in eleven of the cases I made three cuts. In seven of these the incisions were a posterior and two laterals, while in four others the incisions were posterior, anterior, and one lateral. I looked forward with a great deal of interest to the result of these two respective groups of cuts at the same time, feeling that the cases with the two lateral incisions would prove the best. The results have shown me, however, that as far as these cases are concerned I was wrong, and that the ones with the anterior and posterior cuts were the best. The length of these incisions varies according to the size of the prostate; the prostate is one and one-quarter inches long, which is about 3.2 cm. It would therefore seem that these incisions should be at least 3 cm. in length. The largest incision that can be made by the incisor is 4 cm., which is a little over one and one-half inches, and we would naturally think that a hypertrophied gland would have at least one-quarter of an inch enlargement, and would consequently require the maximum incision. There is generally, however, too much timidity on the part of the surgeon, and he is afraid of cutting too far, and perhaps even of going out of the posterior urethra. This is possible but not probable, and from the comparative tables given above it would seem impossible for such an occurrence to take place when sufficient hypertrophy was present to cause an impediment to the flow of urine.

I should therefore say that in moderate cases the posterior incision should be 3.5 cm. in length, and that in all marked cases it should be 4 cm. I am in the habit at present of making the lateral cuts 0.5 cm. less than the posterior one, and the anterior one 1 cm. less. I feel, however, that I am leaning too much on the side of conservatism, as I am always making the anterior cut shorter than the long diameter of the normal gland.

The strength of the electric current should be from forty to fifty amperes. Personally I use forty-five amperes in nearly every case. Concerning the time to be taken for each cut, it must be said that the time spent on the incision should depend upon its length. I notice in looking over the cases in this report that it has taken me anywhere from one and one-quarter to three minutes to make an incision 3 cm. long. It seems to me that it is wrong to make the cuts too quickly, as sufficient time ought to be taken to cause the most complete destruction of tissue possible along the line of the incision, and although it is shown in these tables, taking three inches as a standard, that from two to two and one-half minutes have been spent on this cut, I think that it would be wiser to spend at least three minutes on the posterior cut, with from two to two and one-half minutes on the others.

One of the most important points in the technique of the operation is to have the end of the instrument, while making the posterior incision, well down behind the prostatic border, and after this is caught there the operator should be careful not to hold the instrument so that its shaft will point toward the table or even be parallel with it, but it should be rather inclined a little upward. The wisdom of this can be understood when it is remembered that in the posterior position the concavity of the instrument corresponds to the convexity of the gland—in other words, that one fits into the other; then we can see that by depressing the handle of the instrument its point will tend to ride up toward the summit of the posterior prostatic incline, and the cut may not be made deep enough through the base of the collar. This is especially liable to happen if there is a pillow or sandbag under the hips of the patient. Again, when the instrument is *in situ* the patient often tends to pull himself backward away from it, and if the handle is depressed the beak of the instrument is liable to ride over the prostate into the membranous urethra, in which an incision would do no good, and perhaps much harm. Care must also be taken in making the anterior incision, when the beak of the instrument is turned upward not to have the handle too high, as then the beak might slip from the base to the convexity of the collar, or if the patient were to draw backward it might slip out into the membranous urethra.

The Bottini operation produces its good effects in

two ways: first, by making a furrow through the gland, lowering the height of the dam, and thus allowing the bladder to empty itself, and secondly by cutting through the blood-vessels and searing them so that the blood supply to the gland is cut off, and thus atrophy is induced. It can be seen that a good result will not be immediate, but that first the sloughs caused by the burn will have to be thrown off, and secondly that the atrophy of the gland must take place. The sloughs are thrown off usually from the seventh to the twenty-first day, although this may take place even later. The largest slough that I have ever seen was thrown off on the twenty-seventh day. These sloughs, or threads, which are thrown off, according to Sondern's pathological report,[1] consist of hypertrophied tissue of the prostate gland, the increase being in the fibro-muscular structure. In regard to the appearance of the glandular tissue, this sometimes shows evidence of atrophy and at other times does not. There are evidences of fatty changes and some inflammatory exudate or infiltration near the eschar. In the reports given there were no indications of cystic degeneration having been present.

After the operation, for the first few days there is very little elevation of pulse or temperature. In some cases this does occur, and should be treated accordingly.

If possible a catheter should not be passed after the operation until the sloughs have been thrown off, as this tends to keep the parts irritated, and may induce hemorrhage and the formation of granulation tissue.

As in many of these cases there is a complete chronic retention, it is advisable to insert a catheter and keep it in for forty-eight hours after the operation, and then if necessary—and it generally is in such cases—to catheterize every six or eight hours until the sloughs have been thrown off. Keeping up catheterization will depend on the benefit derived from the removal of the prostatic impediment and also on the tone of the bladder wall. If no improvement shows itself after treatment, and if the patient is still unable to urinate, a second operation should be performed. If the patient has complete retention and nothing can be passed into his bladder, he should either be aspirated suprapubically or a perineal section be performed.

N. B.: A patient with complete retention should never be operated on until after he has been broken into the catheter habit.

It must not be imagined that on removing the obstruction in these cases the patient will be immediately relieved of all his symptoms, as the symptoms depend upon the cystitis and atony of the bladder that have been brought on by the obstruction; but naturally if the cause has been removed it is much easier to benefit his condition.

The most difficult symptom to cure is the burning feeling or tenesmus. This is probably due to congestion, and is a symptom of cystitis. It remains in some cases more than in others, in a number occurring especially at night, and has caused me often to wonder if perhaps the cautery knife had not in some cases gone through into the plexus of veins outside of the capsula propria, and in shutting them off had not also impeded the return flow of blood from the vesical veins, and thus kept up the passive congestion after the impediment has been removed.

As there may be some details in the after-treatment that I have not mentioned, I will again quote from my article in the *New York Medical Journal* of April 29th:

"Immediately after the operation the patient should be put in bed. He is generally able to walk from the table to his bed, although it is safer to carry him. The internal treatment consists in urinary antiseptics, diluents, and antispasmodics, if necessary. As a diluent water taken in large quantities is usually sufficient. If it is found, however, that the patient will not drink much, and that the amount of urine passed is below normal, its flow should be further stimulated by a mild diuretic, and for this purpose I am in the habit of giving a mixture of gr. xx. of acetate of potassium and ♏ xx. of sweet spirits of nitre, three times a day in a glass of water. As a urinary antiseptic I generally give salol in ten-grain doses, three times a day, or urotropin in the same strength, the latter preferably when the urine is foul and ammoniacal. Benzoate of sodium and benzoic acid in fifteen-grain doses are also of service. The antispasmodics are codeine, morphine, and belladonna. These are given for frequency, pain, tenesmus, or burning. They may be prescribed singly or combined, and afford the patient a great deal of relief. Codeine may be given alone, or in combination with belladonna, and perhaps benzoate of sodium. Morphine I rarely use, and then only for pain. It is very efficacious in combination with the extract of belladonna, a quarter of a grain each, in suppositories at night, in cases in which there is a great deal of frequency, pain, burning, and tenesmus. The diet should be liquid for the first few days, then semi-solid (soft), and full diet at the end of the week, if the patient has no rise of temperature and is feeling well.

"If there is much hemorrhage, it can usually be stopped by a hot irrigation, and if this does not succeed a perineal section should be performed, after which a thick-walled perineal tube can be inserted into the bladder, around which gauze can be packed, thus making pressure between the sides of the tube and the cut posterior urethra.

"The bowels should be moved by salines on the second day, after which they should be kept open for some days.

"An elevation of temperature usually takes place on the night of the operation or on the following day, rising to 100° to 105° F. This generally goes down to normal after the bowels have been moved, but I have seen patients with a temperature of from 99° to 102° F. for some weeks after the operation. In such a case the fever usually disappears after the sloughs have been thrown off.

"When the bladder and the kidneys are very much involved, a continuous high temperature may indicate a disease of the latter organ, which should then be treated accordingly Extravasation of urine and perineal abscess might occur, but it is improbable, as the tissues are practically seared and sealed by the burning process."

In conclusion I can only reiterate what I said in my last paper on the subject; that is, that of all the operative procedures so far devised for the treatment of prostatic hypertrophy this is the one which exposes the patient to the least danger and is attended by the best results. It is wonderful to see the change in some patients. An old man, nervous and irritable, with a dull, sordid look, will appear in a few weeks perfectly transformed. He will often seem quite sprightly, while the expression of his face has so changed that his eyes seem bright and shining, in this way exhibiting exactly the opposite picture from one who has been operated upon by castration.

It will be most interesting in the future to study the nervous development of these patients, and to see if they have any of the sequelæ that follow in those who have been operated upon by other methods.

63 West Fifty-fourth Street.

[1] See article of Willy Meyer, Medical Record, January 15, 1899.

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**Fetid Breath,** when due to chronic affections of the air passages, is best treated by intratracheal injections of carbonate of creosote, employing quantities of from 0.5 to 1.5 c.c. (gtt. xv. to xlv.).—Bayer.

# NEPHRO-URETERECTOMY FOR TRAUMATIC HÆMATO-HYDRO-NEPHRO-URETEROSIS.[1]

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Injuries of the kidney resulting from blows, kicks, and falls upon the abdomen and loin regions occur sufficiently often to be almost common. The damage done to the kidney by such violence varies from simple contusion to almost complete pulpification. It is not my purpose to discuss all of these varying lesions with their symptomatology, but rather to confine myself to a consideration of a case of the injury and its consequences, which necessitated the carrying out of the procedure which is the subject title of this communication.

Nora L——, unmarried, aged thirty-eight years, a native of Ireland, with a negative family history and previous good health, was first seen by the writer December 3, 1898. From Dr. H. B. Wilson, with whom she was visited in consultation, the following was gathered: On the evening of November 29, 1898, the woman slipped and fell so that her right side (ileo-costal space) struck against the edge of the sidewalk. She had been able to arise and reach her home, only a short distance away, unaided. Dr. Wilson saw the patient within an hour after the accident, and found her somewhat shocked and in considerable pain, this pain being complained of mostly in the right kidney region, in front and behind. A hypodermic injection of morphine was given. She was not seen again until the next morning, when it was learned that she had had a comfortable night and that considerable bloody urine had been passed in the early morning—none having been voided after the fall until that time. The passing of bloody urine continued; the temperature ranged from 1° to 2° F. above normal; the pulse began to increase in frequency, varying from 84 to 100 per minute. The patient took a fair amount of nourishment, but was contented to remain in bed, feeling too weak to rise. This was the state of affairs when I first saw the woman.

Examination of the right lumbar region disclosed a tumor which could be seen as well as felt. It was only slightly painful on palpation, and had a boggy feel as if made up of clotted blood contained in a not very tense enveloping membrane. The tumor did not bulge in the loin, but projected downward and slightly inward so as to be limited in front and below within vertical and horizontal lines joining one another at right angles at a point 5 cm. within and 2.5 cm. above the anterior superior iliac spine. It seemed a little broader than a man's hand, but its posterior border could not be made out.

It was advised that the woman should be kept under close observation, so that early surgical interference could be resorted to if septic infection supervened. The patient was not seen again until December 17, 1898, when she was brought to the Clarkson Hospital. Her general condition was not favorable. There had been loss of flesh, strength, and heart tone. The pulse was only 84, but weak; temperature, 98.8° F. Locally a remarkable change had taken place. A cystic growth occupied the lower median part of the abdomen, extending well over toward the left iliac spine and down into the pelvis; it also distended the right side of the abdomen, extending up into the kidney region. The tumor might have been mistaken for an ovarian cyst. A physician visiting the case on behalf (legal) of the city, imagined the woman pregnant, about seven months, and quizzed her regarding this possibility. It was learned that the passing of dark bloody urine had kept up. Microscopic examination proved that the coloring matter of the urine, which precipitated upon standing, was composed of broken-down blood elements. Upon using the Harris instrument it was observed that the fluid removed from the left bladder basin was normal urine; that from the right bladder basin was a bloody, watery fluid.

When I first saw the case it was my opinion that we had to deal with a retro-peritoneal collection of blood due to a rupture of the kidney. When the patient was next seen in the hospital this idea had to be abandoned, and a diagnosis of hydronephrosis of the right kidney, the result of an injury to its ureter, was thought most reasonable; yet we could not harmonize a free discharge of a bloody fluid from this ureter (more in volume than the normal urine from the left healthy ureter) with an obstruction in its lumen sufficiently great to bring about such an enormous hydronephrosis.

The ureters were not catheterized, as it was thought unwise to run the chance of making a false passage through a presumably partly torn and tortuous canal. An operation was planned to examine the condition of the kidney tissue itself as to structural changes, with the hope of saving the organ by repairing the ureter. On December 21, 1898, the following operation was carried out: Under chloroform narcosis and with the patient lying on the left side, an incision was made commencing at the inner edge of the erector-spinæ muscles and extending through the centre of the ileo-costal space, curving downward toward the pubic spine. This incision reached 5 cm. below the anterior superior iliac spine, and was 3.5 cm. to the inner side of this point. After exposing the upper outer part of the cystic, irregularly shaped tumor, it was found impossible to isolate the ureter. A trocar was introduced and the tumor reduced by the evacuation of many quarts, not measured, of a dark-colored watery fluid (the same as passed per urethram). Before proceeding further the tumor was so separated upon its outer side as to allow of an examination of the ureter, which was found much thickened and distended. Above near its origin it had a diameter of 2.5 cm., which tapered down gradually below to where the right common iliac artery was crossed, at which point it was 1.5 cm. in diameter. There was no obstruction or injury to the ureter. As the kidney and ureter were useless it was decided to remove both. In order to lessen the danger of injury to the renal artery and vein, as well as to facilitate necessary manipulations in the enucleation of the tumor sac, the vessels were now isolated, secured with chromic catgut, and divided at a sufficient distance away from the ligatures to remove any danger from hemorrhage resulting from a possible slipping of the ligatures. The lobulated sac was peeled out from the pelvis and right side of the abdomen. In doing this it was necessary to separate the sac wall from the outer and anterior surface of the ascending vena cava. This latter procedure was not easy, nor was it comfortable for the operator. Some trouble was experienced in separating the peritoneum from the anterior, inner surface of the tumor, because of the difficulty of lifting and keeping the contents of the peritoneal sac well out of the way toward the left side of the abdomen. After the collapsed tumor sac was delivered no difficulty was experienced in following the ureter down into the pelvis near the bladder. It was ligated and divided, the stump being deep down and some distance below the lower angle of the abdominal incision. It was not thought wise to prolong the operation by attempting to remove the stump through a vaginal incision, because of the feeble condition of the subject and the small size of her virgin vagina, neither did the nature of the ureteral lesion

[1] Read before the Southwestern Iowa Medical Association, Creston, Ia., February 16, 1899.

justify the added risk. The whole operation was entirely an extra-peritoneal procedure. The wound was closed after the usual fashion with a gauze drain introduced at each angle. Repair was prompt, but recovery was somewhat slow. However, the patient left the hospital February 4, 1899, a perfectly well woman, having gained much in weight and general appearance.

On examination of the specimen, it was found that all semblance of kidney tissue had disappeared; there was no trace of either pyramidal or cortical substance. On the inner surface opposite the mouth of the ureter was a rent which did not extend quite through the sac wall. A plastic exudate with very firm adhesions had been observed external to the sac opposite this rent, which was evidently the source of the hemorrhage. I have not consulted my file of journals, but from the books in my library I have been able to find only a single case (fatal) in which a somewhat similar condition followed a traumatism, excepting the fact that the ureter was dilated not throughout its length, but only the upper portion near the kidney.

Discussing the subject of distention of the cavity of the kidney with blood, Henry Morris, quoting Rayer, says: "Hæmaturia, more or less considerable, is the most constant result of contusions of the kidney; but it is excessively rare that blood after being coagulated in the ureter or pelvis of the kidney is accumulated more and more in such a manner as to distend the kidney and to transform it into a large sac, extending from the hypochondrium to the iliac fossa. Renal tumors of this dimension are ordinarily the consequence of pyelitis, of a hydronephrosis, or of a cancerous, tuberculous, cystic, or hydatid degeneration. One can recognize, or at least suspect, that the distention of the kidney is a sequence of an internal hemorrhage by the nature of the case and the rapidity of the development of the tumor. Undoubtedly it will be difficult to distinguish during life a tumor formed by an extravasation of blood around the kidney and outside the peritoneum, from a tumor caused by the dilatation of the kidney by the blood accumulated within its cavity. Yet in extra-renal hemorrhages the tumor generally appears soon after the accident, and is circumscribed like renal tumors. A tumor due to blood effused within the cavity of the renal pelvis is formed later, and more slowly, than an infiltration of blood into the subserous cellular tissue, as the kidney is distended with more difficulty than the peritoneum can be detached from its connections."

Rate of growth: Morris, in speaking of the fatal case reported by M. Danyan, in which complete obliteration of kidney tissue resulted from pressure, due to the damming back of urine and blood following a traumatism to the upper portion of the ureter, says that it is seldom that the clinical history and source of a case of hydronephrosis afford accurate data for forming an opinion as to the rate of growth or development of the intra-abdominal tumor. In that case two calendar months (the time intervening between date of injury and death) were given as the maximum time necessary for the destruction of the pyramidal and cortical substance of a kidney and the formation of a large tumor by intro-renal pressure. The mechanism was the same as that usually producing hydronephrosis.

In my case the condition was brought about in a much shorter time, from November 29th to December 21st, three weeks, and this may approximately be taken as the minimum time necessary to complete the atrophy and replacement of normal kidney structure by a large membranous sac. There is no reason to believe, either from the history of the patient or from an examination of the specimen, that any disease of the kidney antedated the injury; the same was true of Danyan's case. Hydronephrosis with or without dilatation of the ureter is commonly due to an obstruction to the outflow of the urine from the kidney. The obstruction may be situated in the urethra, bladder, or ureter. Now it is strange that a few cases have been reported in which no cause for the dilatation has been discoverable post mortem. Sutton, in speaking of this, says: "It is a curious fact that some of the largest hydronephroses, unilateral and bilateral, that have come under notice have been cases in which it was impossible to assign an adequate cause." I have not been able to satisfy my own mind as to the cause of the lesions in my own case; hemorrhage did it, but how I do not know—surely not by a clotting in the ureter, because there was always a patent ureter.

Howard Kelly has done three uretero-nephrectomies, one transperitoneal, the others extra-peritoneal, and to Kelly we are indebted for our knowledge of a beautiful technique. A French surgeon, Reynier, has also done the operation once. These operations were for tuberculous involvement of both kidney and ureter, the tumor in all cases being comparatively small. Whether or not a ureter should be removed with its kidney will depend upon circumstances. If the upper 5 to 7 cm. of the ureter are free from involvement of the disease for which the nephrectomy is indicated, then the ureter should be let alone; otherwise it had better be taken out in part or in whole. Heretofore, in tuberculosis of a kidney when I have removed the organ it has been my practice to cut off the ureter 5 to 10 cm. away from the kidney, and I believe I shall do the same hereafter unless the ureter is infiltrated with tuberculous material. In such a case it would appear better to remove the ureter, applying the same principles employed in operating for tuberculosis in other parts of the anatomy. As suggested by Kelly, the ureter may be removed at a second operation.

## A FRACTURE OF THE INFERIOR MAXILLA.

By HENRY L. O'BRIEN, D.D.S.,
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In November, 1898, the writer was invited by Dr. H. B. Delatour, visiting surgeon to the Long Island College Hospital, to witness an operation for the removal of some necrosed bone from the inferior maxilla of a a patient of his in that hospital. The case was one of unusual interest to a dentist: the patient's jaw had been fractured some four months previous to the operation, and owing to the sloughing about the parts from necrosis, there had been but little union. He had received a number of other fractures of the superior and inferior maxillary bones, all of which had healed and bony union taken place, but the parts were left very much out of their natural positions, thereby causing a bad deformity as well as an ankylosed jaw. This unfortunate state of affairs was due to the accident happening away from civilization, and to the fact that what was done to restore the continuity of the fractures was necessarily with the crudest appliances; a piece of wire and bandages were the only things obtainable. As the fractures were only partially reduced there was left a deformity which not only destroyed the contour of the face, but greatly interfered with his speech and mastication. The manner in which the patient, Mr. H——, received his injuries was a peculiar one. Early in the spring of 1898, he with a party of other Brooklynites had gone to Alaska to prospect for gold, and while there he had been attacked by a silver-tip grizzly bear. The bear had knocked him down with a blow from his paw, laying open his scalp, and then had bitten his face until it was crushed almost out of human semblance, but fortunately not injuring his eyes. One of the miners who was a physician did

what he could to allay the sufferings of the young man. He found nine fractures of the superior and inferior maxillaries. The inferior maxillary was fractured in three places, at the angle on each side and

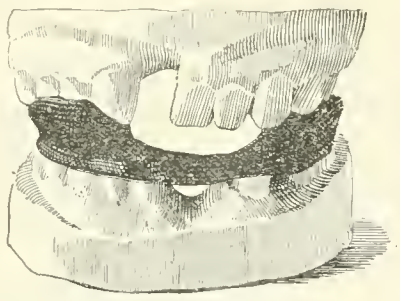

Fig. 1.—Interdental Splint.

again to the left of the symphysis. Here the bone was bitten completely through, and the patient claims the chin was twisted clear round to the right, and from the scars there is every indication of this being a fact. This portion of the bone the doctor forced back into place, and then bandaged the face and inserted a wire into the mouth to which a bandage was attached; this was at the line of the bicuspids and the corners of the mouth. Then by tightening the bandage at the top of the head the superior maxillaries were drawn up into place, or as far as they would go. The right and left upper molars and bicuspids had all but touched each other, and after being drawn up a large piece of bone was exfoliated from the roof of the mouth, carrying with it the right superior and lateral incisors. Pieces of dead bone subsequently came away from the inferior maxilla. The right portion of the inferior maxilla was dislocated at the articulation; this also had to be reduced almost daily for a time. There were indications of injury to the zygomatic process on both sides of the face, a fracture of the nose, large scalp wound, etc.

Dr. Delatour removed two fragments of dead bone to which were attached the left inferior lateral canine and first bicuspid teeth. These fragments largely consisted of process. There had also been a large piece of the body of the bone exfoliated through a fistulous opening under the jaw, while the patient was in Alaska; this piece of bone was in the form of a chip over an inch long and nearly as wide, leaving the opposing ends of the bone involved in the fracture like sharp points and in the worst possible condition for union. A chain saw was passed around each point of bone, and they were removed, leaving square ends and doing away with, perhaps, a little less than an inch of bone. The ends were sutured with silkworm gut passed through drill-holes, and were brought together without difficulty, but reducing the span of the lower arch.

At Dr. Delatour's suggestion I visited the hospital the next day to see if I could obtain an impression for

Fig. 2.—Splint Plate.

a splint to hold the fracture. I found the face very much swollen, due to the operation, and no possible chance of obtaining my impression. After waiting three days the swelling went down so that I could do something, although one could not get a lead pencil between the teeth at the cuspids. After a good deal of manœuvring I got an impression in sections, and made a short black rubber splint, which extended as far back as the bicuspids; but now the difficulty was to place it in the mouth. The wound had not been doing well up to this time. The muscles were straining at the left side of the inferior maxilla, and, in spite of the suture, had drawn that side of the bone inside the upper arch and toward the roof of the mouth. To remedy this it was decided to remove the suture, and, while the patient was under the anæsthetic, place the splint in position. Ether was given, the suture severed, a small quantity of necrosed bone was removed, and then after a good deal of manipulation the splint was adjusted.

The patient wore the splint over two months, and the wound caused by the operation healed completely. No bandages were necessary, and the splint could be easily removed by the patient for cleansing or while taking liquid food. There is quite firm union at the fracture, but the movements of the lower jaw are much restricted.

In the original dressing the fractures at the angles were held by a bandage drawn tightly over the head. This appears to have drawn the body of the bone upward and allowed the chin to drop downward. This feature, along with the contraction of the upper arch and drooping of the upper teeth, allowed very little play for speech or mastication.

I removed three of the upper molars that rested on the lower gums (the lower molars are absent excepting one) and had to use one of the old-fashioned "turnkeys" to do it, as it was impossible to get a pair of forceps between the jaws. I used a four-per-cent. solution of eucaine. With a hypodermic syringe, a few minims were injected at the side of each tooth, and the teeth were turned out quickly and without any pain to the patient, and to the great satisfaction of the operator, I then made and placed in the mouth the splint-plate seen in Fig. 2, and the patient is now equipped for masticating his food, although the movements of the inferior maxilla are very limited and the masticating surface is small; but we are in hopes that time will improve this condition. This plate rests on the gums and is also provided with gold crowns, one continuous one covering all the teeth to the right of the fracture, and the other covering the molar on the left; it also clasps the bicuspid. This steadies the fracture and yet allows of mastication, and if cleanliness is observed should last for a long time without injuring the teeth and giving every chance for a firm union of the parts. Upper and lower dentures can be made later on to give more masticating surface, but at present it is almost impossible to obtain an impression of the palatal surface. The superior maxillaries are not firm, there being considerable motion on pressure, due partially to the loss of the large piece of bone from the roof of the mouth and the fibrinous consolidation.

The patient was dismissed for the time being with the instructions to practise daily calisthenics with his jaw, to chew coarse food, and to make as much use of it as possible, even to the point of discomfort; and the chances are that in time he will attain almost the old freedom of movement, and it is to be expected a much firmer union will take place at the point of the fracture.

217 Ninth Street.

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**Asphyxia.**—I do not consider traction on the tongue as being perfectly free from all danger; at least, I cannot imagine why muscle bundles should not be torn in the manipulations. By tickling the epiglottis nothing can be injured. We know by daily experience how anxiously we try to avoid touching the epiglottis in intralaryngeal operations, even after thorough cocainization. We are afraid of the reflex caused by the least sensation of tickling. Ought we not to learn by this experience? Therefore tickling the epiglottis might perhaps be tried as a means of resuscitation.—W. Freudenthal.

## A METHOD OF MAINTAINING APPROXIMATION AFTER COLLES' FRACTURE BY SHORT LATERAL SPLINTS WITHOUT PRESSURE ON THE TENDONS OR INTERFERENCE WITH THE CIRCULATION.

By A. E. ROCKEY, M.D.,

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THREE years ago I had a bad result in the treatment of Colles' fracture in a woman past middle age. I should lack courage to make this confession if the example was unique, but I have seen others. The wrist was stiff, and it required much patience and perseverance with massage to restore it to a fair degree of usefulness. Great care had been taken with the case, and in looking for a cause I concluded that the fault lay in existing methods of treatment. The splint used was an anterior pistol-shaped one. The defect is that it makes pressure on the tendons and interferes with the circulation. The wonder is that bad results are not more frequent. Nothing more inimical to the function of the joint could be devised than anterior or posterior splints, and yet every text-book published gives them the first place in describing the treatment of this fracture.

The injury has already caused extravasation about the vessels and tendons. Then we are told to apply a splint which presses the tendons together in the wounded sheaths with a bandage which, if firm enough to maintain fixation, always interferes in greater or less degree with the circulation.

In discarding this colossal blunder of the past and examining the structures involved, I concluded that the only rational method of maintaining approximation was by lateral splints that would prevent pressure on the flexor and extensor tendons and not interfere with the circulation, and would permit movement of the joint during the healing process. The first plan was to use pieces of wood about three inches long, hollowed out to fit approximately the radial and ulnar sides of the wrist. The reduced fracture was to be held in position by an assistant. The splints were to be filled with soft plaster and pressed firmly into place at the sides of the wrist, not extending over the joint far enough to prevent free motion. Position was to be maintained by two adhesive strips. The splints were to be thick enough to raise the retaining adhesive strips above the skin, thus leaving important structures entirely free. I provided myself with some short pine blocks, a gouge, and some plaster.

The first patient was a Swiss laborer on a dairy farm. Reduction was effected under anæsthesia. Approximation was easily maintained by the splint described, and the result was perfect. There was very little pain or swelling, and in ten days these had entirely subsided and voluntary motion of the hand was easy and painless. The method was a success, but this was only the first step in the evolution of its adaptation to general practice

The next case was in a middle-aged woman, first seen at her residence in the evening. There was no plaster of Paris at hand, so I constructed what I then thought would be a temporary splint from the lid of a pasteboard shoe box. The lid was cut into strips one and three-quarters inches wide. Eight pieces two and three-quarters inches long were made, giving splints of four thicknesses each for the radial and ulnar sides of the wrist and of sufficient height at the edges to protect entirely the tendons and vessels on the palmar and dorsal surfaces from pressure. The fracture was carefully reduced and was then maintained in position by firm traction upon the hand and elbow by one of the family acting as assistant. The board was moistened with water, and a four-ply splint was pressed firmly on the radial and another on the ulnar side of the reduced fracture and held in position by two narrow strips of adhesive plaster, the palmar and dorsal surfaces of the wrist being entirely protected from pressure by the thickness of the splint. Over this a bandage was applied like that used in Moore's dressing.

The approximation was so well maintained by this simple device, materials for which are to be found everywhere, that it has been adopted as the best method for general use. A point to be observed is that the splints must be wide enough to curve around the sides of the wrist, but leaving sufficient space between at front and back to protect the flexor and extensor tendons entirely from pressure from the splints and thick enough to avoid pressure from the bandage. The adhesive strips may touch the skin lightly, but must make no pressure. The bandage may be applied with a moderate degree of firmness, but should be loosened somewhat on the second day after the splints have hardened to relieve the compression of the skin over the bony prominences at the sides of the wrist. In persons of delicate skin or thin tissues it will be well to watch the prominence of the styloid process of the ulna, and if after the second day there are signs of pressure irritation, a depression may be cut with a penknife or small gouge in the under side of the splint over this point. A sling wide enough to support the hand should be used for a week, but after the primary swelling subsides daily movement should be insisted upon, and the use of the hand may be begun at the end of the second week. The splints may be worn four weeks or more, as they do not interfere with motion and insure the safety of the union.

Perfect reduction of the fracture is of the first importance. General anæsthesia should be used as a rule. It is true that reduction may be made without it, but its more frequent adoption will lead to better results. An assistant should make firm traction upon the hand and counter-traction upon the forearm, and the operator should manipulate the fragments directly into position and then place the lateral splints and hold them by a circular clasp of the left hand while the first strip of adhesive plaster is applied around the carpal end of the splints. One more strip of plaster and the circular bandage complete the dressing. I have used this method in about twenty-five cases with great satisfaction, and have also described it to some of my colleagues in the profession, who have adopted it with success.

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## COMPARATIVE CHEST MEASUREMENTS.

By H. M. LEE, M.D.,

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THE subject of chest measurements and the amount of chest expansion of the healthy man has been for some years a matter of interest, particularly to those surgeons who are required to examine applicants for the United States service and insurance organizations. The average chest expansion is set forth for the guidance of surgeons in these examinations, but it is often received with incredulity, and is moreover variable. These facts have led me to compile the average chest measurements from eight hundred men, examined by me for enlistment in the United States volunteer service.

The men were between the ages of eighteen and fifty years, the average age being twenty-six. The eight hundred taken for this table of measurements were all

healthy men, and were enlisted in the government service, or at least passed the board of surgeons. It may be well to note here that these men were from all walks of life, but the majority were accustomed to heavy exercise in their daily work, many being much in the open air, all well built and muscular.

Average measurement at complete expiration, 29.52327 ($29\frac{2}{5}$) inches; average measurement at complete inspiration, 33.28957 ($33\frac{1}{5}$) inches; average expansion, 3.76629 ($3\frac{4}{5}$) inches.

These figures (the average expansion) are somewhat surprising, being over one-half an inch greater than is generally taken as the average. My records show that age seems to play a small part as regards the expansion, for all the older men examined (the oldest being fifty years of age) had an average expansion of over three inches. The greatest variation was in the young (between eighteen and twenty-four years of age), the least and greatest expansion being found in these men. The smallest expansion recorded was two inches, the largest six inches, in the eight hundred men taken for this average.

## A CASE OF COMPLETE EXTERNAL DISLOCATION OF THE PATELLÆ.

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The case described and illustrated is interesting from its extreme rarity, its occurrence in early life, the failure of surgical measures to relieve the condition, the comparative comfort with which the subject was able

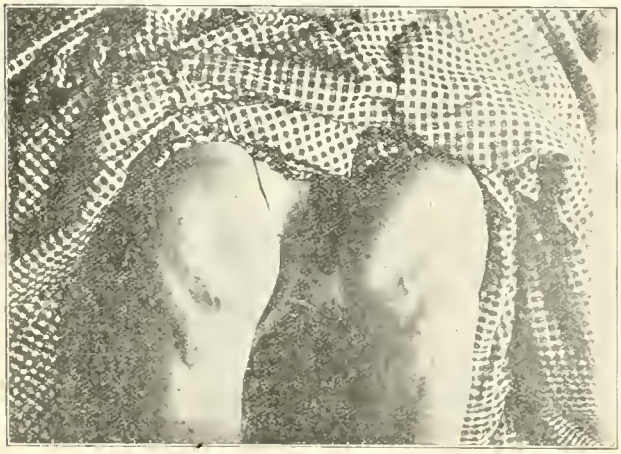

Fig. 1.

for years to lead an active life without artificial assistance, the peculiar changes in the joints, and the opportunity offered to study them after death.

When H. J——, a woman seventy-four years of age, came under my observation I was interested to find that in attempting to elicit the patella-tendon reflex the fingers went into depressions instead of striking

Fig. 2.

the tendons. The patellæ showed complete outward dislocation (Fig. 1). They rested on the outer condyles of the femurs, and with the legs fixed could be partially pushed back into their normal position, but immediately settled in the new position. The patient, her family, and physician all stated that the injury was received when she was fourteen years of age, and was the result of a fall while attempting to get into her carriage. The ligaments were stretched and their attachments so much strained that reduction could not be maintained. She was, however, soon able to move about, and during her life did not require a crutch or often a cane, and she was only stiff in rising or sitting, and a trifle shuffling in gait.

The patient died of senility. With the joints opened and the patellæ turned down (Fig. 2), it could be seen that the latter rested upon and had worn articular surfaces in the condyles, the one in the right knee infringing upon and slightly sharing the articular surface belonging to the tibia. The patellæ were at quite different angles to the shafts of the femurs. The right was almost vertical, and had simply moved outward. The ridge on its under surface had worn a groove in the articular surface, near the inner border; the outer border was well rounded, and there was a corresponding slight projection there of the external inner edge of the patella, thus making it more secure in its novel position than the left, which had worn quite a flat articular surface. The position of the left patella was quite different: the upper extremity had moved but little, while the lower was turned out at an angle of at least sixty degrees from the long axis of the femur; this caused the quadriceps tendon to play across the end of the femur, grooving it. The ridge on the inner surface of the left patella had entirely worn off; there was scarcely any articular cartilage on the new surfaces; the original articular surfaces of the femurs for the patellæ were filled in with small irregular exostoses.

## A CASE OF TETANUS TREATED WITH ANTITOXIN.

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La Monica Francesco, native of Italy, a healthy and strong longshoreman, on February 9th, in putting some barrels on a steamer, smashed his fourth finger so badly that he was compelled to go to the hospital for treatment. After five days in the hospital he was discharged as cured. On February 17th, during the day, he felt pain in the neck and spine, but he continued to work until evening. On going home, the pains kept on increasing, and during the night his jaw got locked in such a way that he was unable to drink anything.

The writer was called at 9 A.M. on February 18th and found the patient in the following condition: There were trismus and contractions of the facial muscles (facies tetanica). These contractions were getting worse with every convulsive attack; there was marked rigidity of the muscles of the neck, with spasm of the pharynx and larynx. Pulse, 120; temperature, 102° F.; respiration, 36, with oppression. The writer saw it was a case of tetanus. He looked at the finger at once, and while it seemed to be perfectly healed, there could be seen under one half of the nail something bluish. On being opened, a greenish pus exuded. After injection of cocaine the writer cut away one half of the nail and cleaned out all the dead tissues. For drainage gauze was used with a solution of one-half per cent. of iodine trichloride, the best disinfectant in such cases. The patient was immediately given bromide and chloral and sent to the board of health for tetanus antitoxin.

In the afternoon I injected 20 c.c. on the external part of the arm near the wounded finger, 20 c.c. on the right shoulder, and 20 c.c. all along the spine. These three doses of 20 c.c. each were injected during the course of six hours.

The next day, twelve hours after the last injection, I found the patient in very good condition. He could sit on the bed; the trismus was less; he could drink water and milk. I left orders to allow him as much of these as he wished. The pulse was 90; respiration regular; temperature normal. The injections were continued at the rate of 40 c.c. a day for three days. The patient improved rapidly, and three days after the first injection could go from one corner of the room to the other and get up and sit down quite well. The injections were continued for fifteen days, and 280 c.c. in all of antitoxin were given. The amount of antitoxin used was exceedingly great, and the results were very satisfactory, as the case shows.

It is right to note, also, to prove the gravity of the case and the good effects of the antitoxin used, that after the first three injections of 60 c.c. the pulse and respiration, which before were not proportional to the temperature (due to the involvement of the bulb in the morbid process), went down gradually and after twelve hours were normal. The patient on March 15th could walk very well, and the only thing left was a little stiffness, especially in the morning, of the muscles of back and legs. On April 15th he went to work as usual, in the best of health.

4 Third Place.

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**Retained or Ectopic Testicle.**—The chief complications of a retained testicle or ectopic testicle are: Inflammation of the epididymis or testicle, gangrene, peritonitis (in abdominal cases), hernia, atrophy, hydrocele, hæmatocele, and sarcoma.—John Chalmers Da Costa.

## Progress of Medical Science.

**Non-Diphtheritic Pseudo-Rhinitis.**—Dr. J. Price-Brown, in a paper read before the Western Section of the American Laryngological, Rhinological, and Otological Association in March, 1899, drew the following conclusions: (1) Non-diphtheritic pseudo-membranous rhinitis does sometimes occur, and, though a very rare disease, it is probably as frequent as primary nasal catarrh. (2) On clinical grounds alone it is possible, in the majority of cases, to distinguish it from genuine diphtheritic disease. (3) Owing to a possible mistake in diagnosis, isolation in all cases should be imperative, until a reliable bacteriological examination might be made.

**For the Treatment of Acute Rheumatism** Favill (*Journal of the American Medical Association*, May 13, 1899, p. 1017) recommends that the bowels be emptied thoroughly, preferably with a mercurial, and that sodium salicylate be administered to its full analgesic effect, or, if it is not well borne by the stomach, oil of gaultheria. If salicylates are contraindicated by cerebral conditions, antipyrin, or some other suitable coal-tar analgesic, may be employed; and if these are contraindicated by circulatory or nervous complication, opium may be used for the relief of pain. As the pain is controlled by these means, perhaps together with heat and immobilization, salicylates should be withheld and the system saturated with alkali until the active process seems controlled. Iron should be given simultaneously or subsequently if the condition of the bowels and the liver permits. Throughout the attack intestinal hygiene should be promoted by means of a mercurial, cholagogue, or saline.

**Chemical Examination of Human Breast Milk.**—Dr. Adriance (*Archives of Pediatrics*, vol. xiv., No. 2) sums up a report upon the medical examination of two hundred specimens of human breast milk as follows: (1) Excessive fats or proteids may cause gastro-intestinal symptoms in the nursing infant. (2) Excessive fats may be reduced by diminishing the nitrogenous elements in the mother's diet. (3) Excessive proteids may be reduced by a proper amount of exercise. (4) Excessive proteids are especially apt to cause gastro-intestinal symptoms during the colostrum period. (5) The proteids being higher during the colostrum period of premature confinement, present dangers to the untimely born infant. (6) Deterioration in the human milk is marked by a reduction in the proteids and total solids, or in the proteids alone. (7) This deterioration takes place normally during the later months of lactation, and, unless proper attention is paid to the infant's diet, is accompanied by a loss of weight, or the child's gain is below the normal standard. (8) When this deterioration occurs earlier it may be the forerunner of the cessation of lactation, but well-directed treatment may improve the condition of the milk.

**The Ocular Phenomena in General Paresis.**—In the *British Medical Journal*, ii., 1898, September 10th, W. R. Dawson and D. F. Rambaut record a series of observation made on this disease in the Richmond Asylum, Dublin. Some forty cases are reported. In ninety-two per cent. of the cases the pupils were unequal, but the authors state that, since this condition is by no means unknown in healthy people, too much stress should not be put upon it. In twenty-three cases the size of the pupils was recorded; eight patients had mydriasis in both eyes, and six myosis; three had myosis in one eye alone. In one case myosis and mydriasis were found. Reflex iridoplegia was noted

five times; in two the eyes were mydriatic, and in three myotic. The Argyll-Robertson pupil was found five times in one eye and three times in both. Out of thirty cases examined for fundus changes three showed advanced atrophy, five optic neuritis. A certain amount of variation was to be expected in the ocular symptoms, as a patient might show inequality, contraction or dilatation, or irregularity of outline at one time and not at another. Loss of light reflex or accommodation reflex might be present for weeks and then disappear, and these reflexes be found normal.

**Professional Neuroses.**—Dr. Roskam (*Gaz. Méd. Belge*, April 20th), in an article on this subject, concludes that—(1) Professional neuroses is a misnomer, and these diseases should be excluded from the group of nervous maladies since they are muscular affections due to overwork; the muscles affected are those belonging to the group of extensors and abductors; (3) the characteristic lesion is a fibrous centre seated in the muscle in the neighborhood of the tendon; (4) the treatment consists in the careful massage of the part affected.

**The Cure with Sodium Bromide of Habituation to Morphine, Chloral, and Cocaine.**—MacLeod (*British Medical Journal*, April 15, 1899) recommends the following mode of procedure: Having taken the weight of the patient and ascertained the absence of contraindications, sodium bromide is administered in doses of two drachms in solution every two hours for the first two days and of one drachm on the third day. None is given after bedtime on the third day. Three ounces of the drug in all will probably suffice, but more may be administered to induce deep sleep that may continue for five or six days and nights, during which time milk alone should be given. Night and morning the patient should be placed on the commode for evacuation of bowels and bladder, or oftener if there is any sign of soiling the linen. Solid food should be given as soon as it can be taken, and when locomotion is recovered exercise should be encouraged. Morphine or cocaine may be continued the first day in the habitual dose, halved on the second day, and withdrawn or given in small dose on the third day. Chloral may be cut off at once if there is good sleep on the first night. A case may appear well in three weeks, but at least three more weeks should be allowed for convalescence.

**Exaggerations of Treatment in Diabetes.**—In a recent lecture Dieulafoy spoke of the reaction which had taken place against over-treatment in diabetes. He divides the cases into two categories, calling the first the mild (petit) and the second the severe (gros) form. The former includes those in which the quantity of sugar does not exceed 10 to 15 gm. in the twenty-four hours; these have no marked import and may pass unnoticed for a long time, because of the absence of such telltale signs as carbuncles, etc. In the severe form the patient urinates from 100 to 200 gm. or more of sugar. In spite of this enormous loss these patients are not necessarily more threatened than the others, and there are those among them who, without any precautions, stand this sugar loss quite well. Attention is drawn to the coexistence of azoturic with saccharine diabetes. As to treatment, if 25 to 30 gm. of sugar is passed, it is not necessary to resort to the severe régime so often forced upon patients. The chief point is to see to it that the patient does not lose flesh. It is a mistake to restrict the diet to the extent to which it is often done. Antipyrin gr. xv. given morning and night, with bicarbonate of sodium gr. vii.–viii., will show a disappearance from the urine of from 30 to 50 gm. of sugar within thirty-six hours. The speaker prefers, instead of Fowler's solution, the arsenate of sodium in solution of 3 cgm. to 80 gm. of water, of which a teaspoonful is taken at each meal. He also believes that it is not necessary to suppress milk in the dietary because of the lactose it contains, but thinks it should be given. Lactose is not transformed into glucose. In the case of severe diabetes the patient should be allowed to drink freely to wash out the sugar instead of letting it accumulate. If antipyrin does not act well, we must tack about and give arsenate of sodium.—*Gazette Méd. de Strasbourg*, April 1, 1899.

**Treatment of Paralysis Agitans.**—At a recent meeting of the Manchester Therapeutical Society Williamson (*British Medical Journal*, June 3, 1899) pointed out the importance in cases of paralysis agitans of securing sound sleep, as the symptoms are usually worse after a restless night. For this purpose he recommends alcohol or whiskey and hot water at bedtime. Alcohol taken during the day, as well as strong tea and coffee, seems to increase the trembling, while needlework or writing often appears to have the opposite effect. Holding the arms above the head for some time lessens the movements. A warm bath often had a good effect. The bed should not be too soft, and the living-room should be well ventilated, and not too warm. Systematic open-air treatment is important, carriage-drives being advantageous and railway journeys often beneficial. Morphine hypodermically affords relief, but is objectionable in a disease so chronic as paralysis agitans. Hyoscine has proved most useful, but the dose should not be too small. A good formula consists of hyoscine hydrobromate gr. ¼, in chloroform water ʒ vi., the dose being two teaspoonfuls. The drug loses its effect after a time, and should then be intermitted, to be resumed later.

**Acute Diffuse Gonococcus Peritonitis.**—Cushing (*Bulletin of the Johns Hopkins Hospital*, vol. 10, No. 98) reports two cases of gonococcus peritonitis, gives a summary of the literature on the subject, and offers the following conclusions: (1) The gonococcus is capable of causing a specific infectious disease, namely, gonorrhœa, and at the same time other and less specific pathological conditions. (2) There is experimental proof that in certain small animals the gonococcus can set up acute alterations in the peritoneum homologous with the acute septic serositides in man, but differing from these in their tendency to rapid and spontaneous healing. (3) Hitherto there has been wanting conclusive proof that in the peritonitides attendant upon gonorrhœa occurring in women, the gonococcus was solely or chiefly concerned. The inflammations had been variously regarded as mixed infections and chemical inflammations. (4) The cases now reported bring for the first time convincing evidence of the existence of a diffuse, general inflammation of the abdominal cavity caused by the gonococcus. (5) It has been recognized that extension of the gonorrhœal infection from the genital organs to the peritoneum may occur in the puerperal state; a similar sequel is shown to be possible during menstruation. (6) Such ascending forms of gonorrhœa doubtless, under ordinary circumstances, remain localized in the pelvis, and rarely demand surgical intervention in the acute stage. (7) A general involvement of the peritoneum, such as occurred in the two cases related, must be either rare or unrecognized, and may depend upon some specially receptive condition of the serosa or virulence of the organism. (8) The peritoneum is not more immune than are the pericardium and endocardium to gonococcal infection, and, being more exposed, suffers more commonly in women, although the relatively benign course of the disease makes it a rare condition to come to the attention of the surgeon in the acute stages.

MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 51 Fifth Avenue.

New York, July 29, 1899.

## BRAIN-TUMOR AT THE BASE OF THE SECOND LEFT FRONTAL CONVOLUTION WITH AGRAPHIA AS THE ONLY POSITIVE LOCALIZING SYMPTOM.

IT has long been a matter of discussion whether or not a special centre existed in the cerebral cortex for the function of writing, and evidence has been cited upon both sides of the controversy. The number of cases in which agraphia has been present as the sole or most prominent localizing symptom is exceedingly small, and the anatomico-pathological evidence in this connection is inconclusive. On the other hand, numerous cases have been placed on record in which motor aphasia has existed without agraphia, the lesion involving Broca's convolution solely; while in a number of others the second frontal convolution was also involved and agraphia was associated. A case that would seem to decide the question in the affirmative—in so far as a single case can be considered as affording conclusive evidence—has recently been recorded by Gordinier (*American Journal of the Medical Sciences*, May, 1899), in which with agraphia unassociated with aphasia a destructive lesion was found in the left second temporal convolution. The patient was an intelligent Irish woman, thirty-seven years old, whose father had died of carcinoma of the face, one sister of pulmonary tuberculosis, and another of nephritis. Previously in excellent health, the patient began to fail in strength, and had several attacks of vertigo, without falling, and without nausea or vomiting. A short time later, severe frontal and occipital headache set in, with occasional attacks of vomiting. After three months impairment of vision was noticed and complaint was made of numbness in the right arm. The patient at no time had a convulsion, nor the slightest difficulty in expressing thought by articular speech. The woman recognized and named correctly any object placed before her, and also with her eyes closed any familiar object placed in her right hand. She understood perfectly what was said to her, and she recognized familiar hymns. She was able to repeat words after another, and she spoke voluntarily without the slightest hesitation, and always correctly. With the aid of glasses she could read correctly ordinary-sized print or writing. She recognized numerals at once. She was, however, totally unable to write, although she understood perfectly written language and was able to read to herself or aloud. She could not write voluntarily or form correctly a single letter, nor write from dictation or copy. She held the pen in a perfect manner, and performed the movements of writing, making, however, only a series of united curves. She was not ambidextrous, and could not write with her left hand. There was no indication of paralysis of any of the muscles of the right upper extremity, and the patient had been able previously to write perfectly with the right hand. The pupils were moderately and equally dilated, and responded actively to light and in accommodation. The hemiopic pupillary phenomenon was present. There was no hemianopsia, but there was inflammation of both optic nerves, more intense on the right. The right external rectus muscle was paretic, so that the right eyeball could not be rotated outward, and there was diplopia. The grasp of the right hand was weaker than that of the left. The knee-jerks could not be elicited, even with the most careful reinforcement. Although there was no evidence of syphilitic infection, potassium iodide in conjunction with mercury was administered for six weeks, but without any amelioration of the symptoms. In the interval cerebration had become quite slow. There was further a tendency to fall or to stagger toward the right side. After a further period of six weeks, attended with much suffering, the patient consented to an exploratory operation, and the left Rolandic area was exposed. On removing the button of bone the dura bulged into and through the opening, forming an elastic, slightly pulsating swelling. On incising the dura, a considerable quantity of subarachnoid fluid escaped, with the formation of a hernia cerebri. The opening was enlarged forward, and careful search was made for a lesion, but none was detected. The cortical area exposed by the trephine opening appeared normal. The condition of the patient becoming alarming, the wound was at once closed, drainage being provided for. On emerging from the anæsthesia the right arm was found paralyzed, and the right leg paretic. The patient appeared drowsy and stupid, and complained of great pain in the region of the wound. She rapidly passed into a condition of unconsciousness, with loss of control of the bladder, and a rapid and feeble pulse; and death took place on the second day after the operation.

On post-mortem examination a new growth was found occupying the foot of the second left frontal convolution, distinctly separated from the arm area by the precentral sulcus, which was well developed. The growth was elevated about 0.5 cm. above the surrounding cortex, was slightly irregular in outline, of distinctly firm consistence, and oval in shape. Its longest cortical diameter was 2 cm., and over it the pia was intimately adherent. On section the tumor was seen to extend downward and inward in the centrum semiovale as far as the root of the anterior horn of the lateral ventricle, and forward to near the apex of the frontal lobe, involving almost exclusively the white matter of the second frontal gyrus. The left third frontal convolution was found macroscopically perfectly normal throughout its whole extent, as was

also its associated centrum ovale. The centrum ovale of the first frontal convolution was infiltrated by the growth toward its ventral part. On histological examination the tumor was found to be a glioma of rapid growth.

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## ON THE RESPECTIVE PARTS TAKEN BY THE URINE AND THE FÆCES IN THE DISSEMINATION OF TYPHOID FEVER.

Without quibbling as to whether typhoid fever is "contagious" or not, it is generally agreed that the disease is transmissible or communicable from the sick to the well though the intermediation of the bodily discharges. It is no longer contended that the disease may arise *de novo* from filth and fermentation, but it has been demonstrated conclusively that there can be no typhoid fever without the presence of the typhoid bacillus. The most common mode of dissemination is through water contaminated by the discharges of typhoid-fever patients, and in the past the stools have been held almost exclusively responsible for such contamination. Recent investigation has, however, shown not only that the bowel is not the exclusive seat of the lesions, but that the intestine may escape and other structures and organs be attacked. It has also been found that typhoid bacilli may be eliminated in the urine.

As the result of a study of the excreta from cases of typhoid fever and an analysis of the literature upon the subject, Horton Smith (*The Lancet*, May 20, 1899) concludes that the stools of a typhoid-fever patient, unmixed with the urine, contain typhoid-fever bacilli in fair quantities, demonstrable by present methods, up to about the beginning of the third week. After this date the number begins rapidly to diminish, so that existing methods no longer avail, as a rule, to find them. If, however, a relapse occurs, it may be preceded by a recrudescence of the typhoid bacilli, which can then be found again in the fæces, but during the greater part of the relapse itself and through convalescence the typhoid bacilli cannot be found in the stools. It can no longer be doubted that typhoid bacilli occur in the urine of typhoid-fever patients, probably in about twenty-five per cent. of all cases. For the most part, though present in such numbers as to be demonstrated bacteriologically with the greatest ease, they are not present in sufficient quantities to alter the naked-eye appearance of the urine. In a smaller proportion of cases, however, probably about five per cent. of all typhoid-fever cases, the urine is rendered turbid by their presence. They are nearly always in pure culture. They occur first late in the disease, rarely, if ever, before the third week, and they may make their first appearance during convalescence. They generally remain present for some considerable time, for some weeks or even months. The character of the urine does not assist in diagnosticating the condition, unless, of course, it be rendered turbid by the bacilli. The urine may contain no albumin, although it often contains but a trace, and sometimes a good deal. It sometimes contains pus, but all of these conditions occur quite apart from the presence of typhoid bacilli in the urine. The prognosis in a given case is not rendered more grave by the presence of typhoid bacilli in the urine.

These observations are of not a little practical importance, and they teach that the same care should be exercised in the disposal of the urinary secretion as in that of the fecal discharges of typhoid-fever patients. If such precautions were generally and rigorously observed, the prevalence of typhoid fever would be much reduced, and the disease rendered sporadic, instead of endemic or epidemic as it is in many communities.

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## MENTAL SUGGESTION.

Every physician is well aware of the potent influence for good or ill that the mind exerts over the body in sickness. In health, too, the effect of mental suggestion is with many persons powerful to an extraordinary degree. Upon this notorious psychological fact the Christian Scientists and faith curers of all kinds base their treatment, and in virtue of some indisputable cures brought about by these means have been so long able to gull the public into the belief that their healing powers are effective in any case of disease or injury. Patent medicines and quacks owe their success to precisely identical reasons. If an individual has faith in a medicine or in a treatment, he will assuredly derive more benefit from that medicine or treatment than if he were sceptical as to its merits. There can be little doubt that the sympathetic physician is the one best calculated to lead his patient to recovery. Again in many diseases the good that may be wrought to the sufferer by the agency of mental suggestion is undeniable. Prof. J. M. Baldwin, referring to this fact in connection with insomnia, says: "In experimenting upon the possibility of suggesting sleep to another, I have found certain strong reactive influences upon my own mental condition. Such an effort which involves the picturing of another as asleep is a strong auto-suggestion of sleep, taking effect in my own case in about five minutes if the conditions be kept constant. The more clearly the patient's sleep is pictured the stronger becomes the subjective feeling of drowsiness. An unfailing cure for insomnia, speaking for myself, is the persistent effort to put some one else asleep by hard thinking of the end in view, with a continued gentle movement such as stroking the other with the hand."

Dr. E. C. Spitzka, of New York, has recently given some really remarkable instances of the power of mental suggestion. He cites the well-known fact that the mortality from wounds and diseases in a defeated army compared with a victorious army is as 4 to 3, and even as 3 to 2. He also refers to the incontrovertible fact that persons in robust health have been known to die apparently of starvation after being without food for from three to five days. Dr. Spitzka is of the opinion that these individuals did not die of actual starvation, but from the psychical effects of hunger. The proof of this contention lies in the fact

that persons have been known to fast of their own free will for more than forty days without injuring their constitutions to any appreciable extent. Many examples establishing the truth of this statement might be given, but it will be sufficient to quote one from Dr. Spitzka's paper. He says: "In the graver forms of hysteria, when loss of sensation occurs in exactly one-half of the body, you can lay a piece of tinted paper on the sensitive side; then suggesting it to be a mustard plaster, a red area will appear on the corresponding unsensitive side. Blisters of such a character that scars have permanently remained from them have been produced in similar cases by the same method." The medical profession, it appears more than likely, have not as yet wholly appreciated the advantages to be derived from the employment of mental suggestion.

## News of the Week.

**To Inspect the Cuban Quarantine Service.**—Passed Assistant Surgeon Milton J. Rosenau, of the marine hospital service, has been detailed to inspect the quarantine service on the Cuban coast.

**A New English Naval Hospital** is to be erected at Chatham. The building will be of brick with stone facings. It is thought that the old hospital will be converted into barracks for the marines.

**The Italian Lynching.**—The trouble which ended in the lynching of five Italians at Tallulah, La., on Thursday night of last week originated in the killing of a goat belonging to one of the dead men by Dr. Hodges of that place. In revenge the Italians attacked the doctor and shot him in the abdomen, and they in turn were lynched by an infuriated mob of Dr. Hodges' friends.

**A Hospital for Consumptives in Chicago.**—A dispatch to the New York *Times* from Chicago says that a well-known and wealthy business man of that city, whose name is withheld for the present, is going to use part of his large fortune in erecting a hospital for incurable consumptives, as a memorial of his daughter who died recently of pulmonary tuberculosis after great suffering.

**Typhoid Fever at Flushing.**—Typhoid fever has appeared in Flushing, L. I., an average of one new case a day having been reported during the past two weeks. Heretofore the village has been almost free from the disease. An impure water supply is said to be the cause of the outbreak. For the past three months the pumping-station has not furnished sufficient water to supply the demand, and it has been necessary to use water from a small pond near the station to supply the deficiency.

**A Physician Assaulted for Performing a Work of Mercy.**—Dr. Froehlich, of this city, was brutally assaulted on Sunday night by striking motormen of the Second Avenue trolley road, because he bandaged the head of a non-striker who had previously suffered at their hands. He was told by a passer-by that a man with his head cut was in the next block, and going there, he found a man in the uniform of a motorman with a long gash in his scalp. He stopped the bleeding and bound up the wound as best he could for the time, and while so engaged was warned by one of a crowd of strikers that he had better leave the man alone if he valued his own health. He finished bandaging the wound and then started for his home, but had not gone far when he was struck on the head with a brick, and soon eight men rushed on him, threw him down, and beat him severely before the police arrived.

**The Yellow-Fever Outbreak at Santiago** has been overcome, only one case of even suspected yellow fever having been reported in nearly two weeks. At Havana a case is discovered from time to time, but there is less in the city now than there always was, even in midwinter, under the old régime of filth. An official report dated July 18th has been issued at Panama declaring the city entirely free of yellow fever.

**The Red Cross in Cuba.**—During the past three months twelve orphan asylums, accommodating about twelve hundred children, have been established by the Red Cross Society in the provinces of Havana, Matanzas, and Santa Clara. Most of the inmates are waifs from three to fifteen years of age, and are the children of reconcentrados starved to death by Weyler's orders. Miss Barton estimates that there are in the neighborhood of fifty thousand of these reconcentrado orphans running wild in the towns of Cuba.

**Poisoned Tea at Bellevue.**—Several patients in one of the convalescent wards at Bellevue were the victims recently of accidental phosphorus poisoning. One of the patients, in reaching for a glass, overturned a box of matches, throwing half its contents into a can of tea which was just to be served to the inmates of the ward. The patient whose duty it was to distribute the tea noticed the matches floating about, but thought nothing of it, and merely fished them out and went on with the distribution. Soon after drinking the tea, several of the patients became very sick, but the cause of the trouble was quickly discovered, and prompt medical assistance averted any serious consequences.

**Diphtheria at the Willard State Hospital.**—The State board of health reported on Friday of last week that there had been thirty-four cases of diphtheria at the Willard State Hospital, and that the institution was under quarantine. The disease was of a mild type, and no deaths had been reported. All the sick are being treated with antitoxin, and all the other patients in the hospital are being given injections of small quantities of the antitoxin, so as to make them immune. A bacteriological examination showed that many of the physicians, nurses, servants, and others in the institution had diphtheria bacilli in the mucosa of their upper air passages and mouths.

**Artificial Fruit Syrups.**—Fifteen confectioners and druggists were recently haled to the Essex Market police court to show cause why they should not be pun-

ished for violation of the revised statute which forbids the adulteration of food and food products, in that they had sold adulterated syrups in flavoring of soda water. As these were the first cases under the new law, the magistrate dismissed the men with a reprimand. The arrests were made at the instance of the fruit-dealers. On July 25th fourteen more soda-water sellers were arraigned for the same offence. They pleaded that they had bought the syrups in good faith from wholesale dealers, and did not know they were artificial. They were dismissed with a warning. After September 1st the syrups used for soda water will be subjected to the scrutiny of the health department, and the small venders who peddle lemonade from carts, as well as the large houses which dispense soda water from pretentious fountains, will be held to a strict obedience of the new law governing the adulteration of syrups. The selling of adulterated and unwholesome syrups is made by the Ford act a misdemeanor, punishable by a fine of not more than $250, or by imprisonment of not more than six months, or both. Much of the so-called lemon syrup used in lemonade and soda water contains not a drop of lemon juice, but is made of various acids, chief of which are tartaric and citric. The vanilla, strawberry, raspberry, and orange syrups are also in many cases innocent of any admixture with the juices of the fruits whose names they have borrowed.

**More Surgeons Needed at Manila.**—Surgeon Woodhull at Manila is reported to have stated that the increased military forces in the Philippine Islands will necessitate the employment of forty additional surgeons, but his recommendation to that effect has been disapproved by General Otis. There are nearly three thousand soldiers in the hospitals in Manila, San Fernando, and elsewhere. There are also two hundred and seventy-five sick in quarters in Manila.

**Famine and Plague in India.**—A dispatch from Bombay says that the partial failure of the monsoon has occasioned grave anxiety. The rainfall has been injuriously excessive in Bengal and the northwest provinces, but in the Deccan, Berar, Gujerat, and some of the central provinces there has been almost no rain. The situation in Western India is already critical, and a failure of the crops with a consequent recurrence of the famine is gravely threatened. The plague is again increasing in Poonah, where there were one hundred and sixteen cases and eighty-two deaths reported on July 23d.

**Contention between a Governor and a Dental Society.**—The governor of Connecticut and the members of the State Dental Association are at loggerheads over the appointment of a member of the State dental commission. Recently the association sent a request to four of the five members of the Connecticut State dental commission to resign at once because the association objected to the fifth member of the commission, who had been expelled from the association and who had secured his appointment to the commission by political influence and not by merit. Governor Lounsbury appointed the objectionable member, and stated recently that he did not recollect receiving any protest against the appointment at the time. In reply to this several members of the association make affidavit that they protested to the governor in person.

**Orrhotherapy of Snake Bite.**—A correspondent of the London *Times* tells of a man in Allahabad, already in a state of collapse following poisoning by a snake bite, who was cured by an injection of Calmette's serum.

**A Hospital Struck by Lightning.**—During a severe storm that passed over this city last Friday the J. Hood Wright Memorial Hospital in Harlem was struck, and some of the inmates were stunned, but none was seriously injured.

**Prof. Charles F. Chandler** of Columbia University, and formerly professor of chemistry at the College of Physicians and Surgeons, has been elected president of the Society of Chemical Industry of England. Dr. Chandler has served as chairman of the New York section of the society, but is the first American to be elected president of this, or we believe of any other, English scientific society.

**Dr. Max Breuer,** of Buffalo, has, according to the Paris *Figaro*, been nominated a Chevalier of the Legion of Honor in recognition of services rendered a French sailor at the risk of his own life. Dr. Breuer was the surgeon on a Hamburg-American line steamer, and in response to a call from a petroleum vessel he braved a dangerous sea to attend an injured Frenchman aboard the latter steamer, saving the man's life by amputating his arm.

**Colchicum Poisoning.**—Some negro ball players at Eufaula, Ala., were recently celebrating their victory over a visiting club, and one of the members, who was a porter in a drug store, stole what he thought was a bottle of wine and presented it as his contribution to the festivities. Seven of the revellers drank freely of the beverage, and soon paid for their indulgence by vomiting, pain, and prostration. At the last accounts three of the negroes were dead and the remaining four were not expected to recover.

**A Plague of Mosquitoes.**—According to a story, published recently in the *Sun*, from American Falls, a Snake River town in Idaho, the people there were being driven from their homes by mosquitoes. Swarms of the insects made life unbearable, and people were forced to take to the mountains as fast as possible in order to escape absolute torture. On Sunday an attempt was made to hold services in the church, but the mosquitoes broke up the meeting, and preacher and congregation fled from the building. A baby is said to have died in consequence of the many stings given to it by the insects.

**Vegetable Cancer.**—Dr. Bra, of France, whose claim to the discovery of a cancer germ was recently noticed in these columns, has been conducting a series of experiments to determine the relation between certain vegetable neoplasms and human carcinoma. Having found micro-organisms similar to the alleged parasite of cancer in diseased wood, he was led to in-

oculate several trees with cancer cultures, and claims to have in this way started a morbid process in the vegetable organism which, in one instance, caused the death of the tree. It might be rash to dispute facts or to deny the conclusions of this ingenious investigator, but he will certainly have to furnish strong evidence to convince a skeptical world of the validity of his claims.

**The First Case of Yellow-Fever Inoculation.**—Mr. Oscar F. Lackey, the first yellow-fever patient in this country to be subjected to serum treatment, was discharged cured from the quarantine hospital on Monday of this week.

**Medical-Practice Laws in Havana.**—A meeting of the Havana Academy of Science was recently held to protest against the order permitting physicians who use interpreters in their examinations to be admitted to practice there.

**Multiple Lightning Fatalities.**—During a thunderstorm in Berlin on Sunday last forty persons who were leaning against a wire railing at the Charlottenburg cycle track were struck by lightning. Three were killed and twenty were severely injured.

**A French Neurological Society.**—A Neurological Society was formed in Paris on June 8th. Professor Joffroy is president, Professor Raymond vice-president, M. Pierre Marie general secretary, M. Henry Meige secretary of sittings, and M. Souques treasurer. The society will issue the *Revue Neurologique*, which is to be its official organ and which will appear on the 15th of each month.

**A Lively Disciplinarian.**—An Indiana citizen, one hundred and six years old, who evidently believes that as the twig is bent the tree will grow, recently chastised his son, aged seventy years, because the latter came home drunk and abused his wife. The judge fined the young sower of wild oats for his condition, but took no judicial cognizance of the father's exercise of his parental prerogative.

**The Orange Training-School for Nurses** has decided to adopt an alternative course of instruction for those pupils who prefer not to engage in private nursing before graduation. In one course the pupils will receive no compensation, but will be required to pay a fee of $150 a year, the course being of two years' duration. Under its terms the women will not be required to do private nursing. In the alternative course the present two-year term will be lengthened to three years, and nurses who enter it will receive compensation as heretofore after the first six months' service and in addition will receive a bonus of $75 on graduation. In this course the nurses will do private nursing as heretofore.

**The Perils of a London Medical Practice,** at least in the East End, are seemingly comparable to those in a Western mining town or even in New York itself during a street-railroad strike. A Dr. Stonham, who is the parish doctor to a large section of the East End of London, was recently attacked, when leaving a house where he had been called to see a patient in the middle of the afternoon, by five men, thrown down, and robbed of his watch and money. In his complaint to the authorities he says that a few weeks previously another physician, practising like himself among poor patients, was knocked down, brutally assaulted, and robbed at one o'clock in the day in the main thoroughfare.

**Major William Duffield Bell,** of the Seventy-first Regiment, who was the regimental surgeon in the Santiago campaign, has resigned.

**A Prolific Family.**—A French-Canadian woman, twenty-eight years of age, living in Maine, recently gave birth to her third pair of twins in three years. The father of these children, who is thirty years of age, was a twin himself and so was his wife.

**A Memorial of Sir Thomas Browne.**—A movement is on foot for the erection in Norwich, England, where he resided for a period of forty-six years, and in which city he died in 1682, of a memorial statue of Sir Thomas Browne, the author of "Religio Medici." While excavating a grave in the chancel of St. Peter's some years ago, a coffin was broken open, which proved to be that of Sir Thomas Browne, the skeleton being in good preservation, and the hair of the beard very profuse.

**Changes at the Johns Hopkins.**—At the commencement of the Johns Hopkins University, held on Tuesday, June 13th, there were thirty-three graduates from the medical school, two of whom were women. The changes in the medical faculty announced for next year were as follows: J. Whitridge Williams, associate professor, will be professor of obstetrics; Lewellys F. Barker, associate professor of anatomy, will be associate professor of pathology; Ross G. Harrison, associate, will be associate professor of anatomy. Several new assistants were also appointed, also the internes and externes of the hospital, as well as the resident house officers.

**Obituary Notes.**—Dr. Robert Horner, of Gettysburg, Pa., died in that place on July 1st. He was born in Gettysburg on October 17, 1825, and was graduated in medicine from the University of Pennsylvania in 1849. He served for a short time during the Civil War as acting assistant surgeon of the United States army in the field hospitals of Gettysburg.—Dr. Regolo di Moise, an Italian physician, who had lived in this city a little over a year, committed suicide by swallowing carbolic acid on July 19th.—Dr. Jacob Bossert, of Washingtonville, Ohio, died July 19th at the age of seventy-one years. He was a graduate of the Western Reserve Medical College in 1837. He is survived by a widow, four daughters, and one son.—Dr. F. M. Endlich, formerly of Reading, Pa., died by suicide on July 17th at Tucson, Ariz., at the age of forty-eight years.—Dr. Charles Howard Hill died at Philadelphia on July 18th, the age of eighty-five years. He was a graduate of Jefferson Medical College in the class of 1835, and had been engaged in the practice of his profession for more than sixty years.

# Reviews and Notices.

Les Glycosuries Non-Diabétiques. Par Germain Roque. Professeur agrégé à la faculté de médecine, etc. Paris: J. B. Baillière et fils. 1899.

This little brochure of the series of "Les Actualités Médicales" treats in an entertaining manner of glycosuria due to other causes than true diabetes. Treatment is subdivided to cover the arthritic, the digestive, the nervous, and the puerperal forms. There is a bibliographical index.

Transactions of the American Climatological Association for the Year 1898. Philadelphia: Printed for the Association.

This, the fourteenth volume of the series, well maintains the high standard of excellence reached by the former ones. Some of the contributions are of especial interest, more particularly those treating of diseases of the organs of respiration, to which indeed the book is chiefly devoted.

Transactions of the Medical Society of New Jersey, 1898.

This volume contains many excellent essays. Dr. William Pierson writes on "The Umbilical Cord"; Dr. H. B. Costill, on "Uterine Displacements"; Dr. J. C. Applegate, on "Regression vs. Progression"; Dr. S. A. Twinch, on "The Diagnosis and Treatment of Pott's Disease." The book is well printed and embellished with unusually good diagrams.

Radioscopie et Radiographie Cliniques. Par le Dr. L. R. Régnier, Chef du laboratoire d'électrothérapie et de radiographie de l'hôpital de la Charité. Paris: J. B. Baillière et fils. 1899.

This volume continues "Les Actualités Médicales." It has ninety-two pages in boards over, and is illustrated with eleven woodcuts. It covers fairly well the technique and clinical side of radioscopy.

Practical Materia Medica for Nurses, with an Appendix containing Poisons and their Antidotes, with Poison-Emergencies; Mineral Waters; Weights and Measures; Dose-List; and a Glossary of the Terms used in Materia Medica and Therapeutics. By Emily A. M. Stoney, Graduate of the Training-School for Nurses, Lawrence, Mass.; late Head-Nurse, Mercy Hospital, Chicago, Ill.; late Superintendent of Training-School for Nurses, Carney Hospital, South Boston, Mass.; Author of "Practical Points in Nursing." Philadelphia: W. B. Saunders. 1899.

As the title suggests, this volume is meant only for nurses, and is not overburdened with scientific terms and confusing descriptions. The drugs are taken up alphabetically, and this arrangement makes the book especially a ready-reference volume such as one on active duty in the ward of a hospital will duly appreciate. The author has consulted the leading authorities in her compilation, and has been aided in the revision of her completed work by a physician.

Diseases of the Ear, Nose, and Throat, and their Accessory Cavities. By Seth S. Bishop, M.D., LL.D., etc. Second edition, revised and enlarged. Illustrated. Philadelphia, New York, Chicago: The F. A. Davis Company. 1898.

The second edition of this work represents a considerable enlargement upon the first both in text and number of illustrations. The book is improved in many ways, and some of the illustrations, especially the colored ones, are very graphic, making the work useful to the general practitioner as well as the specialist. The author in one place speaks of a ten-percent. solution of carbolic acid, which is an impossibility if we remember our chemistry correctly. A saturated solution of carbolic acid is one in sixteen.

The new chapters have added interest to the work, and that on the relation of life insurance to diseases of the ear, nose, and throat discusses an important subject in a practical way. The surgery of the mastoid is covered satisfactorily, but nothing novel is offered. On the whole, we may say that the volume makes a good text-book for the incipient specialist, and a useful work of reference when he is full-fledged.

Thirteenth Annual Report of the State Board of Health and Vital Statistics of the Commonwealth of Pennsylvania. Transmitted to the Governor, December 1, 1897. William Stanley Ray, State printer of Pennsylvania. 1898.

This annual report is comprised in two somewhat bulky volumes, and is exceedingly thorough and comprehensive. That portion of the work treating of the water supply is, under the state of affairs prevailing in Philadelphia, of more than ordinary interest, and is, besides, extremely well supplied with illustrations and diagrams. Dr. Thomas Turnbull, of Pittsburg, contributes an instructive paper on the monetary loss to cities from typhoid fever, pointing out that the time is fast approaching when municipalities will be held responsible for negligence in sanitary matters. The second volume is devoted principally to meteorological observations.

A Text-Book on Practical Obstetrics. By Egbert H. Grandin, M.D., etc., with the collaboration of G. W. Jarman, M.D., etc. Second edition, revised and enlarged. Illustrated with 64 Full-Page Plates and 86 Illustrations in the Text. Philadelphia, New York, Chicago: The F. A. Davis Company. 1898.

We have in this volume the second edition of a work which when in its former edition created a favorable impression as a practical treatise in its special field. The present volume is considerably enlarged and has been revised so as to bring it up to date, and a number of illustrations have been added. The aim of the authors has been evidently to furnish a practical handbook to serve as a guide for those who are working in the branch of obstetrics, and in this they have succeeded. The whole subject of normal and abnormal labor is covered in a satisfactory manner, without much bibliography and references as to "who did this or that first," and in that part of the work devoted to obstetric surgery we find an interesting chapter upon symphyseotomy. Perhaps many operators would not agree with the authors' apparent preference for Ayer's method of doing this operation, on account of the objection in general to cutting in the dark to a certain extent. A few inaccuracies mar the text, such as on page 109 in parentheses thus: "(using the Latin word *mento* for chin)." Hardly "*mento*." The second edition has undoubtedly added to the good impression which the book had already created, and the illustrations are all good as illustrations, but the didactic value of some of the photographic reproductions is very questionable.

Twentieth Century Practice. An International Encyclopædia of Modern Medical Science. By leading authorities of Europe and America. Edited by Thomas L. Stedman, M.D., New York City. In twenty volumes. Volume XVI., Infectious Diseases. New York: William Wood & Company. 1899.

As this encyclopedic venture approaches its completion it seems rather to improve in quality than otherwise. To be sure, the subject of infectious diseases has been extensively investigated of late years, and there is much new material from which writers on these interesting topics may draw inspiration. The subjects treated in this volume include lobar pneumonia, cerebro-spinal meningitis, dysentery, yaws, erysipelas, simple continued fever, relapsing fever, and typhoid fever. The authors' list contains such names as A. H. Smith, J. W. Brannan, and J. S. Thacher of New York, L. B. Edwards of Richmond, A. Netter of Paris, O. Kiliani of New York, A. Sodré of Rio de Janeiro, L. Popoff of St. Petersburg, H. A. A. Nicholls, of Dominica, and E. Ziegler of Freiburg. The last-named writer contributes a most excellent article on "inflammation," but just why it finds its place in this volume does not appear, since all inflammations cannot be looked upon as due to infectious or bacterial noxæ. The introductory article upon lobar pneumonia, by Dr. Andrew H. Smith, brings out much that is novel and important in its bearing upon this disease, and is an effort which will undoubtedly attract wide attention. The last article in the present volume is by no means the least. Dr. John W. Brannan, of New York, has discussed in a masterly way in a space of one hundred and fifty-five pages the symptomatology and the treatment of typhoid fever.

An extensive bibliography accompanies each contribution. The editorial and publishing departments have left nothing to be desired.

# Society Reports.

## THE MEDICAL SOCIETY OF NEW JERSEY.

*One Hundred and Thirty-Third Annual Meeting, Held at Allenhurst, N. J., June 27, 28, and 29, 1899.*

C. R. P. Fisher, M.D., of Bound Brook, President.

*First Day—Tuesday, June 27th.*

Almost all of the afternoon session, held on the first day, was devoted to routine business. The meeting was called to order by the president, Dr. C. R. P. Fisher, of Bound Brook, at 3:30 P.M., in the parlor of the Allenhurst Inn, and the session was opened with prayer by the Rev. Dr. Striker.

**Committee on Bovine Tuberculosis.**—Dr. Charles Young, of Newark, presented the report of the committee appointed last year to secure suitable legislative action regarding the control of bovine tuberculosis. He stated that the legislature of New Jersey had enacted a law to prevent the importation of tuberculous cattle into that State. It provided, among other things, that cows imported into the State must be accompanied by a certificate from a duly authorized veterinarian, stating that they had been subjected to the tuberculin test. The railroad companies were forbidden to carry cattle without such certificate. If cattle were imported, the State tuberculosis commission should cause them to be subjected to the tuberculin test, and animals giving indications of tuberculosis should be slaughtered, and no indemnity should be paid. The penalty for the first offense was a fine of from $25 to $200, and for the second offense imprisonment for a period of from one to six months in addition to the fine. The legislature appropriated for the use of the State commission on tuberculosis the sum of $10,000, instead of $5,000 as hitherto.

**Committee on Pollution of Streams.**—Dr. Henry Mitchell, of Asbury Park, presented the report of this committee. It stated that a law had been enacted, giving power to local boards of health to prosecute those guilty of polluting the Passaic River above the Great Falls, and to apply to the court of chancery for an injunction. The report also referred to certain legislation by which all municipalities were forbidden to allow sewage to be discharged into streams except in accordance with plans that had been approved by the State sewerage commission.

**President's Address: The Century's Progress in Medicine.**—The evening session was opened with the annual address, which was delivered by Dr. C. R. P. Fisher, the president. He said that at the beginning of this century auscultation was unknown, although introduced to the profession in 1819. The discovery of albuminuria by Richard Bright, in 1827, and of renal casts in 1837, had given a great impulse to the study of the diseases of the kidney. It was difficult now to realize that the hypodermic syringe had been absolutely unknown sixty years ago. The invention of the aspirator in 1869 was an important addition to the physician's armamentarium. The influence of Virchow's theory of cellular pathology and of Pasteur's germ theory had been enormous, but needed only passing mention, as it was still fresh in our minds. In 1880, when O'Dwyer had first demonstrated that in many cases laryngeal stenosis could be relieved without resorting to tracheotomy, it became possible to save many lives that would otherwise have been lost. It had not been until the present century that diphtheria had been accurately observed, studied, and classified as an entity. This had been done about 1825. The treatment of diphtheria with antitoxin, he felt sure, would shine out in time as one of the greatest medical triumphs of this century. There was but little doubt that there was a brilliant future for serum therapy in general, although as yet the antitoxin treatment of diphtheria had alone proved of signal value. Referring to the progress made in surgery, the speaker said that there could be no doubt that the advance in surgery during the nineteenth century had been greater than in any ten previous ones—not that there were not many great surgeons in the past, but those were the days of "laudable pus" and hospital gangrene. In 1848, when Dr. Henry Bigelow had read his paper on "Surgical Insensibility during Operation by Inhalation," one of the greatest of boons had been conferred upon the human race. It was impossible now for us to appreciate the furor which it had excited. But while general anæsthesia had been of enormous value to the surgeon, it had many drawbacks. The discovery of anæsthesia had immensely broadened the field of surgery, yet the fact remained that the mortality from operations of any magnitude was excessive. The glory of being the pioneer in the field of antiseptic surgery must ever be awarded to Sir Joseph Lister. Although methods had changed, and might still further change, the principle would endure —anæsthesia and surgical cleanliness would ever remain the brightest stars in the surgical firmament of the nineteenth century, and it would be impossible to say which was the greater. The revival of the operation of symphyseotomy should be noted as a distinct advance, for when done under modern antiseptic precautions it was comparatively free from risk. Reference was then made to state medicine. Dr. Fisher said that hygiene, or preventive medicine, dated from the earliest times, the Mosaic laws being the most stringent; but it had been only in recent years that governments had endeavored to enforce properly the sanitary laws. At the present time, our health boards were clothed with almost autocratic power. Michigan, Massachusetts, and New Jersey now possessed sanitary codes which were models, according to our present knowledge. One of the logical sequences of the advances of medicine in this century had been the rapid growth of specialism; the field had grown so broad that it was a physical impossibility to keep pace with the progress made in the various branches. The true specialist was born, not made; yet, other things being equal, the man whose knowledge of medicine was the broadest would make the best specialist. The raising of the standard of medical education augured well for the progress to be made in the medicine of the twentieth century.

**Treatment of Abortion.**—Dr. J. S. Baer, of Camden, read a paper on this subject. He said that he had adopted as a maxim in practice that "an empty uterus is a safe uterus, and safe only when it is empty." The subject was considered by the author under three heads, viz.: (1) Threatened abortion; (2) inevitable abortion; (3) incomplete abortion. In the first class of cases the patient should remain in bed in the recumbent position and keep absolutely quiet, and morphine should be given as required. The fluid extract of viburnum prunifolium had proved useful in many cases. In the second class the tampon was useful if properly applied; it not only diminished the chances of sepsis but spared the woman much loss of blood, and by exciting uterine contraction brought the case to a speedy and happy conclusion. Before the tampon was applied the external genitals should be thoroughly scrubbed and cleansed, and then, through a bivalve speculum, two strips of gauze, three inches wide and one or two yards long, should be introduced, one on either side of the cervix. A strip of cotton, twelve inches long, squeezed dry from a creolin solu-

tion, should next be placed in the vagina, and then some dry cotton placed on top of it. A T-bandage completed the dressing, and the patient could then be left with perfect safety from hemorrhage for twenty-four hours. This tamponade might be repeated, if necessary, for another period of twenty-four hours, when, if abortion had not been completed, instrumental delivery should be resorted to. In cases of incomplete abortion the curette should be used; the finger was dangerous, not only because it was difficult to sterilize it, but because the finger could not be introduced up to the fundus, in such cases, without the use of unwarranted force. He preferred to use an instrument known as the curette forceps, invented by Professor E. F. Baer, of Philadelphia. The curetting should be followed by antiseptic irrigations and by packing. Ergot should not be administered until the uterus had been completely emptied, but after this had been accomplished it materially favored the contraction of the uterus and diminished the danger of septic infection. Antiseptic vaginal douches should be used. Not a single case of abortion should result fatally if seen before infection had taken place, or if seen reasonably early and treated in the manner just described.

Dr. W. H. Ireland, of Camden, said that in more than one instance he had observed serious results from leaving in a tampon for twenty-four hours. As the majority of abortions were induced usually by the introduction of the nozzle of a syringe, a slate-pencil, or a hair-pin, the opportunities for early infection were exceedingly good. For this reason it seemed to him dangerous to leave in a tampon so long a time.

Dr. Baer replied, that he had not advocated this use of the tampon except for cases seen before infection had taken place; when there were fever and fetor, no time should be lost in cleansing the uterus, removing all odor, and packing the cavity with antiseptic gauze. He had allowed the tampon to remain for a period of twenty-four hours in more than one hundred instances, without observing the slightest harm therefrom—indeed, he believed tamponing at long intervals inflicted less traumatism on the uterus.

**Epilepsy.**—Dr. L. L. Hand, of Leesburg, read a paper with this title. He said that the cause of essential epilepsy was thought to be a degenerative process in the brain, consequent upon heredity or congenital disease. Of fourteen hundred and fifty cases observed by Gowers, four hundred and twenty-two had begun before the age of ten years, and three-fourths of the whole number before the age of twenty years. When the disease developed in adults it was apt to be due to a local lesion. According to Gowers, heredity figured in forty-five per cent. of the cases. In making the differential diagnosis the greatest difficulty was experienced in distinguishing between epilepsy and hysteria. The pathology of epilepsy was as little understood now as it had been twenty years ago. In a recent study of eighteen cases of epilepsy at the Ohio hospital for epileptics, the constant association of an enlarged thymus had been noted. In considering the question of treatment, the speaker said that when an aura preceded the epileptic seizure, probably the best method of preventing an attack was by the inhalation of nitrite of amyl. Chloral, in doses of ten or fifteen grains, should be given by the mouth either alone or combined with the bromides. The daily life should be regulated, the patient being given moderate exercise in the open air. Tea, coffee, and stimulants should be excluded from the diet. The quantity of food taken must be moderate, and constipation should be carefully avoided. Acetanilid, alone or preferably combined with bromides, would be found useful. The use of antipyrin at night, in doses of five grains, was highly commended. When bromides were administered a saline cathartic should be given every few days. Despite the advances in surgery and in cerebral localization, the surgical treatment of epilepsy had not yielded very brilliant results. Proper employment, together with skilled medicinal treatment, would probably give the best results. The epileptic colony was apparently the ideal method. This country, aggressive in everything else, had been slow in this field. Ohio, in 1893, had made the first attempt; New York had opened its colony in 1895; Massachusetts had begun its work in 1898, and New Jersey had made its beginning in November of last year.

Dr. E. W. Hedges, of Plainfield, reported three cases of apparently incurable epilepsy, that had been promptly relieved by measures directed to correcting eye-strain.

**A Portable Electro-Magnet.** — Dr. Walter B. Johnson, of Paterson, exhibited a perfected electro-magnet of his invention. It was intended to be used in connection with the direct incandescent electric-light current for the purpose of removing pieces of steel which had entered the eyeball. The core of the magnet was made of the finest grade of Swedish iron, which had been re-annealed. It measured seven and one-half inches and weighed eleven ounces. The core could be easily removed from the spool for sterilization. The spool was made of brass, and was three inches long. It was wound with two pounds and ten ounces of No. 27 wire. The resistance was 205 ohms. The advantages claimed were its portability and its convenience wherever there was a direct electric-lighting system. It was not applicable to the alternating system. The pulling strength of the magnet was six and one-fourth pounds, and its cost was $15, far less than other magnets of the same strength.

**The Diagnosis and Management of Pleurisy with Effusion.**—Dr. Louis Faugères Bishop, of New York, read a paper with this title. He said that in all chest diseases it was a safe rule to make examinations at short intervals with a special view to determine, by exclusion, the presence or absence of pleuritic effusion. The cause of the effusion might be in the pleura itself, or result from other conditions giving rise to dropsy in other parts of the body. Cardiac disease did not usually cause effusion until the kidneys had become involved, either by congestion or inflammation. The pleura seemed better able than the peritoneum to take care of itself after the first attack of inflammation. The importance of a pleuritic effusion depended primarily upon the amount. The diagnosis of fluid in the pleural cavity depended upon its physical characteristics as compared with those of the surrounding tissues. Of all the physical signs, flatness on percussion was the most constant, but the sensation of resistance conveyed to the percussing finger was also an important indication. According to his experience, bronchial breathing was as often found as the absence of breath-sounds, and the percussion note was often tympanitic instead of flat. When the breath-sounds were not absent, they had a peculiar character of their own. The advantages of the exploratory puncture were those of a certain means of diagnosis; the danger was from septic infection. The pain of making the puncture was trifling if the needle was introduced with a steady thrust. The dry-diet theory of treatment the speaker likened to a tank of water placed on the bank of a stream; the stream was ready to receive the water in the tank at any time that it might be set free, but no amount of dredging of the stream or changing its volume would have any effect on the water in the tank. The first thing to insist upon was absolute rest and moderate diet; the next thing was to sustain the heart's action. The close connection of the pleura with the nervous system was sometimes strikingly illustrated in individual

cases. Owing to the mechanical conditions present in the thorax it was possible to remove the fluid, even though the puncture happened to be made above the level of the fluid. Of all the devices for aspiration, he preferred the Dieulafoy instrument, and used with this a trocar of about the size of a knitting-needle. The point of election for the puncture was two inches below the lower angle of the scapula. It was a good plan to explore with a fine needle before introducing the larger instrument. As there was always danger of syncope, a stimulant should be administered just before performing thoracentesis.

**The Diagnosis of Insanity; Its Methodology.**—Dr. J. Leonard Corning, of New York, read a paper with this title. He said that for every person obviously insane there was probably another who had, at some period of life, been affected with a less obvious form of brain disease. The psychological survey of the supposedly insane person should be similar to that employed in every-day life in sizing up the mentality of our saner fellow-men; it should inquire into his power of perception, attention, memory, reasoning power, and ability to plan, choose, execute, or will. In all cases of insanity the play of the muscles, whether in mimicry or in the coarser bodily movements, should be carefully noted. Conventionality must also be taken into account.

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*Second Day—Wednesday, June 28th.*

**Traumatic Neurasthenia.**—Dr. John D. McGill, of Jersey City, read an essay on this subject. He said that traumatic neurasthenia was, correctly speaking, a traumatic functional neurosis, depending for its causation upon, first, a prior existing neurotic diathesis as a predisposing cause, and second, upon shock or injury, or both, as an exciting cause. From a large experience he was convinced that in the great majority of all cases of traumatic neurasthenia a potent predisposing factor was the condition of the nervous system. A nervous temperament, apparently due to heredity alone, was frequently observed. Hitherto neuropathology had been largely speculative, but it gave promise of great results in the near future. The nervous influences following concussion of the spine, the essayist said, had been noted and commented upon by surgeons a century ago. In 1818 Sir Benjamin Brodie had recognized forms of hysteria following injury. In 1856 Erichsen had first treated of the nervous disorders that follow railway injuries, and for a time his views had been practically unchallenged. In 1875 the same author had issued a book on "Concussion of the Spine," which had aroused a vast deal of discussion. In the light of our present knowledge of neurology, his views were unsatisfactory and, in the main, incorrect. From a consideration of the extensive literature of the subject it seemed that the majority of writers agreed, first, that no nervous disease could be attributed directly to trauma, and, second, that nervous disease might follow injury or shock, either separately or more commonly associated with it. Traumatic neurasthenia, then, might be defined as a disorder of the nervous system of a functional character, attended with loss of vitality, weakness, and exhaustion of the nerve centres, the exciting cause being trauma or shock. Traumatic neurasthenia and traumatic hysteria, although frequently associated, were not absolutely identical. The disease was rarely if ever fatal *per se*, and hence its pathology was but little known. From a clinical study of the disease, it was fair to assume that the morbid anatomy of the disease was to be looked for in nutritive changes in the cell nucleus, due to vitiation of the cell protoplasm.

Etiology: The causes of traumatic neurasthenia were many and various. The character of the accident and the nature of the injury received had a decided influence on the development of the disease. Railway accidents were especially prone to be followed by this disorder, probably largely because of the suddenness of the accident and the profound impression made upon the nervous system. According to the prominence of psychical or physical shock would the symptomatology incline toward traumatic hysteria or traumatic neurasthenia. Ordinarily, the existing trauma was comparatively trifling; on the other hand, the nerve shock was great. Persons asleep at the time of the occurrence of the accident would escape much of the shock.

Symptoms: The first symptoms were loss of sleep, aching of the back and limbs, and an unusual irritability of temper. Later on the person often became moody and shunned his friends. The existence of mental exhaustion was particularly characteristic, the individual being unable to keep his attention long on any subject except upon himself and his miseries. The absence of objective symptoms made this field a particularly fertile one for lawsuits. In uncomplicated cases of traumatic neurasthenia the tendency was toward recovery.

Dr. J. Leonard Corning complimented the essayist on his elucidation of this difficult subject, and particularly on his differentiation of psychical and physical shock. Many of these persons would recover rapidly unless a lawsuit was brought; in others there was a true physical basis. In the latter class recovery would usually take place in one or two years.

Dr. William M. Leszynsky, of New York, said that the author had done a good service in showing clearly that there really were such cases as traumatic neurasthenia in existence. The majority of general practitioners were inclined to believe that these cases were all simulated. He had seen a number of cases in which men who had been previously in perfect health had developed all the symptoms enumerated in the paper. Many of these patients continued ill even after having received substantial damages at law. The prognosis was always uncertain, and could not be said to depend upon the amount of damages or the case being thrown out of court. At times even expert neurologists would be deceived in their estimate of these cases.

Dr. S. Lamson, of Jersey City, said that the essay was an exceedingly practical one, coming as it did from a surgeon who had had an extensive experience in railway surgery. It had seemed to him that the specialist in such cases as these was often prone to refine matters too much. Any practitioner was liable to be called into court to testify in these cases as a witness to the fact.

**The Progress, Problems, and Prospects in Medicine.**—Dr. John Bruyere, of Trenton, presented in this essay a number of suggestive queries regarding tuberculosis, such as the following: Why did all cold-blooded animals present immunity, while warm-blooded animals were susceptible to tuberculosis? Why was it that the Indian who lived an out-door life in the best possible climate was so much more prone to tuberculosis than the white race? Was the pneumonia resulting from tuberculosis due to the tubercle bacillus and its toxin, or to secondary infection with other germs? Why was it that free incisions into tuberculous tissue set up a healthy action in the parts? Was the bacillus of bovine tuberculosis identical with that which gave rise to tuberculosis in the human subject? Was consumption of vegetable origin, and was it due to a parasite?

**Cyclic Vomiting.**—Dr. Alexander Marcy, of Riverton, presented a communication with this title. He said that scarcely any reference was made in the

text-books to this important but rather rare affection in children. He had happened to meet with three cases among children during the past five years. One of them had been mild and the other two very severe. The first noticeable symptom was loss of appetite and usually a refusal to eat the evening meal. The tongue was slightly coated and the breath rather heavy. During the night, usually between twelve and two o'clock, the child would awaken, complain of feeling sick, and then vomit. The vomited matter consisted of the food taken the day before, accompanied with considerable mucus. This would be followed by an elevation of temperature and a profuse secretion of urine. After the stomach had been emptied of its contents the vomitus would consist of mucus, and later on would contain some blood. There were severe retching and intense thirst, and anything and everything taken into the stomach was rejected. There was a peculiar odor to the breath and the vomited matter, from which alone Dr. Marcy said he would be willing to make the diagnosis of cyclic vomiting. In a few hours the child became very restless and exhibited a curious intolerance to all bed-clothing. After continuing for perhaps forty-eight hours, with a slowly falling temperature, there would be every evidence of extreme exhaustion. Again, the temperature would rise perhaps to 105° F., and in a day or two more the physician would probably give up all hope of the patient's recovery; but it would be noticed about this time that the intervals between the vomiting were longer. The child would next become drowsy, and after a deep sleep the crisis would be passed, and the patient would make a remarkably rapid convalescence. This affection seemed to be associated with a general derangement of nutrition associated more or less definitely with deficient excretion of uric acid. Holt had suggested that it was due to an accumulation of some toxin in the system. This form of vomiting often occurred in children in whom the diet had been regulated with special care. It might occur at any age, but was chiefly observed in early infancy and childhood. The speaker said that he was convinced that it was due to influences beyond the stomach, but just what these influences were he was unable to say. He believed these cases were examples of auto-intoxication due to ptomain poisoning, the ptomains being formed in the intestinal canal and absorbed from there. A study of the urine before the attack showed that it was always scanty and highly acid, and contained an increased quantity of indican. Subsequently the quantity of indican diminished, and the quantity of acetone increased. The pathological examination of a fatal case had shown marked inflammatory change in the mucosa, particularly at the pylorus and in the duodenum and ileum. The gall bladder was distended with bile. The spleen, pancreas, and kidneys were unaltered. Microscopical examination of the mucosa of the stomach and intestine showed almost complete necrosis, with fatty infiltration of the liver and slight parenchymatous change in the spleen and kidneys. It was evident, therefore, that there had been a very severe grade of gastro-intestinal inflammation. Shortly before death, in another fatal case, the urine had contained many renal casts and some blood. The disease was self-limited, and tended ordinarily toward recovery. Treatment was absolutely useless; even rectal alimentation was of doubtful utility, but should be employed. Hypodermic injections of morphine and atropine relieved pain and exerted some control over the vomiting. Digitalis, strychnine, and saline solution sustained the heart, and seemed to be indicated. They should be employed quite early in the disease.

Dr. Henry Chavanne, of Salem, referred briefly to four cases which he had treated successfully by administering exceedingly small doses of codeine, aconite, and veratrum viride. Half a grain of codeine, one one-hundredth of a grain of aconite, and a small quantity of veratrum had been dissolved in a glass of water, and the patients given doses of half to one teaspoonful of this mixture at short intervals until they became drowsy. After a prolonged sleep, recovery rapidly ensued. The pathological lesions described in the paper were probably nothing more than the effect on the tissues produced by continued vomiting.

Dr. Charles P. Noble, of Philadelphia, said that his experience, as an abdominal surgeon, with cases of post-operative intestinal toxæmia would lead him to suggest the advisability, in these cases of cyclic vomiting, of frequently washing out the intestinal canal. Such treatment would sustain the heart at the same time that it favored elimination.

Dr. Marcy said that the very simplicity of the treatment employed by Dr. Chavanne seemed to him the best evidence of its inutility. The very moment that the toxin had been eliminated the child would naturally go to sleep, and might not awaken for twelve or even twenty-four hours. When the first symptoms appeared the toxin had already got into the blood. He had tried irrigation of the bowel with saline solution, but it had proved as futile as the many other methods of treatment that he had employed. He believed that the only way to get the toxin out of the system was by transfusion, and he proposed to try this plan in the next case coming to him for treatment.

Dr. Philhower indorsed the treatment employed by Dr. Chavanne, and expressed the belief that it had saved the lives of those children.

**Two Cæsarean Sections on the Same Patient.**—Dr. John C. McCoy, of Paterson, reported this interesting case. The first labor had been long and difficult, requiring embryotomy, and resulting in a complete laceration of the perineum into the rectum. About one year later Cæsarean section had been performed, the family insisting that every effort should be made to save the life of the child, and that, if possible, none of the genital organs should be sacrificed. The woman had recovered rapidly from the operation and had left the hospital on the twenty-first day. Six months later there had been a slight discharge from the lower end of the abdominal wound, and examination had shown the presence of an abdominal fistula leading into the cavity of the uterus. Seven months later there had been a bloody discharge from this sinus, which had been coincident with the reappearance of menstruation. This discharge had recurred with each menstruation, had had a brighter color than the blood issuing from the vagina, and had appeared about one day earlier than the latter. Operation had been advised, but declined. A few months after this she had again become pregnant. At the supposed termination of gestation, there being no signs of labor, the old incision had been opened. There were extensive adhesions between the uterus and the parietal peritoneum, making this second laparotomy practically extraperitoneal. The cicatricial tissue about the sinus was dissected out, and the tissues were then united by suture. Both ovaries and tubes were removed at this operation, after a child, weighing seven and three-quarters pounds with the placenta, had been delivered. The whole operation had been completed within an hour. The mother had recovered nicely from the operation, but, on going home, both she and the child had contracted diphtheria. The child had died, and the mother had made a tedious convalescence. The child delivered by the first Cæsarean section was still alive. The Cæsarean section in this case had proved to be much less severe than the embryotomy.

Dr. Stillwell, in discussing this paper, referred to a young dwarf, the internal conjugate diameter of

whose pelvis measured only one and three-quarters inches. She had been three months pregnant when first seen by him. Dr. E. B. Cragin, of New York, had performed Cæsarean section on her at the proper time, and had removed the ovaries and tubes because of the small diameter of the pelvis and the impossibility, in such a pelvis, of securing proper drainage. The child weighed at birth four pounds nine ounces, and was alive and well at the present time.

Dr. P. A. Harris, of Paterson, said that when, in a young girl of sixteen years, the cervix had fully dilated and the membranes had broken, and still the head of the fœtus could not be made to engage, if the child was living Cæsarean section was indicated, whether the pelvis measured two and one-quarter or three and one-half inches. But in the same girl, four years later, the conditions might be so changed as to make such an operation wholly unnecessary; hence the necessity for testing each case during labor and also for leaving the ovaries and tubes in such young girls.

Dr. Charles P. Noble, of Philadelphia, said that he had been concerned in two cases in which Cæsarean section had been performed the second time on the same patient. He did not see why a woman should be denied the privileges of maternity because unable to have a baby in the natural way. It was a thoroughly settled fact, that Cæsarean section, if done under favorable circumstances and by a competent operator, was attended by a mortality of not more than two or three per cent. Of course, if the woman elected to have further conception prevented, he would operate in accordance with that wish. For this purpose, the best method was to remove only the Fallopian tubes. He would not elect to do the Porro operation unless there was a tumor present or the woman had become infected or was likely to; the Sänger operation seemed to him preferable. The second, third, or fourth Cæsarean section on the same patient was not more fatal than the first one.

**Progress in Surgery.**—Dr. Dowling Benjamin, of Camden, presented this report. He said that there had been no great discovery in surgery since that of the Roentgen rays. Progress during the past few years had consisted largely in improvements in technique.

Sterilization of Catgut and Hands: The method of sterilizing catgut which Dr. Benjamin recommended as the best consisted in soaking the catgut for twenty-four hours in oil of gaultheria or oil of juniper, and then preserving it in strong alcohol. Regarding sterilization of the surgeon's hands, he said that out of one hundred and twenty-five cases one observer had failed to secure sterilization with formaldehyde in seventy-five cases, but another investigator had reported success with this method in seventy-five per cent. of his cases.

Murphy Button: This device, the speaker said, still held its own; he looked upon it as the quickest and safest method yet discovered for uniting the intestine. The progress of the button could be noted with the aid of the *x*-rays.

Foreign Bodies in the Œsophagus: The ingenious method devised by Dr. E. J. Ill, of Newark, of locating foreign bodies in the œsophagus and stomach by means of a wax-coated bougie constituted a distinct advance in the surgery of this region. Dr. H. A. Kelly had lately made use of such a coated bougie for detecting calculi in the ureter.

**Progress in Diseases of the Nose and Throat.**—Dr. T. W. Corwin presented this report. He said that the Asch operation for deviated nasal septum seemed to have received the most favor, and it had the advantage of being applicable to the most formidable deformities. About its only disadvantage was the necessity for using general anæsthesia.

Nasal Diphtheria: Dr. Corwin said that examination with a nasal speculum in cases of nasal diphtheria would reveal adherent patches of membrane of such strongly characteristic appearance that the diagnosis of Klebs-Loeffler diphtheria in the nose could be easily made by this alone—at any rate, in each case in which he had made the diagnosis by this method it had been confirmed by the bacteriological examination. For the successful treatment of adenoids, the finger and the forceps curette were required, together with thorough and patient manipulation under full anæsthesia.

Hypertrophied Tonsils: Cases of slight hypertrophy of the tonsils were best treated by galvano-puncture; for the larger ones, Bosworth's snare was very useful, but required the injection of cocaine into the tonsil.

Epistaxis: For the control of epistaxis, the application of oil on cotton had been highly recommended. Suprarenal extract was useful in many vascular conditions, both acute and chronic, and the system did not seem to become easily habituated to its use.

**Progress in Diseases of the Eye and Ear.**—Dr. Frank C. Ard, of Plainfield, presented this report. He said that the treatment of scleritis by subconjunctival injections of a solution of mercury of strength of 1 : 1,500 had been recommended as a valuable method. A recent report from Paris had stated that protargol soluble bougies were better in lacrymal affections than nitrate of silver. Two cases of pseudomembranous conjunctivitis due to staphylococci and streptococci had been reported as having been successfully treated with Marmorek's serum. Protargol had been found decidedly inferior to silver nitrate for the treatment of gonorrhœal, granular, and catarrhal ophthalmias. Deutschmann had now done his operation for detachment of the retina one hundred and one times, and had cured twenty-eight and improved thirty-four cases. In the original operation, first published in 1895, the eyeball was opened subconjunctivally and the vitreous and retina were divided; in his present operation he also made a counter-opening. Atrophy of the optic nerve had been reported as following the administration of certain drugs. A useful method of dealing with carious bone in the tympanic cavity had been reported. It consisted in the application of a four-per-cent. solution of hydrochloric acid on cotton to the visible dead bone. It was allowed to remain there until the following day. The acid usually decalcified the bone, producing a result similar to that of curetting, while at the same time it acted as an antiseptic. Altogether seventeen hundred and fifty mastoid operations had been reported, with a mortality of about fifteen per cent. There had been a decided advance in the treatment of the cerebral complications of ear disease, particularly sinus thrombosis. Dr. Fred. Whiting, who had had an exceptionally large experience with this affection, recognized three stages, viz.: (1) One in which there was a more or less complete thrombosis, associated with moderate pyrexia, but in which the thrombus had not yet become disintegrated; (2) a stage in which the thrombus was disintegrating, characterized by sharp rigors and other evidence of sepsis; and (3) a stage in which, after complete disintegration of the thrombus, there was septic absorption. According to this authority, there should be no fatalities in the first stage, and even in the third stage there was still hope from appropriate operative treatment.

**Progress in Bacteriology.**—Dr. E. C. Baldwin, in this report, considered the diagnosis of tuberculosis, diphtheria, typhoid fever, and hydrophobia from the standpoint of the bacteriologist, and dwelt upon our knowledge of bird malaria and the part played by mosquitoes in disseminating malarial infection.

**Pleuritic Adhesions and Diseases of the Chest.**—Dr. D. H. Goodwillie, of New York, exhibited two beautifully prepared models made from the dissection

of the body of a child. The first model showed numerous pleuro-plastic adhesions, particularly to the pericardium. In the second model the lung was thrown up so as to expose the adhesions between the pleura and diaphragm, and teach in a graphic manner the influence that such adhesions must necessarily exert upon the heart. If a large surface of the pleura was affected, Dr. Goodwillie said, the respiration would be seriously disturbed, but the physician should be able to recognize these conditions of the pleura long before such an advanced stage had been reached. Physicians were too apt to cease their visits, in a case of pleurisy, just so soon as the pain had been relieved. The models were presented with the object of calling attention to the fact that there might be extensive adhesions of the pleura to the pericardium as well as to the diaphragm, and also to emphasize the importance of recognizing and appropriately treating these and similar conditions which, by interfering with normal respiration, seriously impaired the vitality of the individual.

**Circumcision—Its Moral and Physical Necessities and Advantages.**—Dr. A. W. Taylor, of Beverly, read this essay. He said that the operation of circumcision was thirty-seven hundred and ninety-seven years old, the first operation having been done on a person ninety-nine years old, and the next on his son of nineteen. The operation had evidently had its foundation in sound physiological reasons. There could be no doubt that the original divine decree had been intended as a sanitary precaution. Circumcision was the oldest of all surgical operations. Not all cases of congenital or inflammatory adhesions of the prepuce to the glans were continued to adult life, but circumcision and the removal of these adhesions contributed largely to the comfort of the individual. It was not necessary that the constriction should be complete or the prepuce narrow and long to give rise to severe nervous symptoms. The organ was exceedingly sensitive to mental or local irritation. Phimosis was responsible for a long series of formidable symptoms. The speaker was of the opinion that not infrequently marital unhappiness would be better relieved by circumcising the husband than by suing for divorce, and that a man before marrying should be examined with this operation in view should it be indicated.

**Report of the Committee on Abuse of Medical Charity.**—Dr. T. Y. Sutphen, of Newark, the chairman, presented the report. It stated that medical charity was rendered in five counties of the State, *i.e.*, Essex, Hudson, Camden, Passaic, and Mercer, and that in these over sixty thousand new patients were recorded annually. Very few were required to pay anything. In none of these counties was there an efficient system of investigation to determine the necessity for such aid. In the opinion of the committee there seemed to be no way of correcting this evil except through legislation, and the education of the public opinion through the influence of the medical profession. The committee recommended that the society should present to the legislature of New Jersey a bill which would make it unlawful to treat a patient at any dispensary a second time unless such person had a certificate signed by a person duly authorized by the district society of the county.

The report elicited a lively discussion, but while all admitted the reality of this evil, the opinion prevailed that it was inexpedient to ask for legislation at present. The committee was continued, and asked to present at the next annual meeting suggestions regarding the form which the proposed legislation should take.

**Case of Tumor of the Brain Affecting the Optic Chiasm.**—Dr. William J. Atkinson, of Paterson, reported a case of this kind. The patient had had an exceptionally good family history. There had been marked polyuria and great thirst for four years previous to the patient's coming under his observation. Examination had shown partial ptosis of the right lid and of the right internus muscle. The edges of the optic disc were somewhat blurred, and there was a marked difference in the relative size of the vessels, the veins being very much larger than the arteries. There was double vision on carrying the object to the right or above the horizontal plane. There was paresis of the third or motor oculi nerve. The urine was pale, of low specific gravity, was free from sugar, and contained a trace of albumin. The patient voided six and one-half pints of urine in twenty-four hours. The case was reported with great fulness of detail, including the autopsy record. The chief point of interest was the persistent polyuria associated with a lesion at the base of the brain.

Dr. W. M. Leszynsky said that when he had seen the patient there had been no irritative symptoms of cerebral tumor or signs of interference with the motor tract. Without examination of the visual fields no localization would have been possible.

Dr. Judson Daland, of Philadelphia, said that this case was of considerable value as apparently demonstrating the association of round-cell sarcoma of this region with polyuria. He reported a case, occurring in a boy of ten years, in which the marked polyuria had apparently resulted from cerebral disease.

**Acute Otitis Media.**—Dr. Norton L. Wilson, of Elizabeth, read this paper. He said that there existed a difference of opinion as to the best treatment to be pursued. The catarrhal form was more frequent than the purulent, and the latter class would be still less frequent if the catarrhal cases were properly treated at the beginning. The varieties of otitis media resulting from influenza were pointed out. He had known a case of acute otitis media, of so violent a type as to rupture the membrana tympani, to run its course without pain. Such cases were very rare unless they were due to tuberculosis. Particular attention should be given to inspection of the parts lying close to the short process of the malleus whenever pain in the ear was complained of. Such inspection would reveal the fact that this portion of the membrane was distinctly congested and presented a deep, dull red color, showing a high degree of venous engorgement of the underlying structure. This hyperæmia did not extend below the posterior fold. It was in these early stages that the family physician saw these cases, and he should adopt measures to control the inflammation promptly. His own practice was to put the patient to bed and administer calomel in small doses until copious evacuations of the bowels were obtained. At the same time, he applied leeches in front of the tragus and endeavored to relieve the pain by irrigating the ear with hot water through a return-tube fitting closely into the meatus. In this way the irrigation could be carried on without removing the instrument from the ear. Many otologists objected to this method on the ground that moist heat favored suppuration, but his own experience had convinced him that the venous stasis was thereby relieved, instead of increased as the others maintained. In his practice he had been able to dispense with the use of "ear drops" of any kind since using the continuous hot-water irrigations. In these cases he never neglected the toilet of the nose. If the nasal mucous membrane was much swollen, he dropped into the nose a watery solution of the extract of the suprarenal gland. A soothing application was a solution of menthol dissolved in one of the coal-tar oils. He sometimes gave acetanilid, but was loath to give opiates, particularly until after the bowel had been freely evacuated. The above treatment should be carried out until the indications were present for

puncture of the drum membrane. By this conservative method he was sure that rupture of the drum membrane had been frequently averted, and hence he did not favor the routine practice of early resort to puncture of the membrane. If after a delay of twenty-four or thirty-six hours the pain was intense and increasing, and the drum membrane was bulging, he did not hesitate to puncture it. Before doing so it was his custom to endeavor to anæsthetize the membrane by instilling a warm six-per-cent. solution of cocaine. In incising the membrane a cataract knife was more useful than the ordinary spear-shaped knife specially made for this purpose. An effort should be made to divide the swollen tissues in the superior and middle portions of the ear. The hemorrhage was encouraged by irrigation with warm sterilized water, provided the discharge was purulent. As a rule, the serious cases terminated favorably within a week. The suppurative cases usually ran for two or three weeks.

Dr. Frank C. Ard favored the use of a ten or fifteen per cent. solution of cocaine prior to puncture of the membrane, allowing about ten minutes to elapse before making the incision. He also was a thorough believer in the use of the hot douche.

Dr. C. Kenneck said that in almost every instance he had succeeded in relieving the earache by instilling about ten drops of a strong solution of atropine (four grains to the ounce) and repeating it within an hour. He also had great faith in applying to the ear a hot baked potato in a stocking.

Dr. D. H. Goodwillie was of the opinion that very many cases of otitis originated in nasal disease; hence his practice was to give attention to relieving the nasal stenosis and cleansing the passages.

Dr. Judson Daland said that in certain cases of typhoid fever, in which there was a secondary rise of temperature, it would be found that there was an acute suppurative otitis media. In some instances the delirium and the so-called insanity were to be attributed to the same cause.

Dr. Wilson, in closing, said that if a six-per-cent. solution of cocaine would not anæsthetize the drumhead, a fifteen-per-cent. solution would not, and this was because the epithelium in such cases was intact. In his experience, atropine had more often failed than succeeded.

**Does Medicine Cure?**—Dr. Henry Chavanne, of Salem, read a humorous and suggestive paper with this title. He stated that early in his professional career he had been quite scientific. At one time, when remonstrating with a druggist for counter-prescribing, the latter had replied: "Doctor, you are too scientific. What people want is relief, and they want it right away. When the sequelæ come, then they will come to you." Since that time, the speaker said, he had been more enthusiastic over the use of medicine.

*Third Day—Thursday, June 29th.*

**Nephrectomy and Resection of the Ureter.**—Dr. E. J. Ill, of Newark, reported a case of tuberculosis of the kidney in which he had done this operation. After having extirpated the kidney through an incision in the loin and ligated the ureter in continuity, he had made a second incision through the linea semilunaris just above the pubes, pushed the peritoneum back until the iliac vessels had been exposed, dissected out the ureter, and completed its removal through an incision in the posterior wall of the vagina.

**Officers Elected.**—The remainder of the session was devoted to the transaction of routine business. The following officers were elected: *President*, Dr. Luther M. Halsey, of Williamstown; *First Vice-President*, Dr. William Pierson, of Orange; *Second Vice-President*, Dr. John D. McGill, of Jersey City; *Third Vice-President*, Dr. E. L. B. Godfrey, of Camden; *Corresponding Secretary*, Dr. E. W. Hedges, of Plainfield; *Recording Secretary*, Dr. W. J. Chandler, of South Orange; *Treasurer*, Dr. Archibald Mercer, of Newark.

**Place of Meeting.**—The next meeting will be held at Atlantic City, June 4, 1900.

## Surgical Suggestions.

**To Prevent Surgical Shock.** — If you expect to get much shock from an operation, remember that here again prevention is better than cure. Use a little morphine before operating to quiet the nervous system; keep the patient very warm before and during the operation, as well as after operation. Small doses of strychnine before the operation are also indicated.—*North Carolina Medical Journal*, March.

**A Method for the Sterilization of Urethral Instruments.**— Dr. Gerald Dalton describes in *The Lancet* (February 18, 1899) a simple apparatus for sterilizing urethral instruments. It is an oblong metal box, eighteen inches long, four inches wide, and four inches in depth, provided with two sliding, open wire-work trays, upon which the instruments are laid, while underneath is a layer of lint, stretched on another wire tray, the tray to be just off the floor of box. On the lint is sprinkled a thin layer of powdered paraform or trioxymethylene, which slowly gives off vapor, effectually sterilizing in twenty-four hours the instruments in the upper two trays (Guyon). The box is closed by a metal cap fitting closely. Formol may be used instead of its derivative, but is liable to injure soft instruments. Instruments may be left in the box for any length of time without harm. It is as well to immerse the instruments for a few minutes in a boric-acid solution just before use, since, if they are taken directly from the sterilizer and passed into the urethra, they may cause some little stinging sensation. All instruments should be thoroughly washed in soap and water and dried before being placed in the sterilizing box, and the box itself should be kept at a temperature not below 56° F.

**Surgical Hints.**—(1) Whenever you suspect the presence of severe internal injuries, never allow the patient to get up and go about very soon. It is always of great importance to secure as long a period of rest and quiet as possible.

(2) In bony ankylosis there is no pain in voluntary efforts of motion; in fibrous ankylosis there is. In the first, if the physician tries passive motion, the pain is only where his fingers compress the part; in the latter there is pain all over the joint.

(3) In any of the forms of chronic superficial inflammation of the tongue it is unwise to use caustics. These agents commonly increase the irritation, such cases showing marked tendencies toward malignant development, and must always be carefully watched.

(4) Never treat a severe burn on the flexor part of the joint without applying an appropriate splint to prevent as much as possible the occurrence of contraction. The need of skin grafting is especially great in all burns where the result of contraction would be deformity or disability.

(5) In dislocations at the shoulder-joint, a rapid test consists in applying a straight ruler to the acromion process of the scapula and the external condyle of the humerus. If it touches both joints at the same time there is dislocation, for normally the deltoid prominence prevents this.

(6) In young people complaining of pains and swell-

ing in the neighborhood of a joint, especially about the long bones, examine very carefully to see whether the trouble is in the joint. If it affects the bone itself, the chances are in favor of malignant rather than arthritic trouble. If malignant the development is usually rapid. There are usually glandular enlargements. The tumor is uneven in density, the superficial veins increase fast, and the pain is more or less constant and of a shooting nature.

(7) To remove blood from the hands use soap only after washing in plain water.

(8) Sweeping and dusting should not be done just before an operation. Cover possible dust collections with wet sheets.

(9) In amputations loose muscles retract more than those attached to bone. Hence sever the loose muscles first, so that the ends may be of equal length.

(10) If the wound is clean leave it alone; the best surgeons apply but one dressing.

(11) Wash out the nasal passages before giving ether to subjects of catarrh.

(12) Scalp wounds, if large, should be stitched, but stitches should be removed early.

(13) In felon find out if the bone is attacked. Amputation of the terminal phalanx is best delayed until the septic process is overcome.

(14) In frost bite do not amputate early. Use thorough asepsis, and maintain the patient's strength.—*International Journal of Surgery.*

**Vaginal Cæsarean Section.**—The *Medical Review* (March 25th) credits Dührssen, of Berlin, with formulating the following indications for the operation: (1) Abnormalities of the cervix and lower uterine segment, which render dilatation impossible or difficult (carcinoma, rigidity, stenosis, sacculation). (2) A dangerous condition of the mother, that renders speedy delivery necessary. (3) Dangerous conditions that will lead to speedy death.

**The Gibney Treatment of Sprained Ankle.**—Dr. J. Howe Adams (*The Railway Surgeon*, January 10, 1899) describes the method as follows: Ordinary adhesive plaster is cut into strips one-half inch wide and in two lengths, about twelve and eighteen inches long. Taking up the foot as soon as the patient is seen and the diagnosis is made, one of the longer strips is placed around the ankle, parallel to the sole of the foot, beginning in front of the big toe, carrying the strip around the ankle just above the contour of the sole, and bringing the end back across the top of the foot to about the point where the strip began. It is well to place, overlapping this initial strip, a parallel piece. In placing these strips, care should be taken to draw them as tightly as possible, so that the bandage will fit snugly when finished. Having applied these strips, another strip should be placed at right angles to them, which makes it run parallel to the back of the leg. One of the shorter strips should be selected for this purpose. Beginning well behind and above the ankle, this strip should be carried down around the sole of the foot and brought up on the other side of the leg, making, as it were, a stirrup for the foot. The same precaution of applying the strip as closely as possible should be observed. Now the strips should be applied alternately, first one around the ankle parallel to the sole, then one parallel to the back of the leg, each one overlapping the one previously applied, running in the same direction, to some extent. This procedure should be kept up until the entire foot is enclosed in a boot of adhesive plaster, having the appearance of a shoe in which part of the heel has been cut away. This dressing, properly applied, has a very neat appearance; over it can now be placed an ordinary roller bandage, which will serve to help the adhesive plaster to "take hold." The patient should now be cautioned to be careful for a day or two, when he can begin to move around rather freely. This dressing can be kept on until the pain and swelling have subsided, when it can be removed, and no especial further treatment is indicated. If the dressing becomes loose, it can be re-enforced by additional strips placed over the loose ones.

**Epilepsy.**—Operate in: (1) Focal or partial epilepsy (Jacksonian) when the convulsions are limited to a particular group; (2) in epilepsy, general or partial, when the condition is followed, or was apparently caused by, traumatic depression; (3) in many cases in which partial epilepsy has followed a head injury, even if there are no external indications, but in each signal symptoms indicate the brain area affected.—McCosh.

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## Correspondence.

### OUR LONDON LETTER.

(From our Special Correspondent.)

MORE ABOUT PREVENTIVE INOCULATION—EPIDEMIOLOGICAL SOCIETY—SEWER VENTILATORS—MEETING AT COLLEGE OF SURGEONS—ANTI-MALARIAL INOCULATION OF TROOPS—HOSPITAL SUNDAY FUND—CANCER SOCIETY—DEATHS OF SIR WILLIAM FLOWER AND SIR ALEXANDER ARMSTRONG.

London, July 7, 1899.

I said so much in my last letter on Mr. Haffkine's account of his preventive inoculations, as described to the Royal Society, that I had not space to dwell upon the short discussion which followed. However, it is not too late to report some of the remarks which were made and which seem of particular interest.

Professor Wright, being on the plague commission, could not anticipate their report; he acknowledged Mr. Haffkine's experiments and results to be brilliant, but he felt it far more important to ascertain whether inoculations would be applicable to other infectious diseases than whether a few lives had been saved. But no doubt Mr. Haffkine had done much good, and if any harm had ever been done the good greatly overbalanced it.

Surgeon-General Harvey, director-general of the Indian medical service, pointed out the great difference between laboratory research at home and a campaign against an epidemic in India. In spite of all, the results were remarkable, and he had investigated some of the outbreaks himself and testified to Mr. Haffkine's accuracy. He could find no source of error, and the difference in favor of the inoculated was about ninety per cent. At Habli about eighty thousand inoculations were made, and only about a dozen abscesses occurred. He had himself been inoculated. The effects were certainly unpleasant, but he could carry on his work. The fever passed in a day or two, but the arm remained painful for a week.

Prof. W. J. Simpson had been associated with Mr. Haffkine in his earlier work on cholera, and testified to his great caution and unbiassed character. So great was it that it often looked as if Mr. Haffkine was the greatest antagonist of the result, criticising every fact from the most adverse point of view. Wherever inoculations were carried out for plague or cholera when they prevailed the incidence was always less on the inoculated.

Lord Lister (president) said if any one before that meeting had doubts, those doubts must be removed by the address. As to further progress, of course, that

was as possible in this as in other cases, and some requirements might perhaps be necessary, in which case he was convinced that the best man in the world to attend to them was Mr. Haffkine himself.

The annual dinner of the Epidemiological Society was notable for an important speech made by Mr. Haffkine in responding to the toast of the visitors, which was proposed by Dr. Payne, who said he had no doubt of the efficacy and great benefit of inoculation against plague. The speech was quite out of the usual lines of such performances. Mr. Haffkine expressed his pleasure at seeing London epidemiologists collected into an organized body of scientific investigators, and made a strong plea for a general organization of studies. He said scientific problems necessitate the maintenance of not less strict and combined a service of trained workers than a military organization or any complicated enterprise. The scientist from whom useful teaching is expected must be able to know every collaborator with whom he is sharing part of the work; must be aware of his special aptitudes and abilities; must appreciate his observations and reports; must, as it were, look through the instruments and eyes of his staff, listen through their ears, so as to reckon at any moment on their loyal co-operation in the common task of research. It is only by transforming a scientific school into one collective investigator that important knowledge can be gathered and the study of such calamities as epidemics can yield useful truth for the benefit of mankind.

Mr. Lithiby, assistant secretary of the local government board, also spoke. He said epidemiologists should not lose heart because their work is not at once taken advantage of by the legislature, as an act of Parliament is the resultant of many complex forces. They have the consolation that what they think today the local government board will not improbably think to-morrow.

Dr. Church, president of the Royal College of Physicians, gave the toast of the Epidemiological Society, the oldest of our societies dealing with public-health questions, founded in 1850, the first president being Dr. Benjamin Guy Babington, who has been followed by a long line of distinguished successors. Dr. Church gave an interesting epitome of the society's history, and said it differed from others in its cosmopolitan character, having correspondents in all parts of the world and dealing with the behavior of diseases in communities rather than with clinical and pathological studies or with administrative questions. He added that whatever progress might be made in bacteriology the need for checking the results of laboratory experiments by epidemiological observations must still remain.

Sir Charles A. Cameron, C.B., M.D., lately brought before the Royal Institute of Architects a new method of ventilating sewers which he has successfully tried in Dublin. In the course of his remarks he pointed out that in Bristol the sewers are not ventilated at all, but discharge their contents into a tidal river in which the tide prevents the outflow for a considerable part of the day. Yet Bristol enjoys remarkable immunity from typhoid fever, and the health of the men engaged to cleanse the sewers does not suffer. Nevertheless, Sir C. A. Cameron is in favor of ventilating street sewers, though he objects to the narrow, confined openings which are so common. He therefore determined to rely on the property of diffusion of gases through porous materials. He uses cylinders composed of porcelain clay two parts and sulphate of lime one part; they are made eighteen inches in height and six in diameter, and four or six are put in the crown of the sewer in a chamber like that of ordinary ventilators. The cylinders allow gas to pass through them, but filter off microbes. The pressure in the sewer and outside is therefore kept equal. Rain is carried from the chamber through a small siphon. The "fresh-air inlets" of house drains are often foul-air outlets. Mica valves and other appliances have all heretofore failed. A porous plate after the same suggestion would no doubt be better. Sir C. A. Cameron's invention has been efficacious in Dublin. The diffusing ventilators have been examined, after being two years in use, and found quite clean.

The meeting at the College of Surgeons came off on Wednesday. It was not so fully attended as when there was more agitation; still a respectable audience was present. Sir W. MacCormac presided, and hoped no contentious questions would be raised, but that the proceedings be confined to the proposal to obtain power to elect honorary fellows and members, which was not contentious. Such a hope was, of course, vain. While thousands of members are deprived of their rights by the few hundred fellows, they will be foolish not to oppose any new charter which does not restore some at least of those rights.

Mr. Joseph Smith, president of the Society of Members, accordingly moved a resolution that no charter should be obtained without a provision for the representation of members on the council. This was eventually carried by 40 against 8.

A second resolution was proposed requesting the council to postpone action in the matter until they had considered a memorial now in course of signature. This, after a somewhat sharp discussion and sarcastic references to the council, was carried by 38 to 1. That single dissentient represents a good deal of obstruction, and the reform which must sooner or later be accomplished may yet be delayed. The members should, as I said, oppose any charter that does not satisfy them. They may have to adopt very strong measures to obtain their rights.

Some of the troops proceeding to Natal have been offered the opportunity of being inoculated against malaria. A large proportion volunteered, and the operation has been performed at Aldershot. The immediate effect is headache, pains in the limbs, and febrile symptoms. The reaction lasts only twenty-four to thirty-six hours. This will be a crucial test of the process.

The hospital Sunday-fund collection has so far reached the sum of £47,000.

The newly formed Cancer Society is sending Dr. Arthur C. Duffy to your side to report on what you are doing, and especially as to the work of the Buffalo Laboratory.

About a year ago I reported the retirement of Sir William Flower, K.C.B., F.R.S., from the directorship of the Natural History Museum. This learned scientist died on Saturday. He was born at Stratford-on-Avon in 1831. After entering the profession he served in the Crimean War as assistant surgeon, receiving the medal with four clasps. Afterward he was elected on the surgical staff of the Middlesex Hospital. In 1862 he was appointed curator of the Hunterian Museum and professor of physiology at the Royal College of Surgeons. In 1884 he became director of the Natural History Museum, where he accomplished a great work and remodelled the classification in accordance with modern science. It has been well said that no worthier successor of Owen could have been found.

The death is also announced of Sir Alexander Armstrong, K.C.B., the arctic explorer. He was born in 1822, educated for the profession at the universities of Dublin and Edinburgh, joined the naval medical service in 1842, and served in various parts of the world. He was surgeon on H. M. S. *Investigator* during the discovery of the northwest passage by McClure in 1853–54. His well-known book on this expedition appeared in 1857.

## FRACTURE OF THE PATELLA.

To the Editor of the Medical Record.

Sir: In your issue of June 24th, I read an interesting leader on "Fracture of the Patella." There is a first and essential difference to be made between simple subcutaneous fracture and fracture complicated with wounds and opening of the joint, which circumstances change at once the whole aspect of a case. I am much surprised to find no mention made of a most effective method of treatment, viz., by massage, which certainly is not known and practised as it deserves to be.

F. Semeleder, M.D.

Cordoba, State of Vera Cruz, Mexico, July 2, 1899.

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## LETTER FROM NEW ZEALAND.

(From our Special Correspondent.)

MEASLES—INCREASE OF CANCER—QUACKS.

Auckland, New Zealand, June 11, 1899.

We are suffering in this colony from an epidemic of measles, which presents some peculiarities. The eruption is in most cases much darker than that which we see in England, and in adults is often hemorrhagic. It lasts much longer—four or five days at the least, and I have frequently seen cases in which it was distinctly visible, although fading, a fortnight after its first appearance. It certainly attacks many persons twice, and the number of cases in which this occurs is very considerable. A person who has had measles when a child at home seems in no way protected against another attack here. The fever is high and the eruption very copious, but it is not a fatal disease any more than in England; in fact, if I may trust to my own recollections, there are not so many cases of serious chest complications as at home. The climate is so much milder here that lung complications are not so likely to occur. But post-nasal catarrh, involving the fauces, soft palate, and tonsils, is invariably present. Personally, in twenty-six years' practice here I have never seen a fatal case, but I dare to say that an energetic young doctor, by active treatment of a very young infant, might have to give a death certificate. And the sorrowing parents would publish an advertisement thanking Dr. —— and Nurse —— for their "devoted care and attention to the dear sufferer."

In my last letter I mentioned the rapid increase of cancer both in the colony and at home. With this increase we have the usual concomitant of an increase in cancer curers. One who has made a great name and earns a very large income treats his cases with a caustic, which he says is of vegetable origin, but which acts exactly like zinc chloride. By its action, accompanied by days and nights of frightful pain, he removes many cancerous tumors which could far more easily and quite painlessly have been removed by the knife. But there are some which the boldest operator would have hesitated to touch, and which he has treated successfully—so far. One of the thyroid gland, which had, I believe, been pronounced incurable, was quite successfully removed a few months ago. I should say that he gives some internal medicine, but also relies very much on hypnotic suggestion. There is no doubt that the latter may do much good, if only by removing the gloom and depression which every sufferer from cancer experiences. But when I saw a number of these tumors removed by this process and interviewed some of the patients, I could not help thinking that perhaps regular surgeons are to blame for not consulting the wishes of their patients more, as to the method of treatment. That the dread of the knife is most unreasonable and foolish in these days of anæsthetics and antisepsis is quite true; but if the patient chooses to submit to a week's torture by caustics and will not submit to the knife, why should we refuse to use caustics, throwing the whole responsibility on the patient? Why should we drive these people into the hands of quacks? The person I am alluding to gets from twenty to one hundred guineas ($100 to $500) for his cases, and if the patent dies, as of course some do, he can always say that he was consulted too late.

Writing of quacks, will you pardon me for hinting that if you would keep your quacks for home consumption, the Australasian colonies would be infinitely obliged to you? We grow our own article, and quite enough of it. There is no restriction here on any one, qualified or not, practising medicine, surgery, or midwifery. The only disabilities of unqualified men are: (1) that they must not call themselves physicians, surgeons, doctors of medicine, or by any other title implying that they are duly qualified practitioners; (2) that they cannot give any certificate of death, or for any purpose available in a court of law; (3) that they cannot recover any fees for their attendance or operations. But they can call themselves "professor of eclectic medicine" (by the way, what is eclectic medicine?), or homœopathists, or hydropathists, or hypnotists, or cancer specialists, or anything else they like, provided they do not profess to be qualified. One advertised himself as a non-registered medical practitioner.

I came by chance on a medical directory of the United States, and was astonished to find that in the great majority of your States, if not in all, unqualified men are not allowed to practise, and even a man qualified in another State has to get registered in the State in which he wishes to practise. It seems extraordinary that in a democratic country like yours such an infringement on liberty should be allowed. Our people would not hear of such a law. It would never reach a second reading. And I speak not only of the "benighted old country," as your orators call it, "crouching under the feet of a despot," but of all the self-governing colonies. It would be impossible to pass such a law in the Australasian colonies. Whether anything of the kind exists in Canada I do not know, but if it does we can only suppose that close proximity to the despotic democracies of the United States has enfeebled the love of freedom which reigns supreme in every Briton's heart!

Seriously, there is a very strange jealousy and dislike to the medical profession among all the working classes here. It is only in the last resort that they will apply to "a doctor," and then only when all other means have failed. Their first remedy is domestic medicine; then the advice of friends; then patent medicines; then the chemist (or drug-store, as I think you call it), and last of all the qualified practitioner. I cannot fathom the cause of this intense distrust and dislike which undoubtedly exists in the colonies. Partly, no doubt, it is a feeling of class prejudice—the dislike of the uneducated to the educated. Besides this, however, there is undoubtedly a deep-rooted distrust of the profession as a profession, and this is shown often in a very curious and offensive way. In answer to the usual question, "What is the matter with you?" the patient (invariably a man) puts on a cunning leer and replies, "Ah! that's what I want you to tell me, doctor!" Some will actually refuse to give their symptoms, and expect one to diagnose their complaint by physical signs only. To these people I have only one reply—to tell them that I do not sit there to answer conundrums, and if they have nothing more to say, they had better go at once. This brings them to their senses.

Another symptom is the frequency with which one is consulted by persons already under the care of an-

other practitioner, generally of a lodge or club doctor. Why they should elect and re-elect for years men in whom they have so little confidence is a standing puzzle. But such is Demos. All these people want, in general, is a diagnosis. They want to be satisfied as to what is really the matter with them, and this satisfaction, it appears from their account, the club doctor rarely gives them. Hence the abundance of quacks, who always give the disease a name and positively assure the patient of a cure.

## Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending July 22, 1899:

| | Cases. | Deaths. |
|---|---|---|
| Tuberculosis | 163 | 154 |
| Typhoid fever | 30 | 8 |
| Scarlet fever | 93 | 10 |
| Measles | 203 | 13 |
| Diphtheria | 161 | 42 |
| Laryngeal diphtheria (croup) | 4 | 6 |
| Cerebro-spinal meningitis | 0 | 8 |
| Chicken-pox | 9 | 0 |
| Smallpox | 3 | 0 |

**Poisonous Pantries.**—It is very desirable that the conditions under which food may become poisonous should receive more practical consideration than they do. Dr. W. W. Stainthorpe, of England, has called attention to some glaring defects in the location of food storerooms, which are worthy of attention. In house construction the position of the pantry is too often treated as of minor importance. In some houses the space under the stairs or some equally unsuitable and inadequately lighted and ventilated place is thought good enough for the purpose. In a great number the pantry is a small offshoot from the house, the ceiling, floor, and walls often being damp, owing to faulty construction; in some of these matters are rendered worse by the water taps being placed therein without any provision being made for carrying away the droppings from the tap or overflow from vessels into which the water is run. Frequently the closet—ordinary or pail—is only a few feet from the pantry window. One of the most frequent entries in his inspection note-book is "defective yard pavement," permitting of soakage of filth into the soil underneath. Not only is the soil thus rendered a good breeding-ground for pathogenic microbes, it also supplies those conditions requisite for increased virulence.

**Gelatin as a Preventive of Hemorrhage in Surgery.**—Before every surgical operation Dr. Jaboulay (*La Sem. Méd.*, 1898, No. 56) injects into the field of operation 200 gm. of decinormal salt solution containing 5 gm. of gelatin. In this manner he was able to operate on a sarcoma of the breast and a case of goitre without the necessity of ligating any vessels or of applying clamps.

**A Woman's Work among the Moqui Indians.**—Smallpox is raging to such an extent among the Moqui Indians in Arizona that fears are expressed lest the whole tribe be swept away. It is reported that the disease has gained so firm a footing and is making such rapid headway that it seems there is strong foundation for these pessimistic views. The agency physician is Dr. Mary McKee, and she, together with Mr. Shoemaker, a farmer sent by the United States government to instruct the Indians in agriculture, have been using their utmost endeavors to stem the disease. All the known methods to attain this object Miss McKee has attempted to put into force, such as vaccination, fumigation, and destroying the effects of the sick and those who have died. As may well be believed, the task has been no light one. The Indians believe that disease proceeds from an evil spirit, and their only way of fighting against it is by means of incantations and other ceremonies. Miss McKee, however, is a woman of spirit, and by the consent of the agent of the Moqui Indians commanded the entire tribe to be assembled for vaccination. To vaccination the Indians made no objection; in fact, regarded the matter as somewhat of a joke. The fumigation gave rise to a certain amount of dissatisfaction, but the climax was reached when Miss McKee seized and committed to the flames the clothes, bedding, and household furniture of those who had died of smallpox. The relatives who hoped to inherit the property regarded this as a most high-handed procedure and protested in the most vigorous terms. Nevertheless, the plucky lady, nothing daunted, pursued the even tenor of her way, nor did she desist until two of the seven villages had undergone a thorough fumigation and cleansing and every one of the dwellers therein had been vaccinated. The other villages got wind of these proceedings, and when Dr. McKee and Mr. Shoemaker came to the third to commence operations they were met by the head chief, who refused to admit them. The chief remarked that his people were willing to take any medicine that Dr. McKee prescribed, but when it came to burning their furniture and scratching the arms of their women and children they objected most strongly. Explanations as to the benefits of vaccination, disinfection, etc., were useless, and the warning that unless she were allowed to take these measures the entire tribe would probably die fell on deaf ears. Dr. McKee was determined to have her way and to save the stubborn Indians in spite of themselves. Accordingly she induced the agent to telegraph to Washington for troops to exert a little moral suasion. Secretary Alger gave orders that a company should be immediately dispatched from Fort Wingate to protect Dr. McKee and to see that her will was carried out. The government intends that Dr. McKee shall vaccinate every Moqui if it takes all the soldiers in the country to enforce her will. We wonder what the antivaccinationists will say. This is indeed compulsory vaccination.

**The Treatment of Wounded Filipinos.**—Prof. Dean C. Worcester, of the Philippine Commission, has been investigating into the truth of the charges of barbarity on the part of American soldiers which have been widely disseminated throughout this country by means of letters from soldiers in the field. Mr. Worcester, after a careful probing of the matter, finds that these charges are "in the main grossly exaggerated and in some cases absolutely false." Referring to the story of a man who is reported to have said that "we bombarded a place called Malabon and then went in and killed every native we met—men, women, and children," Professor Worcester states that not only were no natives massacred, but that Malabon was never even bombarded, for the very excellent reason that it was abandoned by the natives before the approach of the United States troops. He goes on to say: "I have personally inspected all battlefields from Caloocan to Malolos. Once I was on the field before the wounded were removed, and repeatedly I was there before the dead were buried. I never saw a single woman or child wounded or dead. I have found, on the contrary, wounded rebels whose injuries had been dressed by American surgeons before the firing had ceased, and who had also been provided with food and

water. The insurgent wounded were brought to Manila and tended in our hospitals or even taken care of in private hospitals, the government paying all expenses. When cured the wounded can hardly be driven away. All the prisoners are well fed and treated, and many say that they are glad they have had the experience and learned to know the Americans. The released prisoners and the recovered wounded are our best missionaries, but many of them are unwilling to return to their own people." This emphatic testimony given by an unbiassed and upright witness should go far to counteract the false evidence which is for an unworthy purpose published in some American papers. The fact should also not be lost sight of that the publication in our journals of alleged atrocities are copied by the insurgent press, tending to prolong the war and to cause further misery and distress. It is not the insurgents alone that suffer, but, in the words of Professor Worcester, they cost good American lives.

**Self-Supporting Dispensary and District Nursing-Association in Great Britain.**—In a paper on this subject, Dr. Jamieson B. Hurry began by a discussion of the normal sickness rate of the population in order to prove how common a contingency is disabling sickness. Statistics show that during the working years of life, from the age of fifteen to sixty-five, each person is on an average thrown out of work by sickness for nine days per annum; but if the population is considered as a whole, women and children being included, Dr. Billings estimates that about four hundred out of every thousand individuals are taken ill or meet with accidents each year. It is of great importance that the industrial classes should make some provision for this contingency, since otherwise their limited resources are easily crippled by the expenses of medical attendance and nursing, if these have to be paid for at the usual rates. Even one serious illness or accident in a family may absorb the earnings of many weeks or months. The difficulty is not satisfactorily solved by hospitals, free dispensaries, free nursing-institutions, or poor-law relief; nor should the self-respecting workingman be willing to resort to charitable institutions for the treatment of the ordinary ailments that occur in every family. The only satisfactory solution is to be found in the adoption of the principles of mutual assurance. Such principles as are embodied in provident dispensaries and clubs have for many years been recognized as far as medical attendance is concerned, but the time has come when they should also be adopted in the provision of nursing, since there is no more reason why skilled service should be given in the form of free nursing than in the form of free medical attendance. Nursing is frequently as important as medical attendance. Indeed, the doctor and the nurse should be regarded as twin forces, each of which apart from the other loses half its value. Dr. Hurry's scheme is an organization for supplying the wage-earning classes with both professional and nursing attendance on a co-operative, self-supporting basis. The principle upon which the model institution is established is one of mutual assurance. Each member, by paying a small sum regularly and in advance, is guaranteed professional attendance, medicines, nursing-care, and the use of nursing-appliances when sick, subject to the rules of the institution.—*Medical Magazine.*

**Angina Pectoris.**—Sir William Broadbent (*Medical Age*, March 10th) is credited with the following remarks: "Angina pectoris is one of the cardiac affections which may be closely simulated by the effects of dilatation or functional derangement of the stomach. The first question to be put in the case of cardiac pain of anginoid character is as to the circumstances under which it comes on—whether as an effect of exertion or during repose. The earlier attacks of true angina are practically always provoked by exertion, while spurious angina is specially liable to come on during repose. It is true that angina when established may come on in the night, or may be induced by the act of undressing and the contact of cold sheets, but there will be a history of attacks during exertion. Pain and a sense of suffocation may also be brought on by the pressure of the abdominal viscera reinforcing that of a distended stomach on lying down, whether the heart is diseased or sound, and a weak heart may actually be brought to a standstill in this way. Speaking generally, angina pectoris in a woman is always spurious, and the more minute and protracted and eloquent the description of the pain, the more certain may one be of the conclusion. Again, when palpitation or irregular action of the heart, or intermission of the pulse, or pain in the cardiac region, or a sense of oppression follows certain meals at a given interval, or comes on at a certain hour during the night, there need be little hesitation in attributing the disturbance, whatever it may be, to indigestion in one or other of its forms. Nightmare from indigestion is not a bad imitation of true angina. So, also, if any cardiac symptom or pain can be walked off, it may usually be set down as functional, and due to some outside disturbing influence or to nervous irritability. The same may generally be said of intermission of the pulse, of which the patient is conscious, and, though with less confidence, of irregularity of the heart's action—if the patient feels it the irregularity is usually temporary, and not the effect of organic disease."

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ending July 22, 1899:

SMALLPOX—UNITED STATES.

| | | Cases. | Deaths. |
|---|---|---|---|
| California, Oakland | July 3d to 24th | 2 | 1 |
| Connecticut, Stamford | July | 1 | |
| Dist. of Columbia, Washington | July 12. | 2 * | |
| Georgia, Montgomery County | July 15th | 9 | |
| Kentucky, Louisville | July 6th to 13th | 1 | |
| Maryland, Baltimore | July 8th to 15th | 1 | |
| Massachusetts, Boston | July 8th to 15th | 1 | |
| Texas, Sabine Pass | July 8th to 15th | 2 | |
| Washington, Elmira | July 3d | 9 | |
| Spokane | July 1st to 8th | 3 | |
| Tacoma | July 1st to 8th | - | |

* Discharged.

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Austria-Hungary, Budapest | June 18th to July 2d | 2 | 1 |
| Vienna | June 24th to July 1st | .. | 1 |
| Belgium, Antwerp | June 17th to July 1st | 4 | 1 |
| Ghent | June 27th to July 1st | 1 | |
| Ecuador, Guayaquil | June 3d to 10th | 1 | |
| England, London | June 27th to July 1st | 2 | |
| Egypt, Cairo | June 3d to 17th | .. | 4 |
| France, Nantes | June 1st to 30th | 1 | |
| Greece, Athens | June 27th to July 1st | 22 | 9 |
| India, Bombay | June 13th to 29th | .. | 6 |
| Calcutta | June 3d to 10th | .. | 1 |
| Mexico, Mexico | July 2d to 9th | 7 | 9 |
| Nuevo Laredo | July 1st to 8th | .. | 2 |
| Russia, Moscow | June 10th to 17th | 16 | 8 |
| Odessa | June 17th to 24th | .. | 2 |
| St. Petersburg | June 17th to July 1st | 34 | 7 |
| Warsaw | June 3d to 24th | .. | 4 |
| Straits Settlements, Singapore | May 1st to June 10th | .. | 17 |
| Turkey, Constantinople | July 9th to 19th | .. | 4 |

YELLOW FEVER.

| | | | |
|---|---|---|---|
| Brazil, Bahia | June 17th to July 1st | 65 | 31 |
| Colombia, Barranquilla | June 10th to 24th | 2 | 2 |
| Panama | June 27th to July 10th | 17 | 7 |
| Costa Rica, Punta Arenas | July 10th | Reported. | |
| Cuba, Santiago | June 10th to 17th | 6 | 1 |
| Mexico, Mexico | July 6th to 13th | .. | 26 |
| Vera Cruz | June 1st to July 6th | 527 | 215 |
| San Salvador, San Salvador | July 1st | 1 * | |

* From Guatemala.

CHOLERA.

| | | | |
|---|---|---|---|
| India, Bombay | June 13th to 20th | .. | 1 |
| Calcutta | June 3d to 10th | .. | 10 |
| Madras | June 3d to 9th | .. | 1 |

PLAGUE.

| | | | |
|---|---|---|---|
| Africa, French Ivory Coast | June 7th | .. | 300 |
| Egypt, Alexandria | June 20th | 42 * | |
| India, Bombay | June 13th to 20th | .. | 53 |
| Calcutta | June 3d to 10th | .. | 21 |
| Japan, Formosa, Tamsui | May 3d to 24th | 318 | 225 |
| Persia, Bushire | May 3d to 24th | Present. | |
| Strait Settlements, Penang | January 1st to June 9th | 20 | 17 |
| Singapore | May 1st to 31st | .. | 4 |

* To date.

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 56, No. 6.
Whole No. 1500.

NEW YORK, AUGUST 5, 1899.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### THE QUESTION OF GRUELS IN THE FEEDING OF INFANTS.[1]

BY HENRY DWIGHT CHAPIN, M.D.,

NEW YORK.

DURING the past decade, the advances that have been made in substitute infant feeding have been marked and satisfactory. Every factor in connection with the production and handling of cow's milk has been carefully studied and regulated. The outcome has been that the greatest attention to strict cleanliness is insisted upon, and, if milk must be kept beyond a certain length of time, pasteurization or sterilization to prevent deleterious changes is employed. After having procured a clean milk, attention has been directed to attaining a right percentage of the various ingredients of cow's milk in reference to women's milk. The careful studies made in this direction have been a great step in advance, and enable us to administer to the infant a proper proportion of food principles necessary to its satisfactory growth and agreeable to its digestion. It has seemed to the writer, however, that with this advance we are in danger of neglecting some things that long clinical experience has proven to be good. The principal trouble lies in the difficulty many infants have in digesting the casein of cows' milk, even when reduced to the same proportion as in women's milk. We are told by physiological chemists that the casein of different animals is not the same, and that the casein[2] of cows' milk differs chemically from that of women's milk. We know that it differs physically, as the proportion of casein coagulated by acids is greater in cows' milk than in women's milk, and the clot in the former case is tough and tenacious in character.

The best method of acting on the casein of cows' milk in the way of attenuating and modifying the clot is by properly diluting the milk with a decoction of the cereals. Although this has long been believed, it has been denied on good authority, so that the writer instituted a series of experiments for the purpose of further studying the question. The writer extends his thanks to Professor Graham Lusk for the use of his physiological laboratory at the University Medical College, and for his kind co-operation in the work. The following three solutions were treated with liquid rennet: (1) Plain cows' milk, 50 c.c., (2) cows' milk 25 c.c., water 25 c.c.; (3) cows' milk 25 c.c., barley-water 25 c.c.

Each tube was inverted three times and warmed to 40° C. on a water bath. Then 3 c.c. liquid rennet was added and each tube again inverted three times. The tubes were allowed to stand for ten minutes at a temperature of 40° C. Each tube was then inverted three times, and the contents were poured into large glass beakers. The following were the results: (1) Solid clot; (2) large, tough clots; (3) smaller, more flocculent clots. After standing until the clots had subsided to the bottom of the beakers, the supernatant fluid in (2) and (3) was carefully decanted to allow a more careful inspection of the clots. A mass of clot from (2) and (3) was next placed in separate test-tubes and well covered with water. Each test-tube was then inverted three times. This agitation caused the clot in (3) to break apart, but that in (2) retained its cohesiveness. These experiments were repeated several times, with the same results, with one exception. In this case, tough, stringy clots were thrown down by the rennet in the solution of barley-water and milk, and we were at a loss to account for this result so different from all the other experiments. It was finally found that, by mistake, a preparation of barley-water two days old had been used, instead of a freshly prepared solution. This barley-water was fermenting and very acid. When fresh barley-water was used, the small curds were thrown down as before. This shows the necessity of always using a freshly made gruel as a diluent of cows' milk if a favorable effect upon the curd is to be obtained. An experiment in digesting clots (2) and (3) was made as follows: Portions of each clot of similar size were placed in beakers and covered with artificial gastric juice. They were then placed in an incubator and kept at the temperature of the body for twelve hours. The contents of beaker (3) were apparently more fluid and changed by digestion than beaker (2).

The next experiments were made with a healthy dog with a gastric fistula that had been produced for the purpose. The experiments were performed on consecutive days, early in the afternoon, the dog having fasted from the previous evening.

(1) 50 c.c. milk and 50 c.c. barley-water were mixed, warmed, and given to the dog by mouth. This solution remained in the stomach for ten minutes, when the fistula was opened and the contents of the stomach were removed, consisting of 85 c.c. of changed milk with the addition of some frothy mucus. The reaction was slightly acid to litmus paper. The stomach was then washed out with distilled water, the water coming away clear. The stomach contents were placed in a glass beaker for inspection. The milk was clotted, with the curds fairly soft and flocculent.

(2) 50 c.c. milk and 50 c.c. water were mixed, warmed, and given to the dog by mouth. At the end of ten minutes the fistula was opened and 90 c.c. of semi-fluid contents were removed. The reaction was slightly acid to litmus paper, but tests showed there was no free acid in the contents removed. The stomach was washed out with distilled water. The stomach contents were placed in a glass beaker for inspection. The clots tend to separate in larger masses than in experiment (1). These experiments were repeated with essentially the same results.

(3) 50 c.c. milk and 50 c.c. barley-water were mixed, warmed, and given to the dog by mouth. This solution remained in the stomach half an hour, when the fistula was opened and the contents were removed. The reaction was very acid. The curds were fairly fine and disseminated through the mass, apparently partially digested.

[1] Read before the American Pediatric Society, June 28, 1899, at Deer Park, Maryland.

[2] "Text Book of Physiology," edited by E. A. Schäfer, LL.D., F.R.S. New York, 1898.

(4) 50 c.c. milk and 50 c.c. water were mixed, warmed, and given to the dog by mouth. The mixture remained in the stomach half an hour, when the fistula was opened and the contents were removed. The reaction was very acid. The curds were larger and collected more in masses than in experiment (3).

Besides attenuating the casein, the addition of gruels to cows' milk increases the nutritive value of the food. This is of great service in that class of cases in which bottle-fed babies show stationary or losing weight. The food for such infants may be properly prepared as far as percentages are concerned, and yet they do not thrive. This is especially seen in institution babies. A proper addition of gruels to milk will not infrequently check wasting. The large proportion of lactose, a carbohydrate, in woman's milk shows the desirability of this food principle to the growing baby. The rapid production and easy dissipation of animal heat in the very young, with active tissue metabolism, indicate the call for some of the carbohydrate series.

Various observers have called attention to the favorable effect of carbohydrates in tending to prevent the putrefaction of proteids in the bowel. Such action is doubtless due to the formation of acids in the intestine, especially in the lower segments. The presence of free acids in the bowel prevents the growth of those intestinal bacteria that thrive in an alkaline medium.

While proper theorizing is desirable in the practice of medicine, the ultimate and final decision upon any therapeutic question must rest upon clinical experience. The writer has tried all kinds of infant feeding with that hardest class of cases, bottle-fed babies in hospital and dispensary practice. By adding gruels to the milk, the best results are obtained with these babies. The theory is that the cereal will help attenuate the curd of cows' milk and aid in the nourishment of the baby; in practice, the infant is not so apt to vomit thick curds, and the tendency to a stationary or losing weight is often lessened. Jacobi, with his long clinical experience, while recognizing and utilizing all the advances in infant feeding, maintains that the use of decoctions of the cereals is of the greatest value as an addition to cows' milk. He finds that even very young infants thrive better when cows' milk is diluted with gruels than when a mere sugar solution is added. In Germany, Heubner, of Berlin, comes to the same conclusions from a wide clinical experience.[1]

The common objection advanced against this method of feeding is that a nursling should not be given starchy food in any form, as its digestive powers cannot cope with this food principle.

While large quantities of starch should be withheld in infancy, even the youngest baby can tolerate and digest a small and proper amount. According to Hammarsten,[2] ptyalin, or salivary diastase, the amylolytic ferment of the saliva, occurs in new-born infants. He also states that pancreatic diastase, which, according to Korowin and Zweifel, is not found in new-born infants and does not appear until more than one month after birth, seems, although not identical with ptyalin, to be nearly related to it. Hence a certain amount of starch can be digested by the newly born and very young infant. It may be of interest in this connection to glance at one of the more recent analyses of the amount of starch in certain cereals, in comparison with older analyses. Reference is made to a report of the United States Department of Agriculture[3], upon the carbohydrates found in wheat and maize. These important cereals are shown to contain a large variety of carbohydrates, among which the following have been quantitatively determined:

| | Per cent. |
|---|---|
| Sucrose | 0.2 to 0.70 |
| Invert sugar | None " 0.08 |
| Dextrin | 0.3 " 0.40 |
| Starch | 30.0 " 42.00 |
| Pentosans and hemicelluloses | 4.0 " 5.00 |
| Fibre | 2.0 " 2.50 |

The older analyses hold that the cereal grains contain from seventy per cent. upward of carbohydrates, although the foundation for this rests not on specific analytical determination, as in the above analysis, but on estimates "by difference." Thus the newer analysis shows a discrepancy amounting to twenty per cent. or more of the entire material between the actual amounts of carbohydrates found in the materials studied and the amounts indicated in many of the recorded analyses in which the nitrogen-free extract determined "by difference" has been regarded as wholly of carbohydrate matter. This discrepancy introduces not only important errors into the estimation of the nutritive value of foods based on the earlier analyses, but on their digestibility as well. Any disadvantage in the employment of wheat or barley flour from the starch contained in these cereals in very young infants may be easily overcome by dextrinizing the gruels. In an article upon infant feeding some years ago,[1] the writer demonstrated that the prolonged domestic heating of flour had no effect in changing starch into soluble starch and dextrin, as was then supposed. The flour ball, made by prolonged boiling of wheat flour in a bag, does not have a good effect by reason of any chemical change in the starch, but probably in consequence of some physical alteration which renders it more effective as a diluent. An easy, rapid, and simple method, within reach of all, consists in dextrinizing the gruel by the addition of diastase. Most of the commercial malt extracts are sufficiently active in diastase to produce the desired effect. The writer, however, prefers the use of diastase itself as being both speedy and efficient. It can either be produced cheaply at home or purchased at the nearest drug store. A simple decoction of diastase may be made as follows: A tablespoonful of malted barley grains, crushed, is put in a cup and enough cold water added to cover it, usually two tablespoonfuls, as the malt quickly absorbs some of the water. This is prepared in the evening and placed in the refrigerator over night. In the morning the water, looking like thin tea, is removed by a spoon or strained off, and is ready for use. About a tablespoonful of this solution can be thus procured and is very active in diastase. It is sufficient to dextrinize a pint of gruel in ten or fifteen minutes. The gruel is made as follows: A tablespoonful of wheat flour or barley flour is beaten up into a thin paste with a little cold water and then stirred in a pint of water, which is boiled for fifteen minutes. When cool enough to be tasted, a tablespoonful of the above solution or a teaspoonful of malt extract or preparation of diastase is added and the mixture stirred as further cooling takes place. The great bulk, if not all of the starch, will be thus dextrinized in about fifteen minutes. The previous boiling is for the purpose of gelatinizing the starch so that the diastase can act to advantage. The gruel is now ready to be used as a diluent of cows' milk, and can be assimilated by the youngest and weakest infant.

In average cases, and if the bowels tend to loose-

[1] A. Jacobi: "Therapeutics of Infancy and Childhood." Second edition, 1898.

[2] "Physiological Chemistry." 1897.

[3] Bulletin No. 34, Washington, 1896.

[1] "Studies in Infant Feeding," and "A Food for Infants, with Experiments, Chemical and Physiological," by Dr. Henry D. Chapin and Dr. Arnold Eiloart, New York Medical Journal, September 16, 1893.

ness, wheat or barley flour may be used. When there is constipation, oatmeal had better be employed on account of the fat it contains. According to Dietrich and König, the percentage of fat in these cereals is as follows: Barley, 2.09; wheat, 1.55; oats, 6.09. It is difficult to procure barley flour, except as it is to be purchased in the form of prepared barley by certain manufacturers. Some coffee-grinders are fine enough to make a coarse flour out of pearl barley, and a satisfactory gruel can thus be made. The barley grains themselves, however, may be used if flour is not available. A tablespoonful of barley is soaked over night in a little cold water. This water is then removed and the barley boiled for five or six hours in a pint of water, replenishing the water as it evaporates below the pint. It is then strained and ready for use. As wheat flour is procurable in every house, it is a desirable basis for making gruels. In hot weather dextrinized gruels constitute a refreshing and nourishing drink for babies when milk in every form must be temporarily abandoned. Recently some foreign observers have claimed excellent results in infant feeding by the use of what they call "malt soups." In the MEDICAL RECORD for January 14, 1899, a quotation is given from the *Deutsche medicinische Wochenschrift* (September 28, 1898) in reference to some investigations made at the Breslau University Children's Clinic. Satisfactory results were obtained with a food made of 50 gm. of wheat flour stirred into one-third of a litre of water at 50° C., and adding to this 10 c.c. of an eleven-per-cent. solution of potassium carbonate. A malt-extract mixture is then stirred into the preparation of flour and milk, and the whole cooked together. Rapid gain in weight is reported in twenty-eight infants under six months fed upon this food. It was also found to be adapted to cases of gastro-intestinal disease.

Professor Graham Lusk has narrated to the writer some experiments he made in feeding pigs two days old. To one lot he gave only cows' milk skimmed; to another, skimmed milk to which two per cent. of sugar was added; and to a third, skimmed milk with two per cent. dextrose. The first lot did not thrive; the second did fairly well, while the third grew vigorously. The explanation may be that dextrose is the normal blood sugar and hence useful to the young animal.

## ANGIONEUROTIC ŒDEMA AND ALLIED CONDITIONS; REPORT OF SEVEN CASES.[1]

BY B. ONUF (ONUFROWICZ), M.D.,

NEW YORK,

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IT is the purpose of this paper to show from the observation of seven cases seen in private practice how closely angioneurotic œdema is allied to urticaria, certain forms of erythema, and some other disorders, all of which may be considered as being due to disturbances in that part of the nervous system which presides over the vegetative functions of the organism. The following are the cases upon which the writer's conclusions are based:

CASE I.—S——, male, twenty-four years old, came to my office for treatment of a spotted, somewhat measle-like exanthema on his arms, back, and front of chest. The chest was nearly evenly red, the eyelids were œdematous, and the lips thick and swollen. There was no pain, but itching. There was strong tremor of the hands and tongue. The patient admitted the abuse of alcoholic beverages, chiefly beer. He reported that the condition described was then present for the third time. The first attack occurred three weeks previously. Each of the two preceding attacks lasted three or four hours. The condition present in this case must be called an erythema of neurotic origin combined with angioneurotic œdema of the lids and lips. The fact of the abuse of alcohol is worthy of notice.

CASE II.—Miss W——, twenty-one years of age, came under my observation September 11, 1895. She reported that five days before, after a cold bath, she was taken with pain in the entire body and extremities, chilly feelings, and headache. On the day when she called at my office two kinds of eruptions had appeared on her body; one had the character of erythema; the other, according to the description which she gave of it, must have been urticaria. Both eruptions came and went and appeared again. On examination only the erythema was found, the urticaria having disappeared. After three days she felt perfectly well, the eruptions having permanently faded. The neurotic character of the eruptions in both these cases was indicated by the rapid fluctuations, the rapid coming, disappearing, and reappearing of the single attack.

CASE III.—Adam L——, thirty-three years of age. His family history was negative regarding urticaria or similar affections. About one year ago he had two attacks of the same illness from which he is suffering now; they lasted about one week each and were separated by a free interval of four days. The present attack began two days ago. Since then the patient has had four paroxysms of the following kind, each lasting between three and five hours: First, intense itching, beginning on the head, then spreading all over the trunk and extremities. This is accompanied by an eruption, evidently of urticaria; further by a feeling of heat over the whole body, profuse perspiration, dyspnœa and oppression; but otherwise there are no unpleasant sensations within the thorax, and no cough. The eruption disappears gradually, and is followed by nausea and a burning and tearing sensation in the epigastrium which gastric symptoms last about half an hour and conclude the paroxysm. Since last night there is swelling of both hands, affecting the dorsum, palm, and the fingers which latter were at first so stiff that he could hardly move them. The lower lids and adjacent portions of the face also show œdematous swelling dating from the same time. The patient denies having eaten berries or lobster or anything unusual. For several days before the occurrence of the first paroxysm he suffered from anorexia.

Status præsens: Marked œdema of the lower lids and the adjacent portions of the face, and also œdematous cushion-like swelling of the dorsum of both hands, but without itching. There was no urticaria eruption. The tongue was coated, with a foul odor from the mouth. Anorexia was present. The abdomen was considerably bloated. Urine: specific gravity 1.030, no albumin, no sugar; temperature, 101.5° F.

The further course of the attack could not be followed, as the patient was not seen again. We had in this case paroxysms evidently of urticaria alternating with or followed by an œdematous condition of the face and hands. The urticaria paroxysms were accompanied by visceral symptoms, due possibly to an urticaria-like condition of the mucous membrane of the respiratory and gastro-intestinal tracts. The œdematous state of the lids, face, and hands can hardly be due to kidney disease. The rapid, almost sudden appearance of the œdema in full intensity, its combination with paroxysmal urticaria, its manner of distribution, involving, as it did, the lids and hands, while the feet were left free, and, finally, the absence of albuminuria, speak decidedly against the renal and

[1] Read before the Brooklyn Neurological Society, February 24, 1898.

in favor of the neurotic origin of the œdema. I would call attention to the high specific gravity of the urine found in this case.

Case IV.—Miss X——, about seventeen years of age. Her mother suffers from hysteria, having been afflicted with hysterical deafness for many years. Her father and one of the patient's brothers are subject periodically to an affection which is evidently angioneurotic œdema: when going out in cold weather, their hands become swollen, which swelling subsides soon after entering a warm room. The patient herself some years ago had a transient hemiplegia, apparently of hysterical nature. On November 15, 1897, the following notes were made: The last two months the patient has been overworked with night study. Four weeks ago she began to grow nervous and to have long crying spells. She lost her appetite, and for the last three weeks has been complaining of burning and a feeling of sand and pins in the eyes. Objectively there was only a slight catarrh of the conjunctiva, but great irritability of the latter and a tendency to lacrymation and photophobia were present. More or less simultaneously with the eye symptoms the following condition developed: Almost every morning on arising the nose and eyelids are swollen. This swelling is gone within about twenty minutes, and usually no other cutaneous manifestations appear until she goes out, when the wrists and feet begin to swell, the latter so much that the buttons break off her shoes. The swelling is preceded by itching and a feeling of heaviness and clumsiness, but these subside when the intumescence sets in. The swelling is partly circumscribed, cushion-like, and not superficial.

The part affected is at first slightly reddened, but afterward white. The wrists are swollen *in toto* but mostly on the dorsum, where the swelling is cushion-like. The feet show a cushion-like, circumscribed swelling on the dorsum, and there is an even swelling of the whole foot and of the lower part of the leg. Aside from the regions mentioned the areas most frequently involved are the lips, which become thick, the forehead, on which sometimes a bump-like intumescence appears, and the fingers, which at times show thickenings much like that from the sting of a bee. The cutaneous swellings mentioned appear several times daily, lasting about twenty minutes at a time, but the writer has never had an opportunity of seeing them personally. The other parts of the body are seldom involved. On the part of the gastro-intestinal tract the patient shows no symptoms except the loss of appetite, dyspepsia, and a coated tongue. There is no pain in the abdomen. The features characterizing this case from an etiological point of view were the exquisite general neuropathic heredity and the angioneurotic heredity in particular. The case seems to be one of typical angioneurotic œdema, accompanied by psychical symptoms, pointing to an involvement of the whole central nervous system. The visceral symptoms were confined to loss of appetite and disturbed digestion, and absolutely lacked the paroxysmal and, I may say, active character, which we would expect if they were the expression of angioneurotic changes of the viscera.

Case V.—Miss L. W——, eighteen years of age, came to my office on November 9, 1897, giving the following history: Her mother and two sisters are nervous. The younger sister, now fourteen years old, suffers from insomnia, began to menstruate before the age of twelve and menstruates very profusely every two weeks. The other sister menstruates irregularly and has urticaria frequently. The patient is also nervous and has had urticaria several times. Regarding the causation of the present illness the following points are to be considered: For some years the patient, who formerly lived in good circumstances, has had to work for her living. For the past month she has been doing millinery work in a badly lighted and badly ventilated basement. Her occupation was mostly sitting and tired her greatly. For the last three or four weeks she has noticed a foul odor from the mouth and eructations of gas. There is some constipation, but no pain in the abdomen. She was a merry, lively girl before, but in the last week or two has become languid, sad, and cries very easily. For the past week she has had swellings in different parts of the body. The face sometimes swells up in such a manner that her mother thought it was dropsical; the eyelids become puffed up, the lips grow thick. Swellings appear also on the trunk, arms, and legs; some are similar to "hives."

Status præsens: Well-nourished girl. There are slight puffiness of the lids and irregular red spots on cheeks and nose. The lips look somewhat thick. On the front of the chest are several irregular red, non-elevated patches, due to local capillary vasodilatation. On the middle of the dorsal surface of the right forearm there is a hard swelling, resembling in shape and consistence a deep bruise. It is about three inches long and two inches wide. In this area there is hard infiltration not only of the cutaneous but also of the subcutaneous tissue. There is no such abrupt, steep, local elevation of the skin, with involvement mostly of its outer layers, as we find in urticaria; the passage from the normal skin to the swollen part is, on the contrary, gradual. In other words, the infiltration resembles more a contusional or phlegmonal affection in shape and consistence. The swollen area is reddened, but shows hardly any tenderness to pressure. On the left forearm is a longitudinal reddened strip with several infiltrations and several irregular red patches without any infiltration. On rubbing the unaffected parts of the forearm some new irregular hyperæmic patches make their appearance. The fingers and hands show little swellings, some white and some red, looking like mosquito bites. In the right gluteal region, over an area of six inches in diameter, the skin is elevated as in urticaria; but this elevation is higher and irregular, comparable somewhat in shape to an accumulation of varicosities. In this area the skin is not reddened but white. The patient reports that this one area was built up by the confluence of smaller swellings. The tongue is coated. Otherwise there is nothing to be noted regarding the gastro-intestinal tract.

In the observation just reported we note an exquisite general neuropathic heredity and a vaso-neurotic family taint in particular (anomalies of menstruation in two sisters, frequent urticaria in one sister). The exciting causes seemed to have been psychical factors and chiefly fatigue from unaccustomed work done under bad hygienic conditions. Symptomatically, the patient presented a beautiful combination of typical angioneurotic œdema with fugitive maculated erythema and with a condition which resembled urticaria very closely, differing from it only by the large dimensions of the single swollen patch and by the apparent absence of itching. In this patient, too, the cutaneous manifestations were accompanied by distinct psychical alterations chiefly of the emotional order.

Case VI.—Miss X——, thirty-two years of age. The family of this patient shows a very marked neuropathic and psychopathic heredity. With regard to special predisposition to viscero-neural disease, we note severe asthma in a brother, frequent attacks of facial herpes zoster in another brother, and paroxysms of diarrhœa under the influence of fright or anxiety in the mother. The patient herself has for years been a sufferer from enteritis tubulosa or membranacea. In childhood she had whooping-cough and measles, and at the age of about fifteen years diphtheria and typhoid fever. Between the ages of sixteen and twenty years during the summers, she was very languid, apathetic,

sleepy and weak, evidently because of anæmia. After that, her general health became good except for a chronic atony of the intestines and occasional paroxysms of violent pain in the lower part of the abdomen. Whether the expulsion of muco-fibrinous cylinders, to which the patient was subject, stands in any causal connection with these paroxysms of pain, could not be made out with certainty, but it seems very probable. At the age of twenty years after her first attempt at skating, the patient suffered a swelling of the feet and legs lasting several days. This may have been her first attack of angioneurotic œdema, but an exact description is not obtainable. Several years afterward a similar attack occurred, and since then several more have followed. The patient believes that the usual cause was prolonged standing, walking, running, or the like. On January 21, 1898, the following further notes were taken: About two weeks ago peculiar attacks appeared, consisting in a feeling of warmth in a circumscribed spot on the anterior surface of the left leg and usually caused by some emotion and disappearing with the latter. The sensation was localized every time at exactly the same spot. Since yesterday circumscribed swellings on both feet have attracted attention from a feeling of heaviness (although she sometimes has had the heaviness when no swelling was present). Since four days menstruation has been present. Otherwise no apparent cause of the swelling elicitable, except that a few days ago she had severe pain in the abdomen which woke her up in the night.

Status præsens (on January 22, 1898): On the left foot, in front of the external malleolus and about midway between the latter and the dorsum tarsi, a circumscribed swelling is seen, about one to one and one-half inches in diameter, with the consistence of a lipoma and showing no pitting on pressure. The swelling is white and not hyperæmic, but the veins of the dorsum of the foot stand out prominently. The remainder of the foot shows nothing remarkable and no œdema. On the right foot are two swellings, one in front of the external malleolus, the other over the dorsum tarsi. Both swellings show the characteristics described for the left foot. On strong dorso-flexion the swelling over the dorsum tarsi becomes somewhat more tense. In this position of the foot one feels distinctly that the swelling involves the deeper tissues, namely, the subcutaneous and possibly the intertendinous, while the superficial layers show the absence of swelling by the fact that the skin can easily be thrown into folds over the affected region. Over the other swellings mentioned, the skin is also easily wrinkled. When the patient arose the next morning the swellings were still present, and of about the same intensity as the day before. The urine is light colored; specific gravity, 1.018; no albumin, no sugar. There is no intestinal disturbance at present. This case, like the previous two, offers a striking family history of neural and especially of visceral neural disease. Symptomatically the case derives interest from the combination or alternation of angioneurotic œdema with enteritis tubulosa or membranacea, and with paroxysms evidently of intestinal colic.

Case VII.—F——, male, about thirty-five years of age. No satisfactory family history was obtainable. The patient himself is greatly psychopathic, subject to attacks of uncontrollable anger, chiefly when under the influence of alcohol, in which he indulges excessively. For many years he has been a sufferer from attacks of angina pectoris, characterized by extreme precordial anxiety and oppression, a sensation as if he was going to die, feeling at the same time as if the heart ceased to beat. These attacks are brought on chiefly by mental exertion, worry, or excessive use of alcoholic beverages. The patient is subject at times to unilateral sweating and unilateral redness, chiefly of the head and chest. Attacks of angioneurotic œdema have appeared only lately. On the day of the examination he had a large bump on the forehead which had the consistence of a bruise. The skin is slightly reddened over the swollen part. The swelling is mostly subcutaneous and does not pit on pressure. It lasts several hours at a time, then disappears, and after a time reappears in another place. It is not painful and causes no itching. Examination of the heart shows the absence of any organic heart lesion.

The prominent etiological features of this case were the marked psychopathic taint and the alcoholism. Symptomatically, the chief interests lay in the fact that the patient had attacks not only of angioneurotic œdema but also of angina pectoris of a decidedly neurotic nature, and that he was at times subject to unilateral sweating and unilateral vasodilatation.

I shall now proceed to an analysis of the seven cases reported, as respects etiology, symptomatology, diagnosis, prognosis, treatment, and nosology.

**Etiology of Angioneurotic Œdema and Allied Conditions.**—We have to consider (*a*) predisposing causes and (*b*) exciting causes.

(*a*) Predisposing causes: As predisposing factors we find that a neuropathic or psychopathic taint was the most important. It was present in four of the seven patients, and in three of these there was a marked general neuropathic or psychopathic family history. In the fourth case no satisfactory family history was obtained. In the remaining three of the seven cases reported, unfortunately the taking of the family history as regards nervous and mental disease was omitted. It is important to note that the four cases in which a general psychopathic or neuropathic taint was present showed also a special predisposition to vasomotor or viscero-neurotic disease. Three of the said four cases gave a family history: the first, of angioneurotic œdema in the father and a brother; the second, of urticaria and premature menstruation in one sister and of irregular menstruation in another; the third, of asthma in one brother, of frequent facial herpes zoster in a second, and of paroxysmal diarrhœa under emotional influence in the mother; and in the fourth case the predisposition of the patient to viscero-neural disease was apparent from his attacks of exquisitely nervous angina pectoris and from his being subject to unilateral sweating and unilateral redness. In looking for other predisposing factors, we find that in two cases alcohol played an important part. One of these was the case just referred to. In the other, alcoholism was the only etiological factor ascertained; other points were not inquired into. In the remaining two of the seven cases reported, the inquiry was also incomplete, so that in these it is questionable whether predisposing causes existed or not.

(*b*) Exciting causes: As to the exciting causes we have to note that in three cases (IV., V., and VII.) psychical influences of a depressing and fatiguing nature were prominent, but all three offered also a marked general neuropathic and a special viscero-neurotic taint.

The other directly causative factors found were bodily exertion in Case VI., alcohol in Case VII., and probably also in Case I.; an acute illness (influenza?) setting in after taking a cold bath and manifested by pain in the body and extremities, chilly feelings and headache in Case II. In one case (III.) no distinct direct cause was elicitable; the marked gastro-intestinal disturbances present here seemed rather to be effect than cause. It appears thus that the most frequent causative factors in the production of the individual attacks were psychical influences.

**Symptomatology.**—In many cases of angioneurotic œdema the viscera show such marked involvement that we are fully justified in speaking not only of cuta-

neous but also of visceral manifestations of the disorder. In adherence to this conception I shall consider first the cutaneous and then the visceral manifestations of the disease.

(*a*) Cutaneous manifestations: In defining angioneurotic œdema, we may say that it is characterized by the appearance of circumscribed, apparently transudative swellings produced by disturbances of vascular innervation. My friend Dr. Joseph Frankel has kindly called my attention to an article by Heidenhain wherein this author declares that the endothelial cells of the blood-vessels possess a secretory activity. If this statement should find confirmation it would explain in a much more satisfactory manner the process producing the swellings of angioneurotic œdema than the theories of modified permeability of the blood-vessel walls.

Although the definition of angioneurotic œdema as given above would cover also urticaria, the latter disorder is usually not included under that name. The cases reported by me show, however, the intimate relationship between these two conditions and also the close affinity of certain forms of erythema to angioneurotic œdema. It will be well to consider, first, the typical forms of angioneurotic œdema; second, the forms of urticaria combined or alternating with angioneurotic œdema, and, third, certain neurotic forms of erythema combined or alternating either with angioneurotic œdema or with urticaria, or with both.

The typical angioneurotic œdema manifests itself by circumscribed swellings. These may have a rather soft, almost lipomatous consistence, or they may be rather hard, much like contusion bumps, or very soft, puffy. Usually they do not pit on pressure and are thus easily distinguished from hydropic œdema; but in certain localities, as, for instance, the eyelids, the angioneurotic swelling has so completely the character of a hydropic œdema that by the swelling alone these two conditions could not be distinguished from each other. It further appears—and I found this very well marked in one of my cases—that the angioneurotic swelling, if very extensive, produces a collateral œdema, which bears absolutely the stamp of hydropic swelling, showing also pitting on pressure. But I wish to emphasize another point, namely, that the form of the angioneurotic swelling depends greatly upon the character of the tissue involved, chiefly upon the character of the subcutaneous tissue; where the latter is dense, as, for instance, on the forehead, the angioneurotic swelling will be hard; where it is moderately dense, as for instance around the ankles, it will be softer; and, finally, where the subcutaneous tissue is very loose, as we find it under the eyelids and over the dorsum of the hand, the swelling will be very soft and puffy and will bear close resemblance to hydropic œdema. In this regard the variations are quite similar to those of phlegmon in various localities.

Here it will be appropriate to remark that the difference between angioneurotic œdema and common urticaria lies chiefly in the fact that in angioneurotic œdema the subcutaneous tissue is much involved and the epidermis is free or almost so, while in urticaria the condition is the reverse, the most superficial layers of the skin being those mostly affected. If the angioneurotic swellings are extensive they may have some resemblance to myxœdema, yet they are mostly so circumscribed that a mistake can hardly be made. As to the color of the angioneurotic swellings, they are either slightly red or perfectly white, paler even than the surrounding normal tissue. So much for the typical angioneurotic œdema. Only three of the seven cases reported presented this disorder in its pure type. In all the other cases the types were mixed.

A mixture of angioneurotic œdema with urticaria alone was present in Case III. of our series. The patient had several paroxysms accompanied by cutaneous eruptions which according to his description must have been urticaria; but at the examination only angioneurotic swellings were found on the face and hands—the urticaria eruption had disappeared.

Erythematous conditions combined with urticaria or angioneurotic œdema, or with both, were found in three of the cases: In Case V. the erythema appeared in the form of irregular, red, not elevated patches, produced mainly by capillary vaso-dilatation. In Case I. it had the character of a spotted, somewhat measles-like exanthema on the arms and back, while the front of the chest was almost evenly red, evidently by confluence of the single patches. In Case II. detailed notes of the form of the erythema were unfortunately not taken.

All three cases had one thing in common—the fugitive and paroxysmal character of the erythema. The close affinity with urticaria was shown in Case II., in which urticaria and erythema were present at the same time. On the other hand, Case I. showed an exquisite combination of angioneurotic œdema in the face with erythema on the arms, back, and chest. And, finally, Case V. presented a combination of all three conditions, if we are allowed to consider the large superficial swelling found in the gluteal region as a giant form of urticaria; and, indeed, the description agrees well with this view.

It seems to me that this giant urticaria demonstrates in a convincing manner the close affinity between angioneurotic œdema and urticaria. It has in common with urticaria the topography of the lesion, occupying, as it does, the most superficial strata of the skin and causing thus an abrupt elevation of the latter. On the other hand the large extent of the swelling is much more in conformity with angioneurotic œdema.

All three affections, angioneurotic œdema, urticaria, and what we may call neurotic fugitive erythema, have in comomn the circumscribed character (although sometimes a confluence takes place), their usually sudden, paroxysmal coming and going and reappearing, and their causation by disturbances of vascular innervation.

We have now to consider the (*b*) visceral manifestations of the three conditions described. Here we should distinguish between passive and active manifestations or alterations. By passive manifestations I wish to designate those more secondary visceral, but chiefly gastro-intestinal symptoms, which accompanied the disease in some cases, and which absolutely lacked a paroxysmal character. These symptoms were anorexia, dyspepsia, and constipation, which were marked in Cases IV. and V. of our series. By active visceral manifestations, I understand active, that is to say positive, symptoms of a distinctly paroxysmal character accompanying the cutaneous manifestations or alternating with them. These were very distinct in Case III., in which the visceral paroxysms were characterized by a sensation of pressure in the chest and dyspnœa, followed by nausea and by a burning and tearing pain in the region of the stomach. In Case VI. there were very marked symptoms consisting in paroxysms of violent colic-like pain in the lower part of the abdomen, and in the expulsion from the intestine of muco-fibrinous cylinders representing, as it were, casts of the intestinal canal. In other words the patient suffered from the disorder known as enteritis tubulosa or membranacea. It is very important to note that one and the same patient suffered both from attacks of angioneurotic œdema and from attacks of enteritis tubulosa. This being the case, it is very suggestive to assume that the enteritis tubulosa or membranacea is an intestinal expression of a disorder similar to that which in the skin or subcutaneous tissue we know under the names of angioneurotic œdema and urticaria.

Regarding further symptoms of angioneurotic œdema we recall the marked psychical alterations which accompanied the disease in Cases IV. and V. An examination of the urine unfortunately was made only in two cases. In none of these was there albuminuria or glycosuria. In one of these the specific gravity of the urine was unusually high, but in this case there was some fever.

**Differential Diagnosis.**—Under this caption I wish to discuss only the differential diagnosis of angioneurotic œdema, since that of urticaria and the fugitive neurotic erythema should not cause any difficulty. In making the differential diagnosis of angioneurotic œdema the following conditions will have to be thought of: (1) Mechanical local œdema due to some local disease; (2) hydropic œdema; (3) the white œdema of hysteria; (4) the blue œdema; (5) Myxœdema; (6) insect bites or the like, (7) erythema nodosum.

(1) Mechanical local œdema due to some local disease: Certain lesions, such as aneurism, tumor, glandular swellings, thrombosis, or the like, may by pressure or in other ways produce a local venous stasis, and this stasis may result in a circumscribed local œdema which may be very difficult to distinguish from an angioneurotic swelling. Therefore, in making the diagnosis of angioneurotic œdema such local lesions ought to be carefully excluded. Of course the great variability of the clinical picture in angioneurotic œdema will go a great way toward confirming the diagnosis if the latter condition is present. We must keep in mind also that angioneurotic swellings are usually painless.

(2) Hydropic œdema: As a rule the angioneurotic swellings are so circumscribed that they can hardly be mistaken for hydropic œdema. But in some parts, such as the eyelids, the swelling may so closely resemble that of dropsy that its nature does not give us any diagnostic clew. In such cases, however, the distribution of other swellings will be of great help. If, for instance, the hands are swollen while the ankles are free, this will speak against dropsy and in favor of angioneurotic œdema. The points that must further guide us are the paroxysmal character, the rapid coming and going of the swellings in angioneurotic œdema, the absence of conditions (kidney disease, heart disease, anæmia) that may give rise to dropsy, and the fact that in case of dropsy the swellings are apt to decrease in the morning, which is not the case in angioneurotic œdema.

(3) White œdema of hysteria: In this affection the swellings are usually not circumscribed, as in angioneurotic œdema, but diffuse, evenly distributed, so that, if they affect the thigh for instance, this thigh is enlarged *in toto* and not in certain places only. Moreover, the white œdema of hysteria is frequently associated with hysterical motor or sensory paralysis or contracture of the affected limb, and other stigmata of hysteria will be found. But we must not forget that an hysterical patient may become affected with typical angioneurotic œdema.

(4) Blue œdema: This disorder, considered formerly as characteristic of hysteria, has lately been found also in other and especially organic diseases, for instance syringomyelia. The following considerations will facilitate the differential diagnosis:

(*a*) In all cases of blue œdema the latter has been preceded and accompanied by paralysis, paresis, or contracture of the limb involved.

(*b*) In the majority of cases the blue œdema involves only one limb, and it always occupies its extremity.

(*c*) The swelling of blue œdema is, as a rule, not circumscribed, but diffusely distributed over the part involved.

(*d*) The part affected with blue œdema shows a bluish or violet discoloration, and, in all reported cases except two, presented a local lowering of the temperature of several degrees Celsius, as compared with the normal side.

(*e*) In cases of the blue œdema of hysteria, hysterical stigmata will be found.

(5) Myxœdema: The angioneurotic swelling, if extensive, might occasionally bear some resemblance to myxœdema. The fact alone, however, that in the latter disease the condition is stationary will establish the differential diagnosis, since in angioneurotic œdema the swelling jumps from one place to the other.

(6) Insect bites: A sting of a bee or the like may sometimes look like angioneurotic œdema, but usually the region of the entrance of the poison is well marked in these cases, thus rendering recognition easy. In case of angioneurotic œdema the appearance of new swellings without visible cause will establish the diagnosis.

(7) Erythema nodosum: Although the nodes characterizing this affection may have very much the shape and consistence of angioneurotic swellings, the purple discoloration of these nodes, followed as it is by the color changes which we find in bruises, makes it almost impossible to mistake one condition for the other.

**Prognosis and Treatment.** The limited number of cases seen by me does not permit any positive conclusions as to the prognosis of the disease. It can be said only that in two of my cases of typical angioneurotic œdema, and in Case II., which was a combination of erythema with urticaria, the recovery from the attack could be directly traced. In the other four cases the course of the attack could not be followed to the end, as the patients were not kept under observation; but probably in all these cases recovery from the attack took place.

Collins has collected seventy-one cases of angioneurotic œdema from the literature, and from such a number more definite conclusions are of course warranted. It would appear then from this collection that the single attack of angioneurotic œdema leads usually to recovery in a few hours or days, and that it does not endanger life, except when the swelling affects the mucous membranes, especially those of the larynx and pharynx, where it may lead to suffocation. As to the liability to the recurrence of attacks, there was recurrence in three of my cases, while the four other patients were apparently suffering from the disease for the first time when they came under my observation, and whether other attacks have followed since could not be learned. Collins mentions that the disease may occur but once in a lifetime, but such assertion can, of course, be made only regarding cases which have been observed until death.

Regarding the treatment of the disease, my experience has been limited, owing to the fact that the majority of the patients were not under observation a sufficient length of time to show a result of therapeutic procedures. In Cases II. and V., recovery followed, although the treatment was rather negative. In case IV., in which an overtaxing of the mind seemed to be the principal cause, the installation of mental rest soon led to disappearance of the symptoms. When alcohol plays an important etiological part, as it did in Cases I. and VII. of our series, the removal of such a distinct cause will presumably be attended by success. On the whole, it would seem that in most cases a treatment directed toward a general strengthening and tranquillization of the nervous system would have the best chance of success.

In future observations more attention will have to be paid to the general condition, the presence of a rheumatic or lithæmic diathesis, of toxic or autotoxic influences, etc. A careful examination of the urine in

every case would be desirable. All these factors will, of course, influence the treatment to be pursued.

**Concluding Remarks.**—The nosological position of angioneurotic œdema is best defined by showing its close affinity with certain other diseases. The cases reported demonstrate convincingly this affinity with urticaria and the fugitive neurotic erythema. But there is apparently also a great resemblance to the so-called enteritis tubulosa or membranacea, except that here secretory innervation appears to be mainly disturbed, while in angioneurotic œdema the alteration affects chiefly vascular innervation. If we consider further the tendency to coexistence with angioneurotic œdema of nervous angina pectoris, anomalies of menstruation, or other disturbances, whether of vascular or of viscero-motor or of secretory innervation, either in the same individual or in his family, the following conclusion suggests itself:

Certain individuals are especially predisposed to disease of that division of the nervous system which presides over the vegetative functions of the organism. This special predisposition may be only individual or it may be hereditary. In either case it may extend over several vegetative functions or over one in particular. Thus, one patient may show predisposition to disorders of vascular innervation only; in another patient, if he suffers from asthma for instance, viscero-motor innervation may be exclusively disturbed; or—and of this our Case VII. is a good example—several vegetative functions of the nervous system, such as vascular, cardiac, and secretory innervation, may be involved in the same patient. In some cases finally the predisposition mentioned might produce the symptom complex known as Basedow's disease.

Be it mentioned in conclusion that what I have severally called viscero-neurotic taint, the predisposition to disorders of the vegetative functions of the nervous system, is frequently associated with a general neuropathic or psychopathic taint.

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## REFLEX COUGH.[1]

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Like the poor, the cough is always with us. The infant of a day old coughs, as does the aged person whose life is almost run. Its varieties are many, its causes as various. Confronted as we are during our whole life history as physicians with this phenomenon, it might be thought that its diagnosis and treatment would have become one of the certainties of medicine. Alas, there are no certainties in medicine! So the patient who has tried various remedies at the hands of many physicians, and whose respiratory tract has been many times examined without finding the cause of the cough, is perhaps as a last resort sent to the nose and throat specialist in the hope that perhaps these organs will reveal the hidden cause of the cough. His history is taken, and the examination is made, beginning at the nose and ending at the lungs. Often one is rewarded by finding in the upper air tract sufficient that is pathological to account for the cough. Of almost daily occurrence is the cough of nasal origin, from enlarged turbinates, a deviated septum, a spur pressing on the turbinates, or a general hypertrophic condition of all the erectile structures; the cough from an elongated uvula, the cough of granular pharyngitis, the cough from hypertrophy of the pharyngeal and lingual tonsil (this latter one of the most frequent causes of tickling, teasing cough), and the cough of laryngeal origin. These are the cases in which results are frequently brilliant, and the cough of weeks, months, or even years quickly disappears; the patients sing our praises and help increase our practice.

There are many patients, however, for whose cough, after careful examination of the respiratory tract, no cause has been found; these are the coughs properly termed reflex, as no demonstrable lesion is found in the air tract from nose to terminal air vesicles. The term reflex cough includes all coughs extra-respiratory in origin, which are due directly or indirectly to irritation of the fibres of the pneumogastric nerve, whether peripheral or central. The term nervous cough is often applied to the coughs of central origin. Included in the term reflex are the coughs of pressure origin, as from aneurism, enlarged thyroid, and new growths outside of the larynx and trachea. Cough of nasal origin is in a sense not reflex, since the nose is a part of the respiratory tract, yet as it is not supplied by the pneumogastric but communicates with it through the vasodilator nerves from the superior cervical ganglion via the spheno-palatine ganglion of the sympathetic, it seems to me proper to call nasal coughs reflex within the meaning of my definition.

I except coughs resulting from the irritation of mouth breathing consequent upon nasal and naso-pharyngeal obstruction, since they are hardly to be classed as true reflexes. The whole subject of reflexes is still imperfectly understood, and theory seems more prominent than fact in our explanations of their occurrence. They seem as a rule due to peripheral irritation, though of central origin as well. The irritation passes along sensory fibres to the point of explosion in regions supplied by some other nerve, and when there is no direct communication travels via the sympathetic or some other ganglia. This accounts for the distant nature of some of the cough-producing reflexes. These reflexes have been known for many years, as Müller in his "Physiology" of 1843 wrote that irritation of any mucous membrane in the body could give rise to a respiratory reflex. In later years the whole subject has been studied with more care, and J. N. Mackenzie, Hack, Semon, Yearsley, and others have written upon it. It is at once evident that the pneumogastric nerve, with its wide distribution to vital organs and centres which it controls directly or indirectly, is the key-note of the subject and explains how manifold are the possible causes of reflex cough.

Superficially the pneumogastric nerve arises by eight or ten filaments from the lateral tract immediately behind the olivary body and below the glosso-pharyngeal; deeply it may be traced through the fasciculi of the medulla to terminate in a gray nucleus near the floor of the fourth ventricle. Its first branch, the auricular, arises from the ganglion of the root, receives a connecting filament from the petrous ganglion of the glosso-pharyngeal, passes through a narrow canal in the substance of the temporal bone, crossing on its way the Fallopian aqueduct, and is connected with the facial by ascending and descending branches. Emerging from the bone in the interval between the mastoid process and the external auditory canal, it ends by supplying the integument on the posterior surface of the ear. In connection with the great auricular with which it communicates, and the auriculo-temporal, it supplies the meatus, external canal, and integument of the ear. The pharyngeal branches supply the mucous membrane of the pharynx, communicating with the pharyngeal plexus of the sympathetic and with the glosso-pharyngeal.

[1] Read before the Eastern Section of the American Laryngological, Rhinological, and Otological Society, at its annual meeting, held in Washington, D. C., January 28, 1899.

The superior laryngeal branch is the nerve of sensation of the larynx, with motor fibres to the cricothyroid muscle. It supplies the mucous membrane of the interior of the larynx, base of the tongue, and ary-epiglottic fold, and communicates with the spinal accessory. The recurrent nerve supplies the other muscles of the larynx, has œsophageal, tracheal, and cardiac branches, and cardiac filaments communicating with the sympathetic. On account of the variation in its origin on the two sides and its relations to great vessels, the recurrent is especially liable to reflex disturbances and pressure symptoms. There are anterior and posterior pulmonary, cervical, and thoracic cardiac branches, forming plexuses and communicating with the third and fourth sympathetic ganglia. The œsophageal branches form plexuses with the pulmonary, while the gastric branches, the terminal ones, communicate with the sympathetic and with the hepatic plexus (condensed from Gray).

The phenomenon which we call cough is due to forcible expiration against a closed glottis. When a person prepares to cough not only are the vocal cords approximated but the margins of the ventricles of Morgagni are brought forcibly together, the whole forming a barrier to the exit of air until they are separated by the upward draught from the trachea. Any secretion which is readily detachable is at the same time brought up into the mouth and expelled. The cough is due to an irritation at some point which sets in motion through its afferent sensory fibres the explosive mechanism of the pneumogastric. This irritant may be in the respiratory tract or without, acting reflexly by irritation of the pneumogastric fibres.

The diagnostic points as to reflex and nervous cough should be pretty clearly in mind, since we are never forgiven for calling a cough reflex or nervous if it is afterward proven to have been otherwise. An absolute line of demarcation between organic respiratory and reflex coughs is impossible, since a cough which to-day might be labelled reflex may later be found to have its seat in the respiratory tract; the physical signs at the time of examination not having been sufficient for diagnosis. In the larynx small undiscovered ulcerations may produce a cough simulating nervous cough. The cough irritant is referred below the larynx, and pressure at this point will excite coughing when laryngoscopic examination shows no apparent change from normal. It is entirely possible to have a reflex cough engrafted on to real pathological conditions, or to have healed conditions eventuate in a reflex cough. Schrötter cites an instance in which there was a small laryngeal neoplasm; before removal there was no cough, after removal and complete healing a persistent cough appeared. Competent laryngologists could not find the site of the removed tumor, yet the cough persisted and was referred to the larynx.

Reflex and nervous cough is characterized by some or all of the following: Sudden appearance; rhythmical character; free intervals when no signs of cough are present, expectoration absent or slight in amount; no fever or marked constitutional disturbance; may continue for years or stop at any time, or eventuate in other symptoms, may come at regular intervals; stops when person's attention is fully occupied; is most marked when the patient is under observation; if stopped for a time begins with an explosion; is usually absent at night, always if purely nervous; absence of physical signs in respiratory tract; cough apparently a useless one, does not accomplish anything; patient complains of usual symptoms of catarrhal cough in the respiratory tract; its tone is various, sometimes hacking, bellowing, shrill, croupy, metallic, at other times hoarse from insufficient cord tension. This latter is an imperfect cough, and according to Professor Gardner is somewhat distinctive of thoracic tumors or aneurism pressing upon the recurrent laryngeal nerve. Its chief features are hoarseness and imperfect explosion; it is a noisy, not infrequently harsh, brassy cough.

With all the foregoing in mind, the diagnosis is frequently difficult. Especial care is to be taken that the early stage of severe affections, as neoplasms, aneurisms, and the like, be not confounded with purely nervous cough: though a reflex cough, it may be the earliest symptom of serious trouble. Newman, before the British Medical Association, July, 1898, stated that the early symptoms of aneurism or malignant disease were often referred by the patient to the throat and nowhere else.

The points from which reflex irritations eventuating in cough come are very various:

Those of central origin: While the central origin of nervous cough has never been proven, it is at least highly probable. The dorso-lateral portion of the root of the pneumogastric has been thought to be the seat of the changes giving rise to the phenomena. In this group are the coughs of laryngismus stridulus of children and adults, hysteria, chorea, tabes, epilepsy, and neurasthenia. I do not know that the average physician regards laryngismus stridulus (false croup) as a reflex phenomenon, yet such it is, and I have placed it among those of central origin. Various irritations excite the reflex. Combined with the irritation, whether of rickets, an overloaded stomach, or what not, there is always a hyper-excitability of the central nervous system. Gottstein calls it a pure neurosis, and Semon says it may arise from pressure on one recurrent, since in the child the glottis is so small that spasm of one cord may produce sufficient narrowing of the glottis to cause dyspnœa. Much more frequently the cause lies in direct or reflex irritation of the cortical centres. When one reflects upon the excitable nature of the young child's nervous system, and recalls that the attack usually occurs at night, often after a day's hard play, an overfilled stomach, or something of the kind, the occurrence of attacks of laryngismus stridulus is not difficult to understand. They seem to me to be on a par with the night terrors of children.

In adults, glottic spasm is most commonly due to hysteria. An example of this is seen in the following case:

Miss M. H——, aged fifteen years, large for her age; family history somewhat neurotic; seen by me on February 10, 1897, with history of three months' cough of the following character: at intervals varying somewhat, but about once a minute, at the time I saw her, she made with expiration a peculiar sound, nearer a cough than anything else, yet hardly a cough. It sounded more like the bleating of a sheep than anything else—"nah-am-ung." I was able to get a laryngoscopic examination during the paroxysm, and found the glottis almost closed, due to spasmodic contraction of the adductors rather than to paralysis of the abductors. There was no expectoration and the general health was unimpaired; control by the will was slight, and the cough never occurred during sleep. Treatment at the hands of the physician who referred her to me for examination was without avail. At the end of a year and a half the cough gradually disappeared, but hysterical manifestations still remain.

Another case probably of pure nervous cough (central origin) is the following:

D. B——, Hebrew, tailor, aged sixteen years, has a persistent hacking cough appearing at regular intervals and lasting a few seconds, one of the apparently useless coughs without physical signs, expectoration, or constitutional symptoms. Careful examination by several competent observers revealed nothing in the respiratory tract. In the left subclavian region an oc-

casional but not at all constant bruit was heard. The cough was not that of aneurism, nor could any sign of aneurism be found; it seemed to me to be of central origin. Remedies of various kinds were used without avail. This is one of the cases which was not wholly clear. If not a neurosis, I have so far failed to find the cause. It may possibly be an anæmic cough, for I imagine there is frequently some relationship between anæmia and hysteria.

Ebstein relates the case of an hysterical girl in whom the slightest irritation of any kind, sensible or emotional, produced coughing of the severest intensity.

The following case is one of paroxysmal reflex cough of usual severity:

Mrs. C. G——, wife of an army officer, somewhat neurotic in temperament, several times pregnant. When living in Baltimore some time previous to 1878, she had some kind of a benign tumor (painful, probably a fibroma or fibro-neuroma) removed from the region of the right shoulder-blade; for some reason the removal was not complete, and considerable pain in the region of the cicatrix remained, for which morphine in considerable doses was required. She removed to Detroit, where a paroxysmal cough appeared; this came at regular intervals of four hours during the daytime, beginning early in the morning. The cough was of terrific violence and had three explosions with each attack, separated by a few seconds' interval. At this time the cicatrix was supposed to be the exciting cause by involvement of the spinal accessory and reflexly the pneumogastric. She visited the Baltimore surgeon, who wished to operate again on the shoulder, but this she declined having done. From 1878 to 1884 she was seen by many physicians in Philadelphia, Baltimore, Washington, and Buffalo, without relief. In 1884 the cough disappeared, but in 1890 it returned in full force, and early in 1891 she came under my observation. The paroxysms were then perfectly regular as to time, coming at six, ten, two, six, and ten o'clock. There was a slight prodromal stage, then the paroxysm of coughing, lasting about five minutes, loud enough to be heard half a block away, and sounding somewhat as though a lot of furniture was being broken with a loud crash; the whole followed by a period of relaxation and weakness of perhaps ten minutes' duration. She was then entirely free from cough until the four-hour interval reappeared. There was no expectoration, but slight increase in pulse and no constitutional symptoms of any account were noted. If the patient was awake in the night, the cough would sometimes occur, never when she was asleep. The four-hour interval was absolute as to time; turning the clock back and efforts to fool her in this respect were without avail. Finding that chloroform to complete anæsthesia in the prodromal stage prevented the attack, and if continued for two or three consecutive times some of the subsequent attacks failed to appear, she suggested that I give her chloroform two days before each attack. To be sure of this she paid me in advance. I gave her chloroform at the prodromal period for ten consecutive times, and the cough ceased. This was on the 10th and 11th of May, 1891. She was under my observation for two and one-half years thereafter, without return of the cough. There was an occasional spasmodic contraction of the sternomastoid muscle producing a true wry neck, for which chloroform and morphine had to be given. She wrote me a short time since that the cough had recurred once since 1891, for a short time only. At the present time I am not aware that the old cicatrix is troubling her. This cough was a nervous one, with the cicatrix and its communication with the pneumogastric via the spinal accessory as the determiner of the reflex.

Reflex cough of uterine origin is common, and, as is well known, is often one of the early manifestations of pregnancy. Hegar records a case of reflex cough due to a retroflexed uterus, in which the cough stopped as soon as the uterus was replaced and came on again whenever the pessary was removed. Moritz Schmidt relates a case of cough apparently due to pyosalpinx.

Coughs having their point of irritation in the stomach, bladder, intestines, and liver are not infrequent. Dr. J. J. Richardson has reported a case of violent coughing from indigestion; this disappeared as the indigestion improved, only to reappear when the indigestion again became troublesome. The cough of tabes is a well-recognized one.

Ear cough is one of the rather common reflexes. It originates from pressure or irritation in the external canal. Schmidt refers to the case of a girl who had coughed for twelve years. The removal of a glass bead from the auditory canal stopped the cough. One of my patients, a medical man, has a cough whenever a speculum is introduced into the ear or the canal wiped out with a bit of cotton on a probe. Dr. Richardson instances a case of long-standing cough which ceased after removal of some disintegrated cotton and cerumen. The cotton had been introduced some years previously and forgotten Yearsley mentions cases of cough from impacted cerumen. Fox (quoted by Yearsley) concludes that the track of the reflex is not direct via the great auricular nerve, as has been thought, but that "the convulsion takes place in the nervous centres," and the nerves involved are the two branches of the auriculo-temporal and Jacobson's nerve. By these channels the stimulus is carried to the centres in the floor of the fourth ventricle, where the roots of the vagus and glosso-pharyngeal nerves lie in close connection. The stimulus being mistaken for laryngeal irritation, cough is the result. Stephens has recently reported in *The Lancet* eight cases of whooping-cough successfully treated by syringing the canal and painting it and the tympanum with a paint of cocaine, glycerin and mercuric chloride. This is on the theory that there is a local inflammation in the external canal and that this irritates the nerve filaments connected with the root ganglion of the vagus, thence stimulating the laryngeal branches. This theory of whooping-cough can hardly be called proven.

The exact track of the reflex in nasal coughs is not clear, but the facts are undoubted, since treatment of the nasal conditions cures the cough. This cough is characterized by a small amount of secretion compared with the severity of the cough, and usually starts with tickling in the inter-arytenoid region, as in the following case:

Mrs. S. W——, aged twenty-eight years, had an alarming paroxysmal cough, for which a change of residence had been advised by the family physician, who thought the lungs were involved. She was subsequently seen by several physicians without relief. Finally a specialist of note suggested that the nose might be the organ at fault. Cauterization of the turbinals cured the cough, which has never returned, although seven years have since elapsed.

For the notes of the two following cases I am indebted to Dr. Stucky, of Lexington, Ky., in whose practice they occurred:

Miss A. B——, twenty-three years of age, well-nourished, intelligent, and of neurotic type; menstruated at the age of twelve; at seventeen years her health became impaired and menstruation scanty, occasionally suppressed; there was dysmenorrhœa at times. These conditions lasted several years, during which time the cervix uteri was dilated, and both ovaries were removed. This cured the dysmenorrhœa but did no good otherwise. She was next operated on for vesical calculi and then for hemorrhoids. During a period of twelve years she was under the care of twelve physicians, and to quote Dr. Stucky's own words, "I con-

cluded that everything within the abdominal and pelvic cavities had been removed that could be with safety to life." At the time of the consultation she had a peculiar barking cough, like the yelp of a hound pup, which made the patient a nuisance to herself and to every one else within hearing distance. It continued during sleep, unless controlled by morphine, and was of increasing severity. She had been subject to head colds and sore nose since childhood. On examination, both inferior turbinates were found to be markedly hypertrophic from the anterior to the posterior extremity, the pharynx granular, and there was some spasm of the adductors of the larynx during phonation, with thickening of the false cords. No local treatment was at first employed, the patient being put on rest treatment on account of the marked neurasthenic element. The cough grew worse instead of better, and coincident therewith she had an acute attack of rhinitis, for which some ten-per-cent. cocaine was prescribed for temporary use. To the surprise of every one the cocaine not only relieved the nasal discomfort, but stopped the cough so long as the effect lasted. Some chromic-acid crystals were accordingly applied to the whole length of each inferior turbinate, producing immediate cessation of the cough and relief of the neurotic symptoms. In two weeks another application was made. The patient remains entirely relieved, and her general health is better than at any time since childhood.

The second case was that of a woman who had been the round of abdominal, rectal, and neurological specialists. The cough was of a most obstinate and spasmodic character, worse at night with frequent strangling spells. In one of these attacks (laryngismus stridulus) her symptoms were alarming for several minutes. Chromic acid to the enlarged inferior turbinates cured the cough.

In a case of my own now under observation, touching the turbinals with a probe will invariably excite a spasm of coughing.

Examples of cough from direct pressure on laryngeal structures are common:

Mrs. H. E. B——, aged forty years, had a troublesome, irregular, teasing, hacking cough, lasting ten minutes to half an hour, waking her in the morning. Its duration was two or more years, and it was growing worse. The pulse was 120 to 130; lungs negative; thyroid gland moderately enlarged; no appreciable tracheal pressure. Treatment of the thyroid by galvanism, with proper internal treatment, reduces the size of the gland and diminishes the cough. If the treatment is intermitted the gland enlarges and the cough returns. Pressure on the pneumogastric nerve from the enlarged thyroid is the cause of the cough.

Miss G. F——, twenty-seven years old. This is a case of cough from pressure of a neoplasm. The cough was of the imperfect kind and pretty constant; at first it was thought to be of pulmonary origin. Later events proved it to be due to pressure from œsophageal cancer. The cough was the earliest symptom complained of.

The question of therapeutics in these cases of reflex cough may be dismissed with a word. It depends entirely upon the diagnosis. That is the difficult and most important part. Once the diagnosis is accurately made the treatment is readily adapted to the individual case.

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## A CASE OF TRAUMATIC NEUROSIS WITH HEMORRHAGES FROM THE PHARYNX.

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On the evening of April 3, 1898, a railroad train on which Mrs. G. S—— was a passenger started before she had time to alight. The brakeman took hold of her left arm while she was still three car-steps from the ground, and, in spite of her protests, pulled her off, causing her to fall. She struck on her knees and right arm, her body proper probably not touching the ground. She suffered a psychical as well as a physical shock. She was dazed, but in a few seconds arose, and, with the assistance of friends, walked home, a distance of about four blocks.

Immediately on arising she felt a "gush" of fluid from the vagina, which after reaching home she discovered was blood. It had soiled her underclothing and her stockings. She had ceased to menstruate four days previously.

That night she did not undress and did not sleep, but paced the floor almost constantly. Toward morning she began to have a good deal of pain, mainly in her back. The right arm had been paining since the fall. For several days subsequently she took no food.

But before giving the further development of symptoms I wish to call attention to her family history and to her previous history. Her father is not an alcoholic nor is he of a neurotic temperament, he has always been a healthy man, and is still hale at seventy-four. Her mother was apparently a very healthy woman, but died suddenly while alone at home, of some "brain trouble." She appeared well until her death and had never been nervous or hysterical. Her sister is well and not of a nervous temperament None of her family shows signs of a neuropathic constitution; and, aside from her mother, all are living and in excellent health.

Mrs. G. S—— is a well-preserved, pleasant, bright woman, thirty-six years of age. She married young, and was never nervous or hysterical even during puberty. She has had one miscarriage, during the fifth month, due either to overexertion while travelling, or to medicines administered. The second fœtus was removed by instruments, also during the fifth month, on account of persistent vomiting. Both fœtuses were well formed and alive. The third and last pregnancy brought her a boy, now about eight years old, healthy and robust. She and her friends are positive that she was never in any sense a nervous, excitable, or hysterical woman before the accident. As an instance of her sound temperament they relate how she barred the door of her house some years ago while her husband held it shut in the face of a mob of men who came to eject them from their premises. A charge from a shotgun penetrated the door and cut her sleeve, but she remained at her husband's side and they succeeded in excluding the intruders. For a brief period

subsequently she carried a revolver for self-protection until the difficulties were adjusted.

She was then, up to the date of the fall, a cool, deliberate, intelligent lady, not given to worry, entirely happy and contented, and, aside from her miscarriages and the confinement with her boy, was never seriously ill. Previous to her confinement she had occasional sick headaches, which were always dissipated by vomiting. They have not returned since the birth of her boy. It can safely be assumed that she was an exceptionally well woman during the eight years just preceding the fall. Her menstrual periods were painless and regular in all particulars; she did not suffer from headaches, had no cough, her bowels and digestion were in normal condition; she was a communicative and sociable companion and a cheerful wife.

On the afternoon succeeding the accident I found her in her room dressed, and pacing up and down the floor aimlessly. She supported her back with one hand, and with the other grasped pieces of furniture to assist herself as she moved about. She complained of much pain in the back and right arm, and said she was very "sick all over." When asked to seat herself she replied that she could not sit down, she was too nervous. She was very restless, and she spoke in a slow, hesitating manner, often leaving her sentences unfinished.

After considerable urging she went to bed. The only external sign of injury was a slight bruise—discoloration above the right knee. The womb was in good position, and I could discover nothing abnormal with the ovaries or other sexual organs. (Several months later repeated speculum and bimanual examinations failed to reveal any disease except a slight cervical catarrh.) I found disordered sensation and weakness of the muscles all over the body, but both were more pronounced on the right side. The spinal region was very tender, and there was some stiffness in the muscles of the back and of the right limbs. The right arm and leg were colder than the left, both subjectively and objectively. Pain was caused by pressing on the tendons at the bends of the elbow and knee on the right side.

On the evening of the same day she had an hysterical attack; she was much excited emotionally and physically, and during the attack there was a tonic contraction of the flexors and pronators of the right arm and hand, so that the arm and hand were flexed, and the forearm and hand hyperpronated. The flexion of the fourth and fifth fingers was greater than that of the others.

Since that day, now nearly a year, the following symptoms have been present, varying very much in intensity at different times:

Disposition: While she was formerly a cheerful, chatty, patient wife, not given to noticing trifles, and not taking trouble seriously, she has, since the accident, become serious, irritable, easily angered and annoyed, at times morose and despondent; she is no longer talkative, but prefers to sit alone much of the time.

Mental concentration: Since the accident she has been unable to fix her attention on a subject for any length of time. This unfits her for mental work of all kinds. It makes reading, writing, and such occupations disagreeable if not impossible. When she persists in reading she fails to understand what she reads.

Energy: She has very little energy, either physical or mental. She has lost her former ambition and spirit.

Speech: During the first few days after the accident she spoke in the manner described. It seemed to be a reflection of the imperfections in her mental operations; speech was slow and sentences were unfinished because thoughts were slow and incomplete. For months now I have been unable to detect any defect of speech, but she states that she cannot speak so fluently and rapidly as formerly, and that occasionally she stutters a little.

Insomnia: Her sleep is broken, and fails to rest or refresh her. She was formerly a good sleeper.

Gait: She frequently staggers somewhat, but at times there is nothing to remark except a slowness and evident care in walking. During most of the first two months she was unable to support her weight in walking. She was abed most of that time.

Muscular power: Roughly tested, it was found markedly weakened in the right limbs. Her general strength was also much less than it formerly was. Walking fatigued her quickly, so that she could not accomplish ordinary distances.

Muscular tension was usually complained of as stiffness or as a "drawing in the cords." Her legs feel stiff and clumsy when she walks.

Muscular spasms occurred in combination with the hysterical attacks described. Sometimes during the first few months all four limbs were affected, only the right side, however, to a marked degree. Later the feet and the left arm escaped.

Muscular twitchings occurred during the nervous excitation which preceded and followed the hysterical paroxysms. Single muscles contracted in clonic spasms.

Ptosis: The patient complained of a "laziness" of the right upper eyelid. After closing the eyes the lid was slow in opening.

Astasia: Weakness in the knees was occasionally so great that the patient fell to the floor. This occurred once at four o'clock in the night, some eight months after the accident. She could not get up, and lay some minutes on the porch until others in the house, attracted by the noise, came and assisted her back to bed.

Reflexes: The patellar reflex was sensitive, such as is found in neurasthenia or hysteria. The jaw jerk was present. Tickling the soles caused the left foot to be retracted, but not the right.

Pain: This was located mainly in the back and the right arm. There was also during the last few months much pain beneath the left nipple, such as occurs in hysteria. For a few weeks after the accident pain was also suffered in the left hypochondriac region and in the lumbar region. There has been pretty constant pain in the region of the sixth and seventh dorsal vertebræ.

Spinal tenderness: This was marked during the first two months, and was then distributed in the lower cervical, the whole dorsal, and the upper lumbar regions. Later the sensitiveness decreased much, and is now almost confined to the seventh cervical, and the first, third, sixth, and seventh dorsal vertebræ. For months she could not wear corsets, and now she cannot wear them all day long.

Abdominal tenderness: This was marked for a week or two following the accident. Pressure on the left hypochondriac or on the left ovarian region caused much pain.

Headache: This has not been a prominent symptom, but she has suffered on many days a dull, steady headache, something that was rarely experienced previous to the accident.

Vertigo was slight. A few attacks occurred during June.

Girdle sensation: The girdle sensation was transient, distinct, and infrequent; it was noted soon after the accident and two or three times after long intervals. It moved from its location below the costal margins to the head.

Pressure sensation: A feeling of pressure on the vertex distressed the patient at times.

Cold spots: A subjective sensation of cold was located mainly on the back of the head and in the upper spinal region. A sensation of lowered temperature affecting the whole right side, except the head, was confirmed objectively on many occasions.

Tingling and numbness have been very marked at times. The skin on the right side "feels like leather." There is a bluntness of sensation to touch, temperature, and pain on all of the right half of the body except the head. This partial hemianæsthesia has been quite persistent, both subjectively and objectively.

Trophic symptoms: There has been some loss of weight. A considerable loss of hair, mainly from the right side of the head, was complained of by the patient within a week after the accident and noted later by friends. Her hair is also much drier than formerly. In February wheals, preceded by burning pain, developed on the left side of the forehead and scalp, and lasted a week or ten days. Tache cérébrale was noted on the back soon after the accident.

The pulse and temperature were constantly normal, but were not observed during the first week.

The appetite was entirely absent for over a week, and is still much below her normal. For some days the patient ate nothing, and had a decided aversion for water. Constipation has been persistent for some months. At first there was either retention or diminished secretion of urine; and at later periods she had attacks of frequent micturition accompanied by vesical pain, which lasted only a day or two at a time.

Menstruation: In June and August the menstrual periods were missed. The other periods were irregular as to time and quantity. Each period is preceded by a week of dejection and nervousness, and pain is suffered during the flow.

Hysterical paroxysms occurred very frequently during the first months and then decreased in frequency. They were always preceded and followed by hours of nervous excitement. They were marked by emotional and physical excitement and were accompanied by tonic spasm of all the limbs during the first weeks, yet always more marked on the right side. Later only the right arm and hand were affected. The duration was less than two hours, but the whole attack of nervousness lasted from a few hours to a couple of days. When the muscular spasm relaxed, the patient was unable to use the affected limb or limbs for ten or fifteen minutes.

Unilateral contraction of the field of vision: An examination of the eyes by Dr. H. G. Thomas showed normal fundi. The field of vision of the right eye was contracted from ten to twenty degrees in all directions. The field of vision of the left eye was absolutely normal. Color blindness was not present.

Sexual desire: Previous to the accident she had always demanded considerable attention from her husband. Immediately succeeding the accident this desire was much increased; but in a short time it rapidly decreased until all desire was gone.

Pharyngeal hemorrhages: These began in the latter part of April and have continued to date. At first she had two or three a week; once or twice she had two in one day; during the last months they have been less frequent, occurring about once a fortnight. Immediately preceding the hemorrhage she experiences an indescribable sensation (not nausea) beginning in the epigastrium and rapidly spreading over the whole body as the hemorrhage occurs. She does not lose consciousness, but gets very weak, limp, so that she is always obliged to lie down. On several occasions she had to lie down on the floor. The blood fills her mouth and flows out rapidly to the amount of about one or two ounces. The blood is ejected into a handkerchief, a handy receptacle, or, these failing, on to the floor. The saliva is tinged for a little while subsequently. The whole attack, including the duration of the weakness, lasts ten or fifteen minutes; she then regains her feet and is as well as usual. The attacks have occurred under various circumstances—while alone, while in company, at the dinner-table, sitting, standing, or lying down. She says, however, that they occur oftener while she is leaning over. Vicarious menstruation was excluded. The blood is rather bright red, alkaline, and there is no nausea nor vomiting, nor indeed gastric trouble of any kind. The lungs are perfectly sound; the attack is neither preceded, accompanied, nor followed by coughing. There is no trouble in the nasal cavity, and none of the blood ever escapes by the nose, although the head is usually thrown forward. There are no polypi, adenoids or other growths, or ulcerations in the nose or pharynx. I found a few isolated enlarged blood-vessels on the pillars of the pharynx; but by using mirrors a much dilated and engorged plexus of veins was discovered on the base of the tongue. I am satisfied that it is from these engorged veins that the blood flows. The plexus is located in the median line, well down on the base of the tongue, and is of a bluish color.

The features of special interest in this case are as follows: The slight degree of physical shock which, combined with the psychical shock, was sufficient to cause the disease. The patient's previous history and that of her family are not neuropathic, which goes to support those who claim that traumatic neuroses occur in persons who are not of the neurotic temperament. The immediate development of some of the prominent symptoms, and the delayed development of others. The one uterine hemorrhage which occurred immediately after the accident. The frequent periodic pharyngeal hemorrhages which developed later. The marked unilateral contraction of the field of vision.

Malingering and exaggeration were readily excluded in this case, although within a fortnight after the accident a lawyer was consulted and a suit was prosecuted, which occupied the month of February, and resulted in a verdict for the plaintiff.

The explanation of the pharyngeal hemorrhages is an inviting field for speculation. If we accept the view advanced by some authors, that the symptoms of traumatic neurosis are a combination of the symptoms of neurasthenia, hysteria, and hypochondria, these hemorrhages might be classed with those rare cases of genuine hemorrhage due to hysteria. Cases of "pulmonary hysteria," or of hysterical pulmonary hemorrhages, have been reported by Camuset,[1] Debove,[2] Championnière,[3] Legrand du Saulle,[4] and Roulin.[5] In this case the facts that each hemorrhage is preceded by an epigastric prodrome, and that the nervous accompaniment of the hemorrhage is marked and constant, would indicate a probable nervous origin. Accepting the theory, indorsed by Oppenheim, that in this disease the nerve centres suffer some molecular change, and supposing such a change in the vasomotor centres, it might not be difficult to account for the dilated condition of the blood-vessels at the base of the tongue, and also for their occasional rupture. The intermittent lowered surface temperature of the right side could then be explained in a similar manner.

This view seems to have had the support of Vulpian, who states "that it would be legitimate to connect the

[1] Annales médico-psychologiques, January, 1882.
[2] L'Union médicale, January, 1883.
[3] Journal de Lucas Championnière, vol. lx.
[4] Legrand du Saulle: "Sur les Hystériques," xcix., p. 542.
[5] Trans. Société de méd pratique, Paris, May, 1888.

hemorrhages with a paralysis which supervenes during the period of reaction at the moment when, following a more or less intense and prolonged excitation, there occurs a weakness of the excito-motor power of the spinal cord, the activity of the centres which control the tone of the vessels being suspended. More often, it is true, these disturbances of vascular contractility produce only local hyperæmia or anæmia, alternating flushing and blanching of the face, tendency to cold hands and feet, the phenomenon of 'dead finger,' etc. But supposing an increased degree of excitement, or even a vascular paralysis, one easily comprehends how genuine hemorrhages could occur."[1]

Laurent[2] reports three cases of pulmonary hemorrhage in men, which he describes under the title, pulmonary hysteria. He calls attention to the fact that while a few cases of pulmonary hysteria in women have been reported, his cases of the disease are unique as occurring in men. His three cases were all in criminals of a strong neuropathic diathesis.

The first patient was also an epileptic who began to have hæmoptysis five days after receiving a knife wound below the angle of the left scapula. Fifteen days later the man was supposed to be entirely healed both of his wound and of his hemorrhages, when an epileptic fit occurred, accompanied by hæmoptysis. The fits, which had for some time been infrequent, now recurred frequently and were always accompanied by hæmoptysis. Very curious is the description of how the blood was spurted against the wall near the man's bed, until the whole partition became blood-smeared to a height of some six and a half feet. The quantity lost during each fit was about half a glass.

The second man had no cough nor did he spit. One day he felt a severe pain in the region of the false ribs on the left side, followed by a sense of suffocation, and then without effort the hemorrhage occurred. The amount of blood lost each time was about a litre.

The third patient was kicked and bruised by police officers who arrested him. He was of a nervous and irritable character. His hæmoptysis was preceded by a very distressing dyspnœa. The amount of blood lost each time was "considerable."

It will be observed that in two of the cases a traumatism preceded the occurrence of hæmoptysis, and that other nervous symptoms were present.

From those three cases, whose histories I have not attempted to detail, Laurent deduced the following features of the disease: Hemorrhages may be the principal symptom or only a secondary feature of the disease. Usually the hemorrhages begin suddenly without apparent cause; sometimes they are preceded by a trauma or by an emotional shock. The amount of blood lost is usually greater than is common in pulmonary tuberculosis. It is not rare to see the hemorrhages occur periodically. In some cases the hemorrhage occurs during or succeeding an hysterical paroxysm, but in other cases the hemorrhages occur as is common in pulmonary tuberculosis. The blood is usually red, fluid, rarely clotted, and varies in amount from tinted sputum to a litre. The hemorrhages may occur daily, weekly, or monthly, more or less regularly. On physical examination of the chest signs of disease are found to be absent, or slight and evanescent. Two stigmata of the disease that he regards as very important are hyperæsthetic points and the general symptoms. The former are located principally in the intercostal spaces, in the supra- and infraclavicular fossæ, and in the supra- and infraspinous fossæ. The slightest pressure on those areas causes great pain. The temperature is always normal. In spite of loss of blood, even in considerable quantities, the patients do not grow thin and their general condition is hardly altered.

In closing the history of my patient, I should state that nearly all her symptoms varied much in intensity from week to week. There were days, more frequent latterly, when she could walk quite well; some days when she was cheerful and optimistic; and there were times when she ate well. The hemianæsthesia, however, was quite constant, and the hemorrhages persisted. The amount of blood lost was variable, being on some occasions less than half an ounce. During the first two months she improved very rapidly, then slowly but perceptibly.

I am indebted to Dr. Leo Newmark for assistance in the study of the case, and to Dr. H. G. Thomas for valuable aid in locating the source of the hemorrhages.

[1] "De l'Hystérie pulmonaire chez l'homme," Paris.
[2] *Ibid.*

## Progress of Medical Science.

**Successful Extirpation of a Rapidly Increasing Arterio-venous Aneurism of the Femoral Vessels.**—Murray and Page (*Lancet*, June 3, 1899) report the case of a muscular, well-developed, steady-living man twenty-six years old, who presented himself with a pulsating tumor situated about the middle of the right thigh. Some eight years previously a sharp pocket-knife which he was using with his left hand entered the right thigh and caused profuse hemorrhage. The man was able to walk to his home, a short distance away, where the wound was dressed with a pad of cotton-wool secured by means of an elastic bandage, and in a few days it was healed. Pulsation was immediately noticed, and swelling shortly afterward. The latter gradually increased in size, and for a few months it had enlarged rapidly. The man had continued his work as a clerk, and had been active physically. Latterly, however, the rapid enlargement of the swelling and the increased pulsation and thrill in the limb had caused interference with sleep, and had rendered the man apprehensive that the swelling would burst. The right leg ached a good deal, and was often numb. On examination a pulsating swelling as large as a fist was found just under the skin covering the site of Hunter's canal. In it could be heard and felt the thrill characteristic of communication between an artery and a vein. There was no œdema of the leg, and no enlarged superficial veins were visible. The thrill was transmitted along the course of the vessels of the leg to the sole of the foot and to the iliac arteries. Both limbs were equally well nourished. An elastic tourniquet being first placed around the leg immediately below the knee, a second was placed around the thigh as high up as possible, and an incision about eight inches long was made over the course of the femoral vessels, and the sac was exposed. This was with difficulty dissected free from the muscles, to which it was pretty closely adherent. The artery and vein, both much dilated, but otherwise apparently healthy, were tied with catgut ligatures three-quarters of an inch above their communication with the sac. A quarter of an inch below the point of communication the artery was found to be smaller than natural and the vein to be much larger. Both were secured with catgut ligatures. The sac was then dissected out and, together with the attached portions of the artery and the vein, was removed. A considerable number of vessels had to be tied. A strip of iodoform gauze was introduced as a drain, and the wound closed with silkworm gut. The operation lasted a little more than an hour. The sac contained liquid and coagulated blood. In some places it was exceedingly thin, while in others it was

thickly coated with calcareous material. Two days later the circulation in the foot was excellent. A good deal of bloody serum had drained from the wound, but the gauze was now removed. The stitches were taken out on the fifth day, and on the fourteenth the patient was allowed to sit up in bed, and he was dismissed cured on the twenty-second day.

**Successful Removal of Subclavian Aneurism Thirty-Eight Days after Ligature.** — Allingham (*Lancet*, June 3, 1899) has reported the case of a seaman, twenty-five years old, who three years before coming under observation had noticed a swelling above the right clavicle, which increased gradually in size, the increase being especially marked during the preceding twelve months and being associated with occasional attacks of numbness and severe aching pain in the right upper extremity. The pain had at first occurred only at intervals, but it subsequently became continuous, without being accompanied at any time by swelling below the tumor. The patient's general health had always been good, and syphilis was denied. On examination a pulsatile, expansile swelling, about the size of a tangerine orange, was found in the right supraclavicular region, filling the interval between the sternomastoid and trapezius muscles. A characteristic systolic bruit was audible, with delay and diminution of the right radial pulse. There was some slight tenderness on pressure over the tumor, but otherwise there was no symptom except the pain passing down the inner side of the arm and forearm to the little finger. On consultation it was decided to ligate the subclavian artery on the cardiac side of the tumor. Accordingly, a V-shaped incision was made, one branch of which passed down the anterior border of the sternomastoid, and the other along the clavicle. The flap of skin was turned up, the sternomastoid muscle divided, the first part of the subclavian artery exposed, and a kangaroo tendon passed around the vessel immediately external to the origin of the vertebral and just to the inner border of the scalenus anticus. Recovery from the operation was complete, and at no time was there any indication of secondary hemorrhage. No pulsation was felt in the tumor or in the brachial or radial artery. After three days some slight beating was detected in the aneurism, and this continued, although the sac, meanwhile, grew distinctly smaller and harder. After two weeks, as the pulsation was still decided, the patient was again anæsthetized. The tumor, although pulsating, was found not to expand with the beat of the heart, and it was therefore considered advisable to watch its progress further before attempting more radical measures. Eleven days later it was noted that the aneurism was increasing in an upward direction, and that there was more pulsation, which was both visible and palpable. The radical operation was performed thirty-eight days after the primary one. The whole length of the clavicle was exposed by a transverse incision, and in order to get plenty of room to deal with the aneurism a vertical incision was made at right angles to the transverse incision. Then large skin-flaps were reflected, and the greater part of the clavicle was resected, leaving only the two extremities. Careful dissection revealed the aneurism, springing from the upper and anterior aspect of the vessel in its third portion. With great care the cellular tissue, the nerves, and the vessels surrounding the aneurism were dissected off the sac. Then the axillary artery was sought for, ligated with silk, and divided on the distal side of the tumor. This procedure allowed the aneurism to be freed from the first rib and turned upward, and thus to bring into view the second part of the subclavian artery on the proximal side of the aneurism. This part of the artery was ligated with silk, and the aneurism was cut away. During the dissection the transversalis colli artery was divided as it crossed the tumor, as well as some few fibres from the brachial plexus passing into the pectoralis major muscle. The lower part of the brachial plexus was adherent to the upper part of the tumor and had to be dissected off it. Some difficulty was experienced in separating the subclavian vein, which received a slight tear, necessitating a lateral ligature. The amount of blood lost was quite inconsiderable, notwithstanding the number of vessels divided, owing to the establishment of so free a collateral circulation. The operation occupied two hours. The after-history was unimportant, the large wound healing after some slight sloughing of the skin. A section of the aneurism showed that its cavity was largely occupied by firm clot, the blood passing into it from the subclavian, which was partly patent, and out posteriorly by way of what appeared to be the profunda cervicis. In shape it resembled a pear, with the stalk external and the base upward. The axillary artery, so far as it was exposed in the wound, was found to be obliterated. On examination of the arm four weeks after the operation, pulsation was found present in the brachial artery, best marked in the antecubital space, and also in the radial at the wrist. The ulnar was not felt. The hand and fingers were somewhat pallid and colder than those of the opposite limb. This condition, however, underwent progressive improvement.

**Intrauterine Vaporization.**—After considerable personal observation in conjunction with a survey of the literature of the subject, Brothers (*New York Medical Journal*, May 13, 1899) concludes that as a hæmostatic intrauterine vaporization, or vapo-cauterization, has been employed most successfully in cases of non-malignant, post-climacteric uterine hemorrhage. It has proved curative in the various irregular bleedings encountered in connection with catarrhal, fungoid, or hemorrhagic endometritis. It acts as a palliative measure in certain cases of fibroid tumor or inoperable carcinoma associated with hemorrhages. As a caustic, vapo-cauterization can be relied upon to destroy the mucous lining of the uterus, even to the extent of obliterating the uterine canal. As a bactericide the procedure may be employed in cases of gonorrhœal or septic puerperal endometritis. The uterus subjected to vapo-cauterization and subsequently removed by excision has, when examined bacteriologically, been found sterile. Vapo-cauterization has frequently been employed successfully to reduce the bulk of the subinvoluted uterus, and in some cases of chronic suppurating abdominal fistulæ which had resisted other means of treatment.

**Symptoms Following Lumbar Puncture in Tabes Dorsalis.**—Having observed relief of intracranial pressure from lumbar puncture in cases of general paresis, together with subsequent improvement in the ataxia in several cases, Babcock (*American Journal of Insanity*, vol. lv., No. 4) was led to the experimental trial of the same procedure in cases of tabes dorsalis. The main indication for puncture in paresis is heightened intracranial pressure, which, however, is not often present in tabes. Of three cases of the latter in which this procedure was employed, only one presented evidence of an excess of cerebro-spinal fluid prior to puncture; in the second the operation was performed to ascertain if the symptoms developing after puncture would establish the diagnosis; while in the third puncture was entirely experimental. In the first of these cases there was marked improvement in the ataxia. In the second, in which the diagnosis was obscured by the existence of multiple fractures, and by the mental condition of the patient, classic symptoms of tabes developed after puncture, subse-

quently subsiding in part, but without improvement in the ataxia. In the third case the result was entirely negative.

**Appendicitis Complicating Pregnancy.**—In a communication presented recently to the Brooklyn Gynæcological Society, Gordon (*Brooklyn Medical Journal*, June, 1899) expressed the opinion that it is the duty of the medical attendant of a woman who is subject to pregnancy, and who gives a history of recurrent appendicitis, to advise the removal of the appendix, in order that she may escape the complication of appendicitis and pregnancy. An operation should be urged in all cases when the diagnosis is not in doubt, and more especially in the early weeks of gestation, as the patient might recover from one attack and the trouble recur at a later stage with increased danger to both mother and child. Pregnancy does not contraindicate operation. Success depends largely upon early diagnosis and treatment.

**Leucocytosis Associated with Convulsions.**—As the result of observations made on the blood of seven patients suffering from convulsive seizures during the progress of general paralysis, senile dementia, terminal dementia, katatonia, and puerperal eclampsia, Burrows (*American Journal of the Medical Sciences*, May, 1899) found that there is a leucocytosis associated with convulsions, not only in general paralysis but in various other diseases as well, and that the leucocytosis bears a relation to the severity of the seizure. It was further learned that this leucocytosis is due in part to the muscular activity manifested during the convulsion, a part that, owing to its physiological character and its short duration, has been shown to be superimposed upon a pathological leucocytosis of longer duration.

**Tuberculoma of the Cerebellum.**—Wolf (*Archiv für Kinderheilkunde*, B. 26, H. v., vi.) reports a case of large solitary tuberculous tumor of the cerebellum, and tabulates twenty-one additional cases collected from the literature. In eight cases the growth was situated in the right hemisphere; in four, in the left; in four, in the vermiform process and both hemispheres; in two, in the vermiform process; in one, the vermiform process and the left hemisphere; in one, in the right cerebellar peduncle; and in one, in the right hemisphere and cerebellar peduncle. From a study of these cases it is concluded that tubercles may be present in the cerebellum without giving rise to morbid manifestations. Therefore it is never possible to determine precisely the duration of the disease in the individual case, as the process may pursue a latent course until the appearance of the first symptoms. In the majority of cases tuberculosis of other organs is found in addition to that of the cerebellum. Among the most common symptoms of tuberculosis of the cerebellum are staggering gait, variation in the size of the pupils, nystagmus, strabismus, headache, optic neuritis, convulsions, opisthotonos, but these occur in no fixed order or arrangement, and they justify no definite localizing conclusions. Previous clinical experience indicates that the cerebellum is a homogeneous organ, and that its individual parts do not possess various functions. Lumbar puncture may be practised in cases of tuberculosis of the cerebellum without fear of injurious results. In fact, in some cases relief is afforded thereby.

**Inhibition.**—Meltzer (*New York Medical Journal*, May 20, 27, 1899) reaches the following fundamental conclusions with regard to inhibition: (1) Inhibition extends as far as the existence of irritability, and is an integral part of it. All irritable tissues of the living body respond to a stimulus with a specific activity, as well as with an inhibition of this activity; the actual effect of a stimulation is always only a resultant of the two opposing factors, but mostly, perhaps, with a greater leaning toward one or the other, according to external circumstances. Neither the impulse of activity nor that of inhibition is wiped out; they often run out their course in an imperceptible manner. (2) All the actual phenomena of life are not the pure manifestations of one of these factors, but are the resultants of the two antagonistic forces; there is no absolute rest in a living part, and there is no action without any admixture of inhibition. The state of life in each part of the body depends upon the general relations between the two antagonistic forces in the entire body, and upon the special relations existing in this special part. All admitted biological laws that have been formulated under the presupposition that they were being derived from a study of the behavior of the pure activity will have to be revised. (3) In the peripheral, as well as in the central, organs activity and inhibiton are apparently separately accessible by special nerve-fibres, of which the government of the body is making use in such a purposeful manner as to cause a required degree of inhibition of a part, the antagonist of which is ordered to action.

**Hysteria Simulating Acute Visceral Inflammation.**—Dr. William H. Robey, Jr. (*Boston Medical and Surgical Journal*, May 11th) says that despite the increased knowledge of the abdominal cavity and the improved methods of examination, the differential diagnosis between real and simulated pathological conditions is attended with great difficulty, and in view of this fact he reports a few cases, from which he draws the following conclusions: (1) The importance of regarding each case as one of organic disease until proved to the contrary. (2) With persistence in the localization of pain and tenderness; (*a*) early rectal or vaginal examination, (*b*) early consultation. (3) Laparotomy in doubtful cases. As Byrom Bramwell says: "The friends of the patient will more readily forgive a laparotomy which finds the viscera in normal condition than a diagnosis of hysteria followed in a few days by death."

**Recurring Appendicitis.**—Dr. von Mayer (*Gazette Médicale Belge*, April 20th) raises the question as to whether we can draw a conclusion between two attacks of appendicitis from the subjective state of the patient as to the probable state of the appendix. In order to answer his question he has collected seventy-five cases, operated upon between attacks, and has compared the objective state of the organ with the subjective condition of the patient, and from these data Dr. Mayer concludes: (1) That the subjective state of the patient is not an adequate guide as to the state of the appendix. (2) The number of attacks and the degree of suffering occasioned are not always reliable indications as to the state of the appendix. There is no sure relation between these two factors. A brief experience suffices to teach us that the mildness of previous attacks is no guarantee against recurrence, or against the gravity of succeeding attacks. (3) The disappearance of the greater number of adhesions and the arrangement of those remaining teach us, after very slight experience in operating, how little we can count on these adhesions in determining future attacks; the pyogenic organisms are present which may induce a subsequent outbreak. (4) To declare a patient absolutely cured and free from the danger of future attacks while the appendix remains in the body is absurd, when we have so many instances of an appendicitis recurring after two, ten, twenty, and even forty years. (5) When a patient suffers pain, operation is imperative, for it is impossible for a man to make his living if the least effort occasions pain.

# MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 51 Fifth Avenue.

New York, August 5, 1899.


## EXCISION OF THE CERVICAL SYMPATHETIC.

WE are compelled to admit that up to the present time the treatment of epilepsy, Graves' disease, and other troubles in which the sympathetic system seems to have an important rôle, is in an unsatisfactory condition. The exact pathology of Graves' or Basedow's disease we do not know, and we are constantly coming across facts in our study of epilepsy which force us to conclude that we do not know so much on that subject as we might, and it is our lack of knowledge which makes the treatment of these conditions so uncertain and empirical. We are practically certain that very many of the symptoms of Graves' disease are due, fundamentally, to some alteration in sympathetic (and vasomotor) control, but we can only guess at the nature of this alteration. In epilepsy the part played by the sympathetic seems less constant and more irregular in its manifestations than in the case of Graves' disease, but it is undoubtedly important.

Jonnesco, of Bucharest, has twice recently (1897–99) in communications to the *Centralblatt für Chirurgie* given us the results of his experience in treating epilepsy and exophthalmic goitre in a new and interesting way. He has acted on the assumption that some abnormal action on the part of the cervical sympathetic is responsible for a large proportion of the symptoms of these diseases, and has consequently attacked them by removing the ganglia and connecting filaments on one or both sides. In his last communication this writer gives us some results which are encouraging. He has operated upon over forty cases of epilepsy, and has been able to follow carefully nineteen of them, among which ten remained free from convulsions for periods varying from six months to two years, the limit of observation. Six more patients were much improved, and only two put down as unimproved. Jonnesco has also operated upon ten cases of Graves' disease, of which he classes six as cured and four as improved, and in all the beneficial effects were immediate. Good results were also claimed in several cases of glaucoma, in which partial or complete resection was done.

If we consider that the main symptoms of epilepsy are due to a disturbed and perverted cortical circulation, with all the trophic and metabolic irregularities which such circulatory changes would naturally produce, we may explain the beneficial results of extirpation of the cervical sympathetic system, by noting the physiological effects of the removal of these nerves. There is prompt and marked cerebral congestion, and any small local areas of congestion or anæmia are washed away at once, and there is further a marked increase in the metabolism of the brain-cells. If the epilepsy was of peripheral origin, say from some visceral cause, the path to the cerebrum is cut off by the operation and its success explained in part in that way. In the case of exophthalmic goitre, the operation seems to act by freeing the heart from some abnormal sympathetic control, at the same time that it frees the vessels of the head from a constantly acting but occasionally irregular vasoconstrictor influence. Jonnesco claims that the exophthalmos disappears at once, and that there is a change in the thyroid gland which results in a sclerosis, and that the patients feel better at once. The operation does not present any particular surgical difficulties or dangers, and should give no mortality. We should think that the benefits of this operation ought to be more manifest in epilepsy, in those cases called idiopathic, and not in the traumatic variety in which the convulsion starts from some more or less gross injury to the cerebral cortex acting continuously as a serious disturber of local circulation, and consequently as the starting-point of the convulsion. There is room for further investigation upon this subject, and we hope to see some American experiences recorded soon.

## PHOSPHORUS POISONING IN MATCH-MAKING.

EVER since the science-loving perseverance of Dr. Charles Marc Sauria resulted in the great discovery that, by combining phosphorus with such an explosive mixture as potassium chlorate and sulphur, matches could be made, there has been more or less danger resulting from the process of their production. At times the evil consequences to those engaged in manufacturing these most useful little contrivances have been so great that investigations have been instituted and legislation sought. Such an investigation of the question of the prevalence and prevention of bone necrosis, or what they seem fond of designating "phossy jaw," was recently undertaken by the British government, and the report would tend to show that the condition, while somewhat prevalent, is in a great measure preventable.

Professor Thorpe, of the government laboratory, has shown the distinctions to be made between yellow and red phosphorous, the products of oxidation of the first being phosphorous oxide and phosphoric oxide, and this alone oxidizes at the ordinary atmospheric temperature. The glow, he thinks, depends upon ozone formation which always accompanies the process. A practical suggestion made by this gentleman is that the atmosphere of the factory be impregnated with the fumes of oil of turpentine.

Where proper hygienic rules are insisted upon, the

dangers are, according to the report of Dr. Oliver, another commissioner, reduced to a minimum.

In some Continental factories it is forbidden to take food or drink in the workshops. Those who wish a light meal are sent to a special dining-room after (1) leaving their working-clothes in the cloak-room, (2) washing their hands in soft soap and water, and (3) washing the mouth with a specially prepared solution.

Dr. George Cunningham, senior dental surgeon to the London Hospital, who is well known in this country, having been graduated at Harvard and practised his profession for a time in this city, is the third member of the committee to report. Naturally his investigations have gone largely into the nature of caries of the teeth and bone necrosis following this decay, and he finds the greatest amount of injury results in those factories which have no provision for teeth inspection and where hygienic conditions are lacking. He quotes Smale to the effect that phosphorus necrosis can originate only under the following circumstances: (1) When dental caries has exposed the pulp of a tooth; (2) during the healing process after tooth extraction; and (3) during the time there is some lesion of the gum. For these reasons the recommendation is made that those whose teeth are defective should be excluded by primary and subsequently periodic medical and dental examinations, and that a mouth wash for systematic use should be provided. On the whole the reports, which fill an illustrated volume of two hundred and thirty-six pages, are of decided interest and importance to all those who have to do with match-makers. The safety match would seem to be doubly well named, from the fact that its manufacture is unattended with equal dangers; but the desideratum of a red phosphorus article which can be ignited elsewhere than on its own box-lid, and which can be manufactured at a profit, appears difficult of accomplishment.

## SPINAL ANÆSTHESIA, AN AMERICAN DISCOVERY.

In a recent issue, we adverted to Beer's[1] undertakings in the sphere of spinal anæsthesia. Since the publication of our commentary, our attention has been drawn to the fact that researches essentially identical were conducted and published in full by an American neurologist, fourteen years ago.

In 1885, Dr. J. Leonard Corning, of New York, caused insensibility in the parts supplied by the sensory nerves, issuing from the lower segments of the spinal cord, by means of the injection of a three-per-cent. solution of cocaine into the space between the spinous processes of the eleventh and twelfth dorsal vertebræ. "I was led to this expedient," he wrote (we quote from Dr. Corning's original paper published in 1885[2]), "from a knowledge of the fact that in the human subject numerous small veins (venæ spinosæ) run down between the spinous processes of the vertebræ, and, entering the spinal canal, join the more considerable vessels of the plexus spinalis interna. From these theoretical considerations I reasoned that it was highly probable that if the anæsthetic was placed between the spinous processes of the vertebræ, it (the anæsthetic) would be rapidly absorbed by the minute ramifications of the veins referred to, and, being transported by the blood to the substance of the cord, would give rise to anæsthesia of the sensory and perhaps also of the motor tracts of the same." Dr. Corning's first experiment was upon a dog; his second upon a man. In both the injection of the anæsthetic was made between the spinous processes of the lower dorsal vertebræ; and in both the result was paræsthesia culminating in more or less profound anæsthesia of the lower extremities, as revealed by searching tests with the needle and the electric wire brush.

These researches, greatly elaborated in method, were again brought to the notice of the profession by Dr. Corning in an article "Further Contributions on Local Medication of the Spinal Cord," with cases, published in the MEDICAL RECORD of March 17, 1888. Also under the caption, "Irrigation of the Cauda Equina with Medicinal Fluids," Dr. Corning, in his book on "Pain,"[1] published five years ago, described a procedure by means of which the anæsthetic is deposited within the membranous coverings of the spinal cord. After a somewhat lengthy preamble, Corning goes on to state that, "the patient readily consenting, I decided therefore to try the efficacy of an injection composed of tinct. aconiti, gr. v.; cocainæ, gr. ss.; aquæ, ʒ i. The foregoing solution was deposited directly upon the cauda equina in the following manner: A small trocar, half an inch long, and of the diameter of a wax match, was first thrust through the skin between the second and third lumbar vertebræ. A long, fine, hollow needle, screwed to an ordinary hypodermic syringe, was then passed through the opening in the trocar and down through the soft tissues adjoining the ligamentum interspinosum, till the spinal canal was entered. The entire contents of the syringe were then emptied upon the fibres of the cauda equina. Impairment of sensibility, amounting in certain localities of the legs to complete anæsthesia, was observed shortly to follow this injection."

So much for spinal anæsthesia—an American discovery surely, thrice established by the verdict of recorded history.

## THE FEVER AT HAMPTON.

THE outbreak of yellow fever which was discovered some days ago at the Soldiers' Home in Hampton, Va., emphasizes the necessity of untiring watchfulness on the part of the guardians of public health, and draws renewed attention to the folly of trusting to quarantine alone for protection against infectious disease. There is always a possibility of a leak through the most rigid quarantine, as was shown when cholera appeared in New York Harbor in 1892, and if this possibility is forgotten there is a chance of mischief

[1] Deutsche Zeitschrift für Chirurgie, April, 1899.

[2] The New York Medical Journal, October 31, 1885. See also "Local Anæsthesia" p. 90 et seq. D. Appleton & Co. 1886.

[1] "Pain in its Neuro-Pathological, Diagnostic, Medico-Legal, and Neuro-Therapeutic Relations," by J. Leonard Corning, M.D. p. 247 et seq. Philadelphia: J. B. Lippincott & Co. 1894.

which will be all the more serious because of the carelessness engendered by the false sense of security.

Fortunately the fever has appeared in a place where it can be easily checked, and there is not the slightest cause to apprehend the occurrence of an epidemic at the Home. There will doubtless be a few more cases among those who were exposed before the nature of the disease was recognized, and possibly the contagion has been carried elsewhere by inmates of the Home who have gone to visit friends outside of the institution, but the occurrence of a few such cases should excite no alarm. The attention of the country is now awakened, and there is little fear that any case of yellow fever occurring anywhere during the next fortnight will fail of diagnosis. The danger is rather that many timid souls will be agitated to the verge of panic by cases of malaria or catarrhal jaundice mistaken by inexperienced physicians for yellow jack.

## News of the Week.

**New Quarters of the Health Department.** — The work of moving the various departments of the board of health to the new quarters at Fifty-fifth Street and Sixth Avenue is now nearly completed. The department of contagious diseases moved a few days ago. This department will, however, have a branch, to be known as the down-town station of the contagious diseases department in a house on Elm Street. Thousands of down-town children have to be vaccinated in order to comply with the board of health regulations before the schools open in the fall, and it is partly for this reason that it has been decided to establish the down-town station.

**Typhoid Fever in Flushing.**—The epidemic of typhoid fever at Flushing, in the Borough of Queens, continues. During July there were about thirty cases with a mortality of about twenty per cent. It was thought at first that the water-supply was at fault, but repeated examinations of the water have failed to show the presence of typhoid bacilli or to cause a suspicion of contamination with sewage. It is now suspected that the outbreak may have been caused by impure milk. An inquiry showed that seventeen of the patients at least were using milk supplied by one dealer. The board of health will make an investigation to ascertain the cause of the epidemic.

**The Lehigh Valley (Pa.) Medical Association.**—At the annual meeting of this association, held at Glen Summit on July 27th, the following officers were elected for the ensuing year: *President:* Dr. Israel Cleaver, of Reading; *Vice-Presidents*, Drs. C. P. Knapp, Wyoming, J. H. Halber, Pottsville, O. H. Sproul, Flemington, and A. A. Seen, Bangor; *Secretary*, Dr. Charles McIntire, of Easton; *Assistant Secretary*, Dr. W. P. Walker, South Bethlehem; *Treasurer*, Dr. Abraham Stout, Bethlehem.

**The Rocky Mountain Interstate Medical Association** was founded in Salt Lake City in July, 1897, with Dr. Charles Pinckney Hough as president and Dr. S. D. Hopkins, of Denver, corresponding secretary. The permanent organization was effected in Denver in July, 1898, when the temporary officers were re-elected to serve until after the first regular meeting of the society. This was held at Salt Lake City on July 25th and 26th of this year, when about thirty papers were read and discussed. The election of officers resulted in the choice of Dr. Charles K. Cole, of Helena, Mont., as president, and Dr. S. D. Hopkins, of Denver, as corresponding secretary. Membership in the association is drawn from Arizona, Colorado, Idaho, Montana, New Mexico, Utah, and Wyoming.

**A Yellow-Fever Outbreak at Home.**—Yellow fever has been discovered among the inmates of the Soldiers' Home at Hampton, Va. According to the official report of Dr. Wasdin of the Marine-Hospital service, early in July an old soldier entered the home for a short rest, and soon afterward appeared at the dispensary, where he informed the physician in charge that he was but recently from Santiago, via a transport to a northern port. He complained of dumb chills and fever, and was prescribed for. He mingled freely with the inmates of the home, and a short time ago disappeared. This is a possible cause for the outbreak, or at least there is as yet no other known cause. On July 21st and 22d eight or ten of the inmates of the home suffered from pronounced chills followed by a high fever, but no suspicion of the true nature of the disease was aroused until July 27th, when a death occurred, the man becoming distinctly yellow some time prior to death. On the same day another man died and he also turned quite yellow. Autopsies were held on both by the resident pathologist, and a diagnosis of yellow fever was made tentatively, a request being sent to Washington for an examination by a Marine-Hospital surgeon familiar with yellow fever. This was made by Dr. Wasdin, who confirmed the diagnosis. There are thirty-five hundred inmates of the home, and thirty-five of that number were ill during the last ten days of July. The Marine-Hospital service has taken charge of the institution and quarantined the members, and there is little apprehension that the disease will spread to any extent. Dr. Leonard Wood has conquered yellow fever in its home in Santiago twice, and it will be strange if the Marine-Hospital surgeons cannot repress an outbreak in a place where the germ is an exotic. It is true that the surgeons here have not the absolute power of the governor of Santiago, but all the other conditions are in their favor.

**Cancer Study.**—At a meeting of the British Cancer Society, it was resolved to send Mr. Arthur C. Duffey, M.B., to the United States to investigate what is being done in the way of cancer study in the Buffalo laboratory.

**The Smoke Nuisance.**—Fifty complaints have been received by the board of health against persons and corporations for violating the ordinances regarding the burning of soft coal. They will be brought before the grand jury, which has already found indictments against several of the greatest offenders.

Health inspectors have found more than three hundred violators in Greater New York, one of them being the city itself, which is burning soft coal at a pumping station on Long Island.

**The Plague in India.**—At Poonah, a city on the railroad from Bombay, where the plague is raging with unusual fury, there were two hundred and ten new cases and one hundred and seventy-seven deaths during the last week of July. In all there have been three hundred and one cases and two hundred and sixty-one deaths. Several Europeans have been attacked and some have died.

**Typhoid Fever** is prevailing in epidemic form at Lobtau in Prussia. Up to the end of July there had been about one hundred and eighty cases, most of them occurring during the latter half of the month.

**Osteopathy Declared Unlawful in Pennsylvania.**—The Medical Council of the State of Pennsylvania decided on May 24th that the practice of osteopathy within the State is illegal, and that those therein engaged are amenable to the law.

**The United States Hospital Ship "Relief"** arrived at Honolulu on July 22, eleven days out from Yokohama, and proceeded directly to San Francisco, after coaling, arriving there on August 1st. She had on board three hundred sick soldiers from Manila.

**The Queen's Eyesight.**—According to the London *Truth*, which does not always live up to its name, Queen Victoria, who was suffering with cataract, underwent a ten-weeks course of treatment for her eyes prescribed by Dr. Hermann Pagenstecher, a German oculist. The treatment is alleged to have been most successful, and to have obviated the necessity for an operation.

**Rabies in New York State.**—According to Commissioner Weiting of the State agricultural department, the worst outbreak of rabies reported in years is now raging in Erie County, where men, dogs, horses, and cows are suffering from the disease. Four of the victims are now under the Pasteur treatment in New York City.

**Men Wanted for the Hospital Corps.**—It is said that there have been few applicants for enlistment in the hospital corps in this city, although in general men for the new regiments for service in the Philippines have been enlisting at a satisfactory rate. The hospital corps will form an essential part of the new force to be sent to Manila. Applicants for service in this corps should present themselves to the attending surgeon, at the army building. Those who have had experience in nursing are most desired for this work.

**The American Electro-Therapeutic Association** will hold its ninth annual meeting at Washington, D. C., on September 19, 20, and 21, 1899, under the presidency of Dr. F. B. Bishop. Willard's Hotel has been chosen for the headquarters, and special rates have been made for all interested in this meeting. Many papers have been promised, and a successful scientific meeting is anticipated. There will be an exhibition of electro-therapeutic apparatus in Willard's Hall during the meeting of the association. Willard's Hall is well adapted for this purpose, as it not only adjoins the headquarters but communicates with it by a corridor; there is also a large entrance directly from the street. The committee also promises a pleasant social programme, including a reception by the President of the United States, an excursion to Mt. Vernon, Arlington, and Alexandria, and an evening visit to the Congressional Library. Provisions have also been made to visit the War, State and Navy departments, the United States Treasury, and other public buildings.

**A Cincinnati Knight.**—Dr. A. Ravogli has been knighted with the title of Cavaliere by King Humbert of Italy. The good doctor is to be congratulated, while King Humbert may rest assured the title is most worthily bestowed. Dr. Ravogli has long been the Italian consul in Cincinnati.—*The Lancet-Clinic.*

**Dr. Thomas S. K. Morton** has been elected professor of the principles and practice of surgery in the Woman's Medical College of Pennsylvania, in succession to Dr. John B. Roberts, resigned.

**Dental Practice in Porto Rico.**—At the recent meeting of the New Jersey Dental Association complaint was made that the regulations regarding the practice of dentistry in Porto Rico affect unjustly a number of old practitioners in the island who have been debarred from the further exercise of their profession because they do not hold a diploma from some recognized American college of dentistry.

**The American Association of Obstetricians and Gynæcologists** will hold its twelfth annual meeting in the assembly room of the Denison House, Indianapolis, Ind., Tuesday, Wednesday, and Thursday, September 19, 20, and 21, 1899. The president of the association is Dr. Edward J. Ill, of Newark, N. J., the secretary Dr. William Warren Potter, of Buffalo, N. Y.

**International Congress for the Prophylaxis of Syphilis.**—Dr. Dubois-Havenith, the secretary-general of the congress to be held next month at Brussels, has undertaken the task of preparing a complete bibliography of works, monographs, and journal articles which bear upon the subjects to be discussed, viz.: prophylaxis in syphilis and venereal diseases. The titles of such works by American authors are requested to be sent to the secretary at No. 19 Rue du Gouvernement-Provisoire, Brussels.

**The Colorado State Medical Society.**—The following officers were elected at the annual meeting of this society, held in Denver, June 20, 1899: *President*, Dr. J. N. Hall, Denver; *Vice-Presidents*, Drs. P. J. McHugh, Fort Collins, L. O. Moffett, Colorado Springs, and Millard Harrison, Boulder; *Corresponding Secretary*, Dr. H. B. Whitney, Denver; *Treasurer*, Dr. W. J. Rothwell, Denver; *Recording Secretary*, Dr. Minnie C. T. Love, Denver; *Assistant Recording Secretary*, Dr. W. T. Little, Cañon City.

**Operating Under Difficulties.**—While several physicians of Baltimore were performing an operation on a child not long ago, an explosion of gasoline in the

next room set fire to the house. The fire department turned out and put out the fire, the physicians meanwhile continuing the operation until the heat forced them to remove the patient to another room.

**Navy Department,** Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending July 29, 1899. July 24th.—Surgeon L. W. Atlee detached from the *Bennington* and ordered home via *Solace;* Passed Assistant Surgeon G. Rothganger detached from the *Marietta* and ordered home and to wait orders; Passed Assistant Surgeon M. K. Johnson detached from the naval hospital, New York, and ordered to the *Marietta;* Assistant Surgeon W. M. Wheeler, when discharged from further treatment at hospital, Yokohama, Japan, ordered home in the *United States* and to wait orders; Assistant Surgeon T. M. Lippitt detached from the *Solace* and ordered to the *Baltimore;* Assistant Surgeon R. W. Plummer ordered to the naval hospital, New York; Surgeon J. W. Ross, retired, granted leave for one year abroad. July 25th.—Assistant Surgeon H. A. Dunn detached from the *Panther* and ordered to the Washington navy yard. July 28th.—Passed Assistant Surgeon L. L. Von Wedekind detached from the hospital, Cavite, P. I. and ordered to Mare Island, Cal.

**The Zoölogical Distribution of Tuberculosis.**—At the last meeting of the Zoölogical Society of London Dr. Woods Hutchinson, of Buffalo, read a paper on this subject, founded mainly on observations made in the society's gardens. Of two hundred and fifteen necropsies made in the prosector's room during the past six months, forty-nine, or 23.3 per cent. of the mammals and birds, presented the lesions of tuberculosis. This mortality fell most heavily upon the ruminants and gallinæ, and least so upon the carnivores and raptores. Race or family appeared to exert little influence upon susceptibility, mode of housing only a small amount, and food and food habits much more. A close correspondence appeared to exist between immunity and the relative size of the heart in both birds and mammals.

**Deaths from Ptomain Poisoning.**—The conductor of a party of tourists from Philadelphia died a few days ago at a London hotel from supposed ptomain poisoning. Several other guests in the same hotel had been very ill and one has died, supposedly from the same cause.

**Mortality in the Army at Manila.**—According to the Seattle *Times*, the total number of deaths among the United States troops in the Philippines up to June 2d was 722, 23 officers and 699 privates. Of the 23 officers who died, 16 died of wounds received in battle, 2 were drowned, and 5 died of disease. Of the 699 privates, 294 were killed in battle or died of wounds there received, 9 were killed accidentally, 23 were drowned, and 7 committed suicide. One hundred and six died of typhoid fever, 89 of smallpox, 47 of dysentery, 28 of pneumonia, 19 of malarial fever, and 14 of meningitis. Fourteen civilians died, three of wounds received while on the firing line, and the remainder of disease. Smallpox caused some of these deaths.

**Obituary Notes.**—Dr. Robert Hunter, of this city, died suddenly at his summer home in Canada on July 30th. He was born in Scotland about seventy-five years ago, and was graduated in medicine from the New York University Medical College in 1846. He conducted for a time a sanatorium at Plainfield, N. J.—John V. Hamilton, acting assistant surgeon in the United States army, died at Matanzas, Cuba, on July 26th, of chronic nephritis. Dr. Hamilton was appointed from Mississippi and had been in the service for about a year. He was a graduate of the Memphis Hospital Medical College in the class of 1893.—Dr. Louis Alphonse Charpentier, of Paris, a member of the Académie de Médecine, and well known as an authority on obstetrical subjects, died recently at the age of sixty-three years. He took his medical degree in 1863 and was appointed a professor at the Faculté in 1872. He was the author of a "Traité Pratique des Accouchements," and for some years was editor of the *Annales d'Obstétrique et de Gynécologie.*—Dr. Francis Greene died at his home in East Hampton, Mass., on August 3d, of heart trouble, after an illness of several weeks' duration. He was born in New Haven in 1827, and was graduated from the Yale Medical School in 1851. During the Civil War he served on the medical staff in the Peninsular campaign. He leaves a widow.

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## Obituary.

### DANIEL GARRISON BRINTON, M.D.

PHILADELPHIA, PA.

Dr. Daniel G. Brinton, the distinguished ethnologist, died at Atlantic City, N. J., on July 31st, at the age of sixty-two years. He was born at West Chester, Pa., and was graduated in arts from Yale College in 1858, and in medicine from Jefferson Medical College in 1861. After a year passed in study in Europe he entered the United States volunteer army, and served in the medical corps during the Civil War, becoming medical director of the Eleventh Corps. When disabled from active service by sunstroke, received after the battle of Gettysburg, he became superintendent of hospitals at Quincy and Springfield, Ill., until 1865, when he was discharged with the brevet-rank of lieutenant-colonel. Dr. Brinton was professor of ethnology and archæology in the Philadelphia Academy of Natural Sciences and professor of American archeology and linguistics in the University of Pennsylvania. He was also president of the Numismatic and Antiquarian Society of Philadelphia, and vice-president in 1886 of the American Association for the Advancement of Science, presiding over the section on anthropology. He was for a time editor of the *Medical and Surgical Reporter*, of Philadelphia, and of the *Quarterly Compendium of Medical Science.* Dr. Brinton was a most voluminous writer on ethnological, archæological, and linguistic subjects. He recently presented to the University of Pennsylvania his collection of about twenty-two hundred volumes and manuscripts relating to the aboriginal languages of North and South America.

# Reviews and Notices.

TRANSACTIONS OF THE AMERICAN ORTHOPEDIC ASSOCIATION. Twelfth Session, held at Boston, Mass., May 17, 18, and 19, 1898. Volume XI. Philadelphia: Published by the Association.

THIS volume contains many noteworthy papers, some of which are of exceptional interest. The president in his inaugural address gives an able résumé of the rise and progress of orthopædic surgery in America, and rightly claims that the ten volumes of the Transactions of the Association constitute American orthopædic literature. The book is excellently printed and illustrated, and will prove a valuable addition to the library of an up-to-date surgeon.

BAD NAUHEIM: Its Springs and Their Uses, with Useful Local Information and a Guide to the Environs. By J. GROEDEL, M.D., Medicinalrat, Physician in Bad Nauheim. Second edition. Friedberg and Bad Nauheim: Carl Bindernagel. 1899.

THIS is an enlarged and improved edition of the translation from the German Guide to Bad Nauheim by O. Weiss and J. Groedel. The advances made in treatment at this resort, now so much in the medical public's mind, have been noted, and the chapter on heart disease (which has been made such a feature of the bath treatment) has been considerably lengthened. To physicians intending to send patients for this cure, and to the patients themselves, this work will prove of aid, and will give useful hints to those wishing to carry out similar treatment at home.

LES RAYONS DE ROENTGEN ET LE DIAGNOSTIC DE LA TUBERCULOSE. Par A. BÉCLÈRE, Médecin de l'hôpital Saint-Antoine. Avec 9 figures dans le texte. Paris: J. B. Baillière et Fils. 1899.

THIS little treatise, which was first presented to the Tuberculosis Congress held in Paris last year, embodies the results of the most recent work on the utility of the Roentgen rays in the diagnosis and prognosis of pulmonary tuberculosis. It is interesting to note in the historical introduction that it was Bouchard who, in December, 1897, first demonstrated the presence of an apical infiltration by means of the new rays. The establishment of the diagnosis depends on three factors: (1) The greater opacity of the affected portion, (2) the diminished outline of the diseased lung; (3) the restricted mobility of the diaphragm on the side involved. While the principal value of the procedure is to be found in arriving at an early diagnosis, which is possible in this way long before the usual physical signs put in their appearance, it is also useful in corroborating a diagnosis reached by other means, in revealing the exact extent of lung involved, and in settling the difficult question as to the participation of both apices in the disease. Full details as to the methods of procedure for purposes of differential diagnosis are given and elucidated by adequate illustration.

TRANSACTIONS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION, at its Twenty-Second Annual Meeting, held in Princeton, N. J., May 31 and June 1 and in New York City, June 2, 1898. John T. Bowen, M.D., Secretary.

THIS volume, embracing one hundred and sixty-six pages, is so carefully prepared and systematically arranged that one finds in it a source of great instruction upon the subject of dermatology. Not alone do the Transactions contain such interesting articles as "Hydroa Vacciniforme," by White; "Premycosic Stage of Mycosis Fungoides," by Hyde and Montgomery; "Lupus Erythematosus," by Robinson and White, "Impressions and Conclusions from a Study of Five Thousand Cases," by Allen; "Urticaria Pigmentosa," by Stelwagon, and "Universal Lichen Planus," by Fordyce—but the discussion by the various members is given in full, thus enhancing their value. In addition to the articles enumerated, the report contains some excellent photographs and pathological specimens by Gilchrist, Shepherd, Stelwagon, Johnson, and Fordyce. A special feature of the meeting was the clinical session held at the New York Academy of Medicine on June 2d, where a large collection of photographs, drawings, and microscopical specimens was shown, and a series of rare and interesting cases, as tabulated in this report, was presented. These Transactions differ somewhat from what we are accustomed to see, in that they do not bore one with statistics, membership lists, and other extraneous subjects, but rather form agreeable, interesting, and instructive reading-matter.

PROCEEDINGS OF THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION, AT THE FORTY-FIFTH ANNUAL MEETING, held in St. Louis, May 10–13, 1898. Published by the Association.

THIS report of over four hundred pages contains a number of interesting addresses and papers bearing upon insanity and kindred subjects. Dr. Burr, of Flint, Mich., who is secretary, deserves credit for the excellence of the report.

THE READY REFERENCE HANDBOOK OF DISEASES OF THE SKIN. By GEORGE THOMAS JACKSON, M.D. (Col.), Professor of Dermatology in the Woman's Medical College, and in the Medical Department of the University of Vermont, etc. Third edition, revised and enlarged. New York and Philadelphia: Lea Brothers & Co. 1899.

THIS deservedly popular work, to which we have twice before directed attention, has been improved in the revision in various ways. There are now seventy-five illustrations, six hundred and forty-seven pages, and a collection of formulæ in an appendix. The alphabetic arrangement of the subjects without attempt at classification is a feature we especially commended in our original review of the book, and it is this which undoubtedly has helped to make it as popular with students as it has proven to be.

DIE FRUCHTABTREIBUNG DURCH GIFTE UND ANDERE MITTEL. EIN HANDBUCH FÜR AERZTE UND JURISTEN. Von PROF. DR. L. LEWIN und DR. M. BRENNING. Berlin: August Hirschwald. 1899.

THIS work of nearly three hundred pages is intended to set forth the effect of various medicaments, poisons, mechanical and chemical agents upon the process of gestation, with a view to the production of abortion. The first chapters deal with the historical aspect of the subject, tracing abortion from the time of Plato and Aristotle until the present day, with general rules as to the medico-legal side of abortion, its effect upon the mother, the indications for its performance, and the laws of the various lands and races—Jewish, Roman, Greek, French, German, American, etc.—as to its limitations. The next chapters treat of the dynamics of abortion, the special causes of fœtal death with the subsequent expulsion of the uterine contents, and diagnostic elements in criminal abortion. Then follows a very interesting chapter upon the abortifacients used in the various parts of the world; from an historical and ethnographical standpoint this chapter is certainly instructive. The final Chapters VIII. and IX. are of most importance from a medical standpoint, since they deal in a most thorough manner with the various drugs, diseases, and chemico-mechanical agents concerned in the production of abortion. This work from a medico-legal, historical, and instructive standpoint is fascinating beyond a question. We cannot, however, consider it of great practical importance to the general practitioner.

THE STUDY OF THE HAND FOR INDICATIONS OF LOCAL AND GENERAL DISEASE. By EDWARD BLAKE, M.D., Member of the Royal College of Surgeons, Life Associate Sanitary Institute of Great Britain; Member French Hygienic Society; Honorary Member Michigan Medical Society, etc.; Author of "Interchangeable Character of Arthropathies," etc. Second edition. London: Henry J. Glaisher. New York: G. P. Putnam's Sons. 1899.

ALTHOUGH but the short space of four months has elapsed since this work appeared, the author has practically rewritten the material of its hundred pages, making a number of additions. Periodical literature and previous writers are largely quoted. Naturally, in this limited space, exclusive of bibliography, notes, etc., the subject cannot be exhaustively treated. Indeed at times the text seems much too brief for the importance of the subject, and in places even superficial. Some of the illustrations are excellent, while others might be improved upon. Journal articles have often contained more striking illustrations of arthritic states. While a book of this size could be written upon the nails

alone, the reader will find many useful hints as to the diagnostic significance of usual and unusual conditions of the hand.

AN EPITOME OF THE HISTORY OF MEDICINE. By ROSWELL PARK, A.M., M.D., Professor of Surgery in the Medical Department of the University of Buffalo, etc. Based upon a course of lectures delivered in the University of Buffalo. Second edition. Illustrated with portraits and other engravings. Philadelphia: The F. A. Davis Co. 1899.

THAT a second edition of this work should be necessary thus early, shows a much wider interest in matters not strictly practical and of every-day utility than American physicians have often been credited with possessing. The book is one, however, from which much valuable information may be derived aside from its fascinating features both of text and illustration. A chapter on "Iatrotheurgic Symbolism" has been added, having been originally prepared as an oration delivered before the Maine Medical Association in 1898. As the title indicates, the author has presented merely an epitome of the history of medicine and not an exhaustive treatise. There are three hundred and seventy octavo pages, and the book will worthily fill a space in any library.

MAISCH'S MATERIA MEDICA. A Manual of Organic Materia Medica, being a Guide to Materia Medica of the Vegetable and Animal Kingdoms. For the use of Students, Druggists, Pharmacists, and Physicians. By JOHN M. MAISCH, Phar.D., Professor of Materia Medica and Botany in the Philadelphia College of Pharmacy. New seventh edition, thoroughly revised by H. C. C. MAISCH, Ph.G., Ph.D., Professor of Materia Medica and Botany in the Medico-Chirurgical College of Philadelphia, Department of Pharmacy. In one 12mo volume of 512 pages, with 285 engravings. Philadelphia and New York: Lea Brothers & Co. 1899.

THIS justly popular manual continues to offer to the student, pharmacist, and physician a revised repository of accurate data concerning organic materia medica. One feature of the work worthy of note, and having a bearing upon the book's circulation in all English-speaking countries, is the full recognition given to the British Pharmacopœia, and differences in nomenclature have been properly provided for. The convenient size of the book has been maintained despite important and numerous additions.

TREAT'S INTERNATIONAL MEDICAL ANNUAL. Seventeenth year. Cloth, 760 pages. New York: E. B. Treat & Co. 1899.

THIS year book comes as an annual treat covering the advances in the several departments of medical sciences and containing the usual number of original contributions. There is a vast amount crowded into the seven hundred and fifty-eight pages, and for this reason the print is small. Herein lies the chief objection to the work; fortunately for the overstrained eyesight of the physician seeking for knowledge, the text proper is not in such fine print as the index. There are many illustrations, including fifteen full-page colored plates and a number of half-tones.

THE TWELVE TISSUE-REMEDIES OF SCHÜSSLER HOMŒOPATHICALLY AND BIO-CHEMICALLY CONSIDERED. By WILLIAM BOERICKE, M.D., Professor of Materia Medica and Therapeutics in the Hahnemann Hospital College of San Francisco; Member of the California State Homœopathic Medical Society, American Institute of Homœopathy, etc.; and WILLIS A. DEWEY, M.D., Professor of Materia Medica in the University of Michigan Homœopathic Medical College; Corresponding Member of the British Homœopathic Medical Society and of La Société Française d'Homœopathie; Member of the American Institute of Homœopathy, etc. Fourth edition, rewritten and enlarged. Philadelphia: Boericke & Tafel. 1899.

THIS work, now well known, comprises the theory, therapeutic application, materia medica, and a complete repertory of these remedies. The present volume, more complete than its predecessors, one may say, exhausts the subject of the so-called twelve tissue-remedies. The authors, who are by experience abundantly qualified to recognize and avail themselves of all advances or knowledge pertaining to their task, have aquitted themselves well, and now present to the school they represent a complete guide so far as these "remedies" are concerned. There is first an introduction, then follow the materia medica, symptoms, common name, chemical data, etc., followed by an alphabetically arranged therapy, and then the repertory arranged upon a pathologico-anatomical basis, the whole making a work of four hundred and twenty-five pages.

SAUNDERS' MEDICAL HAND-ATLASES. Atlas of Diseases of the Skin, including an Epitome of Pathology and Treatment. By Prof. DR. FRANZ MRACEK, of Vienna. Authorized translation from the German, edited by HENRY W. STELWAGON, M.D., Ph.D. With 63 colored plates and 39 full-page half-tone illustrations. Philadelphia: W. B. Saunders. 1899.

THIS attractively illustrated work forms number seven of the series already noted in these columns. As in most works of the kind, some of the illustrations are excellent while others give a very inadequate or even faulty idea of the actual skin lesion as it appears in life. A history of the case facing the picture helps materially in understanding the condition depicted. The work has been well reproduced and published, and the translator is to be congratulated.

A CENTURY OF VACCINATION AND WHAT IT TEACHES. By W. SCOTT TEBB, M.A., M.D. Cantab., D.P.H. Second edition. London: Swan, Sonnenschein & Co., Limited. 1899.

THIS is a work whose words are directed to the father of the family and to the framer of laws as well as to the author's professional brethren. The tendency of the work appears to be in favor of the abolition of compulsory vaccination, and surely much evidence has been collected from a great variety of sources to strengthen the arguments used. American writers as well as English and those of other countries are quoted to carry the points made by the author. It is shown that on the question of undoubted efficacy and freedom from danger doctors themselves disagree; hence it is not to be wondered at that legislators hesitate to enact laws compelling parents to subject their children to a procedure still, in a measure, in doubt. The work contains a vast amount of data, but one feels that it has not been presented in the most elaborated, digested, and condensed manner possible.

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# Clinical Department.

## RAT-TAIL ABSORBABLE SUTURES.

BY E. L. JONES, M.D.,

CUMBERLAND, MD.

SOME years ago I read a suggestion or a query as to the availability of the rat's tail for furnishing a fine and strong absorbable suture for light use, as in eye work, etc., but paid no particular attention to the matter. In 1895, while experimenting with rats, I investigated the tail and found it very easy to get an abundance of tendons, six to seven inches long, from each grown rat, and have used them since as occasion arose. They are easily secured in this manner: Cut around through the skin, a few inches from the tip of the tail, and strip it off like a glove from the finger; with the thumb and forefinger nails pinch between the last joint and its neighbor, and pull out a nice little skein of four to six tendons the length of the tail; if desired, each of these can be unravelled into two or more. Each succeeding joint can be treated in like manner, until the tendons become too short for use. This is easy because the tendons are attached only to one joint and the body. With clean hands and a preliminary washing of the tail, the sutures will be aseptic to start with, and can be kept dry or put in alcohol. There seems to be no difficulty about their absorption, and they are well adapted for light work about the face generally; they easily thread into the finest nee-

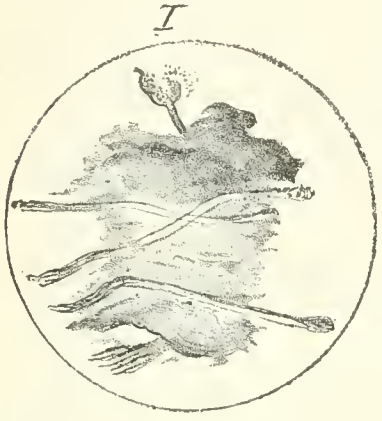
dles. I am not laying claim to originality in this matter, but wish to call renewed attention to a process which does not seem to have attracted as much attention as its usefulness merits.

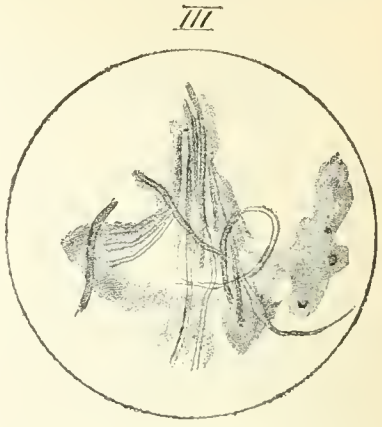
## A MUCOR DERMATOSIS RESEMBLING SCABIES.

By EMIL LUCK, M.D.,

PATERSON, N. J

These three plates have been obtained from a skin affection which has been taken for scabies repeatedly. Looking over the literature, I could find but one case on record in which this zygomycel was pathogenic to man. This case came under the observation of Paltauf: "A laborer died under the appearance of enteritis and circumscribed peritonitis combined with pulmonary symptoms. Post-mortem examination showed ulcers in the intestines, abscesses in the brain, and phlegmons in the larynx and pharynx. Microscopical examination proved it to be a mucor mycosis." These specimens I took from a man fifty-three years of age, silk weaver by trade, of good health. He came to my office saying he was suffering from itch, and nobody could cure it. The affection had the appearance of scabies, the seat of it being also those parts for which the sarcoptes scabiei has a predilection, as the armpits, the skin between the fingers and inner side of the arms, especially near the elbow-joint. He complained about terrible itching, especially at night and when getting warm. He could not sleep all night, and from continual scratching large sore skin abrasions had developed. I examined him carefully, but in hunting after the sarcoptes scabiei failed altogether. There were small elevations which were connected by a duct beneath the horny layer of the skin similar to that produced by the itch insect. On squeezing, a liquid like serum would escape. This was especially the fact in the armpits and at the elbow-joint, which parts were covered all over with small dark red pustules, very much inflamed. Near the margin of this inflamed area I found several solitary spots, some healing, the color being not so intensive. Some of them were covered with a white scab like that of psoriasis. Here I noticed with the aid of a magnifying-glass several filaments emerging from the pustules. I succeeded in extracting several of these, stained them with nitrate of silver, and obtained these plates. They show, according to my knowledge, the characteristic features of mucor corymbifer. No. 1 has been taken from a pustule which was healing but had no scab developed yet. One sporangia is just burst, throwing out the spores. No. 3 was taken from a pustule in the stage of inflammation before development of the sporangiæ. No. 2 was obtained by opening one of the ducts which connected the pustules. I opened it with a needle and extracted the specimen. As Nos. 1 and 3 evidently are mucor corymbifer, I do not know whether No. 2 is the same or mucor rhizopodiformis. I am not sure whether mucor corymbifer sends off filaments as Plate No. 2 shows, but mucor rhizopodiformis does. The affection did not yield to chrysarobin, ichthyol, and red precipitate ointment, but disappeared after application of a three-per-cent. menthol-and-salol ointment.






## A CASE OF TUMOR OF THE BRAIN WITH UNUSUAL SYMPTOMS.[1]

By ARTHUR CONKLIN BRUSH, M.D.,

ASSISTANT NEUROLOGIST TO THE KINGS COUNTY AND BROOKLYN EYE AND EAR HOSPITALS; CONSULTING NEUROLOGIST TO THE BROOKLYN CENTRAL AND BEDFORD DISPENSARIES.

This patient was brought to the clinic at the Brooklyn Eye and Ear Hospital on August 5, 1898. She was a large and well-developed child, eight years of age Her father and mother were both living and healthy. She was the third of four children, the others being in every way normal. She was always a robust child up to July, 1897, when she fell down a flight of cellar steps, striking the back of her head and frightening her very much. Six months later it was noticed that she did not use her right hand, and a few weeks later she lost the use of her right leg. Since that time there have been only very slight voluntary movements on the right side, but vigorous ones occur during sleep. She never speaks and only utters harsh laryngeal sounds. At times she becomes very much excited, laughing or crying without obvious cause. I found upon examination that she was unable to walk, stand, or speak. She seemed fully to understand what was said to her. There was a flaccid hemiplegia on the right side, the only voluntary movements being slight ones of the fingers. All the muscles of the neck were in a state of flaccid paralysis and unable to support the head. All these muscles reacted normally to galvanism, except those of the right anterior group, which did not react to the strongest currents. All the reflexes on the right side were exaggerated. At times she was unable to retain her urine. She was unable to swallow solid food, and the pharyngeal reflex was lost. The pupils reacted both to light and accommodation. Hearing and vision seemed to be normal. On August 19th, while under examination, she began to cry and had a slight general tonic spasm followed by a clonic one. On that day her temperature was

[1] Read before the Brooklyn Pathological Society, November 10, 1898.

100°, her pulse 68 and irregular, and there were bronchial breathing and dulness over the upper half of the left lung. I did not hear of this patient again until the evening of September 30th, when the father came to my office and reported that since I had seen her she had had a number of convulsions and had been for the past twelve hours in a state of constant spasms. He also stated that for some days past she had been unable to swallow even liquids. The child died at six o'clock the next morn.

An autopsy was made eleven hours after death. The dura was everywhere adherent. The brain seemed too large for the skull. It was very light in color and its tissue was extremely soft and œdematous. About the junction of the middle and anterior thirds of the wall of the great longitudinal fissure, in the region which is known as the marginal lobule, both walls were found to be infiltrated by a soft yellowish mass which extended for a distance of about two inches. On the left side the interior of the hemisphere was in the whole frontal and the anterior portion of the parietal lobe occupied by a huge cyst whose wall formed the mass seen in the longitudinal fissure. This wall was composed of a soft, yellow, nodular material, and varied from one inch to half an inch in thickness. The centre of the cyst was occupied by a dull reddish, turbid, semifluid material, the wall of the cyst was quite distinct from the surrounding brain tissue. The corresponding mass on the right side proved to be an egg-sized tumor of the same character as the wall of the cyst. This mass was also easily removed. The pia at the base showed a fibrous meningitis containing gray and yellow tubercles. Examination of the posterior fossa of the skull showed on the right side of the median line, one inch above the lateral sinus, a united fracture with slight displacement running horizontally outward for the distance of three inches. Microscopically the tumor was found to consist of small rounded cells, which were, as a rule, in a state of granular degeneration and without nuclei. Here and there were nucleated cells and small nucleated epithelioid cells. These were embedded in a small amount of delicate reticulated tissue.

It would seem, then, that the etiological factor in this case was the blow which the child received on the back of the head in the fall down the steps. Blows on the head are a well-recognized cause of cerebral tumors, the inflammatory changes thus produced giving rise to cellular changes which result in new growths here just as they do in other parts of the body. It is a well-established fact that every injury to the head sufficient to produce the symptoms of cerebral concussion does so by causing minute lacerations of the brain tissue and small multiple hemorrhages. That the blow was a severe one is shown by the presence of the fracture, while the absence of any history of the symptoms of marked concussion emphasizes the fact that the amount and character of the damage done to the nervous system cannot be measured by the amount of the physical shock. Upon examining the history we are struck at once with the entire absence of many of the ordinary symptoms of tumors of the brain, such as optic neuritis, headache, vertigo, and projectile vomiting. These, however, are not always present, and this is especially true of tumors of the frontal lobes. The paralysis which did exist in this case was certainly not of the organic type. A flaccid hemiplegia which allows slight movements of the extremities, which does not involve the face, which disappears during sleep, in which the reflexes are exaggerated and the electrical reactions are normal, certainly makes a perfect picture of hysterical hemiplegia and the reverse of what we find in the organic type of flaccid hemiplegias. Again, if this hemiplegia was due to the tumor on the left side of the brain, why did not the tumor on the opposite side, which was also of large size and similarly situated, cause motor symptoms? It was the character of the hemiplegia associated with the causeless laughing and crying attacks which led me to consider this case at first to be one of hysteria. It was not until the second visit of the patient that I became convinced that I was dealing with a more serious intracranial difficulty. This mistake is not an unpardonable one, for tumors of the brain, even when of large size, may give only the manifestations of hysteria; and this is especially true of tumors of the frontal lobes, which may give rise to no symptoms beyond psychical ones. It was the character of the convulsion which occurred at the second visit, together with the changes in the pulse, respiration, and temperature, associated with the pulmonary changes, which caused me to change my diagnosis. The acute character of the tuberculosis, and the fact that it was not discovered in several prominent teaching institutions in the borough of Manhattan, leads me to believe that it had not existed for any length of time and was the active factor in causing the death of the child. The real nature of this tumor is a matter of doubt. From its tendency to undergo degenerative changes forming cysts, and from the nature of its cells, one would be apt to consider it a glioma; but gliomas are not distinctly defined like these tumors, but infiltrate the surrounding brain tissue, and are as a rule single. It may of course have been tuberculous, but careful examination failed to show any forms of bacteria. This case, then, only serves to add another to the ones already recorded by Bramwell, Gowers, Starr, and others, of similar cerebral tumors which fail to give the usual symptoms of such growths, but give rise to others which make the diagnosis at times impossible.

11 Lafayette Avenue, Brooklyn, N. Y.

## AN ENORMOUS OVARIAN CYSTOMA.

By D. TOD GILLIAM, M.D.

COLUMBUS, OHIO.

Aside from the enormous size of the growth there were other features connected with the case that entitle it to special consideration. The patient, Sarah Gilham, is a farmer's wife living near Bethesda, Belmont County, Ohio. At the time of operation she was forty-five years of age, and had noticed the growth about thirteen years. She had one son seventeen years of age. She was referred to me by Dr. D. M. Murphy, of Bethesda, who in writing stated that the growth was of sixteen years' standing and intimated that the patient was in bad shape, but said nothing of the extraordinary size of the growth. On arriving in the city she was driven directly to St. Anthony's Hospital, and the doctor came to my office for a permit. I thought little of this at the time, attributing this deviation from the usual custom to the enfeebled condition of the patient. The following morning I was brought into the presence of the patient, and must confess that I was surprised and disconcerted. As she lay in bed on her side with her back to the wall the tumor filled the bed, and as it quivered and vibrated with the respiratory movements it presented a spectacle that I shall never forget. It was simply monstrous, uncanny, and inhuman. In its huge and tremulous expansiveness it reminded one of a mastodonic amniotic sac. A peculiar feature was the comparative laxity of the cyst and abdominal walls, which allowed it to flatten out and spread all over the bed, and it extended from high up on the chest to below the knees. The face, chest, and arms were emaciated to the last degree, while the lower half of the abdomen was knobby and indurated as in elephantiasis. The lower extrem-

ities were truly elephantine in shape and appearance. I could not see the genitalia, nor did I make any attempt toward a vaginal examination, as these parts were obviously inaccessible. She was examined lying on her side, as the pressure of the tumor on the diaphragm gave rise to suffocative symptoms. The percussion wave was strikingly distinct over all parts. She was helpless in bed, and it required the assistance of several persons to change her position. Nevertheless, if placed on her feet she could walk. On the day of her admission, in attempting to change her position in bed the tumor gave a lurch and carried her bodily to the floor. It required the combined efforts of several men and nurses to replace her in bed. She was tall and of large frame, but with the exception of the lower extremities had wasted to a skeleton. She was of buoyant disposition and rather inclined to be jovial. I found her to be a woman of more than ordinary intelligence and shrewdness. She inquired with some show of concern whether the removal of the growth would be attended with danger. On being informed that it would, she expressed a wish to be tapped and sent home. I explained that tapping would be a measure of doubtful expediency, as the refilling of the sac would make such a draft on her vital resources as rapidly to exhaust them, and that the tumor would certainly kill her if it was not removed. She then said that she would leave the matter entirely in my hands. I told her that we would both consider it for twenty-four hours, as I confess that I had little hope of benefiting her.

On my next call we agreed to operate, and she was in the best of spirits. She arrived in the city on Wednesday evening, and the operation was set for Saturday morning. This was March 25, 1899. She took the ether nicely and was placed on the operating table on her side. The bulk of the tumor extended over the side of the table and had to be supported by an assistant. This assistant was relieved at short intervals, as the position was too irksome to be maintained for any length of time. An incision six inches long was made down to the sac and revealed the thickened abdominal walls, consisting entirely of hyperplastic connective tissue. The cyst wall was also thick and dense, and was with difficulty penetrated by the trocar. Thus it will appear that the abdominal and cyst walls had grown *pari passu* with the cystic accumulation, and that neither suffered from the pressure atrophy usually found in such cases. A large wash-tub was placed to receive the contents, which were of the color and consistence of very muddy water. The fluid left a greenish-yellow deposit on anything with which it came in contact. When the tub was nearly full it was removed and a waste-water tub substituted. It required three of these besides the large wash-tub to receive the contents. These tubs were all removed to one side of the room that no extraneous matter might find its way into them. We now placed the patient on her back and attempted to break up the adhesions between the cyst wall and abdominal parietes. These were found to be so dense and extensive that after working a while I became convinced that the method was impracticable, and so opened up the cyst and attempted to deliver by inversion. In this I was also foiled and began to fear that I should have to content myself with an incomplete operation, when suddenly well down on the left side the adhesions began to give, and from this point I was enabled to strip off the sac in all directions. The pedicle was broad and was secured by a chain ligature. The cyst was cut loose and dropped into a receptacle. We now attempted to wash out the cavity, but the two gallons of water poured in disappeared as completely as though poured into a waste-pipe. I now saw that nothing short of a tub of water would avail to flush the cavity, and the attempt was abandoned. The redundant tissues of the abdominal wall hung down on either side of the table and covered the thighs to the knees. The surface was thrown into innumerable folds and fissures, but the folds were much larger and the wrinkling less conspicuous than in other large abdominal growths, because of the unusual thickness of the parietes. In attempting to sponge out the cavity I found pools of fluid in all sorts of out-of-the-way places. At this juncture I found what appeared to be a segment of the cyst wall about the size of a man's hand. It was situated over the bladder and so firmly attached as to preclude any attempt at separation. The margins were clean cut as if severed by the knife or scissors. Neither my assistants nor myself had any recollection of severing aught but the pedicle, and the discovery of this gave rise to no little thought and speculation. After careful sponging and drying the patch was folded on itself longitudinally and the edges were stitched with the Lembert suture. The wound was now closed, but in applying the bandage we found that, do what we would, a large pendulous mass extended down over the thighs. The fluid contents of

the tumor were now measured, a quart measure being used for the purpose. This was done by a sister supervised by the chief nurse. The count was made aloud and repeated by two censors and witnessed by several bystanders. There was no chance for deception or mistake. A quart of the fluid exclusive of the vessel was found to weigh two pounds and a quarter almost precisely. Of this fluid there were seventy-five quarts and a fraction. The cyst wall with its residue weighed a few ounces less than seven pounds. Altogether the tumor weighed a little more than one hundred and seventy-six pounds. The patient did well from the first, although the pulse rate continued at or about 100 for two weeks. The only trouble arose from the maceration and excoriation of the skin in the deep sulci between the contiguous folds, necessitating the use of cotton packing as a protective.

There were present at the operation Dr. J. J. Magruder, chief of staff, who gave the anæsthetic; Drs. E. M. Gilliam and C. F. Gilliam as assistants; Dr. Murphy, the family physician; Drs. W. R. Moore and E. M. Parret as spectators, besides the sister superior and three nurses.

## A SAFE AND SIMPLE METHOD OF REMOVING THE PLACENTA.

By HERMAN GASSER, M D.,
PLATTEVILLE, WIS.

DURING my first two or three years of practice, it was my habit of using Credé's method of expression of the placenta, with general satisfaction to me, but in nearly all cases there was complaint of pain by the patient as a result of the manipulation.

In one rather protracted case of this kind I ordered the patient to press it out while also using Credé's method. It came at once with readiness and ease. It seemed to linger in my mind that at some time or somewhere I had been taught or had read that this might cause inversion, and hence watched with care the contraction of the uterus. Since then in four hundred and eighty confinements it has been my constant practice. At first, it is true, I felt my way gradually, but with ever-increasing confidence, so that at the present time I feel that I can complete the third stage of labor whenever I want to, and that, too, without complaint by the patient and a minimum amount of pain.

After the second stage of labor is complete, it is usually my practice to keep track of things for about ten or fifteen minutes, which also in the mean time gives the patient a rest. I then catch hold of the cord with my right hand, gently grasping the fundus through the abdomen with the left, when I direct the patient to press it out, which she generally does at once. When by gentle traction on the cord and slight compression on the fundus I find it coming, I order the patient to relax her efforts.

Since using this simple and sensible method I have not had any "adherent placentæ" that we hear and read so much about. That they exist, though rarely, no doubt is true. Gentleness and patience should be practised to secure the membranes intact, for much of the future comfort and progress of the patient is dependent upon this seemingly simple procedure.

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**Chorea.**—Six to ten grains of the oil of gaultheria, either pure or mixed with vaseline, used externally as a dressing for the upper and lower extremities, alternately, evaporation being prevented by the use of oiled silk, is followed by success in many cases. The good effects are not confined to cases with distinctly marked rheumatic symptoms.—LUIGI.

# Society Reports.

## AMERICAN DERMATOLOGICAL ASSOCIATION.

*Twenty-Third Annual Meeting, Held at Philadelphia, May 30, 31, and June 1, 1899.*

**The President's Address.**—DR. JOHN A. FORDYCE, of New York, in his opening address passed in review all the important advances which had been recorded in dermatology since the last meeting, dwelling particularly upon the employment of sera, and the treatment of lupus, hypertrichosis, and other affections by means of the *x*-rays. He did not regard the latter as so efficacious and free from danger of deep burning and scarring in these affections as electrolysis. In speaking of the therapeutic application of concentrated chemical rays (Fennsen) in lupus and alopecia areata, he said lenses of rock crystal had been used to exclude certain rays. As regarded cancer, while the embryonic theory had much in its favor, he believed little doubt existed at the present day as to the infectious nature of the disease. Still the prediction was made that it would be a long time yet before the true pathogenesis became known.

**Epithelioma as a Sequence of Psoriasis and the Probability of Its Arsenical Origin.**—DR. M. B. HARTZELL, of Philadelphia, read a paper on this subject. The case upon which the argument turned concerned a young woman upon whose heel a deep ulceration occurred while she was under treatment by arsenic for psoriasis. As a further evidence that the drug was at the bottom of this intercurrent trouble, there were corn-like thickenings of the palms and the epidermis of the soles became thick and horny. In the left groin was a tumor the size of a small orange, firm and elastic, except at the summit where it was soft. The patient had been given arsenic in considerable doses for a long time, and developed the horny condition of the palms and soles about two years after the psoriasis had made its appearance. Later small superficial ulcers appeared and refused to heal. At this time the tumor in the groin also ulcerated, and discharged abundantly. There soon followed fever, loss of appetite, and rapid emaciation, and death occurred in about two months. Examination of an excised section of the border of the ulcer demonstrated beyond doubt its epitheliomatous nature. Ten cases of associated epithelioma and psoriasis have been reported, the speaker said, and in all of them the psoriasis had been of long standing; in all but three there was some form of keratosis; and in all epitheliomatous change took place beneath one or more of the horny excrescences. In eight out of eleven in which any mention is made of the treatment, arsenic had been given in considerable quantity over a long period. It is noteworthy that in fifty per cent. of the cases the lesions were multiple and that one-half of the patients were under the age of forty years. Dr. Hartzell believed, on the strength of the evidence in our possession, that the epithelioma in these cases was very probably due to the action of arsenic.

In the discussion all agreed that arsenic frequently caused the corn-like elevations described and often marked conditions of keratosis. If the continued irritation of these masses upon the surrounding skin resulted in epitheliomatous changes, then arsenic, it was contended, would have to be looked upon as the remotest cause of the resulting cancer.

**Imperfect or Deficient Urinary Secretion as Observed in Connection with Certain Diseases of the Skin.**—DR. L. D. BULKLEY, of New York, went at considerable length into the analysis of urine as car-

ried out by himself and his assistant over a period of years. The result of the investigations showed that there were no skin affections which were uniformly associated with any particular lack or excess of the normal constituents of urine. In psoriasis, however, the specific gravity was usually high and there was an excess of urea.

In the discussion the opinion prevailed that little could be learned from exhaustive urinalysis, and that while glycosuria was often detected in certain forms of dermatoses, the systematic experiments of Dr. Bulkley would not have to be repeated by others.

Dr. Sherwell said that in pityriasis rosea uric acid was found in excess, and that diuretics assisted in the cure.

Dr. White thought the results of analysis were negative so far as indications for treatment in general were concerned.

Dr. Klotz pointed out the untrustworthiness of Fehling's solution, citing other conditions producing reduction of the copper.

**Two Epidemics of Alopecia Areata in an Asylum.**—Dr. J. T. Bowen, of Boston, read this communication. The chief interest in this report was the fact that it was the first epidemic or epidemics of alopecia to be recorded in this country, though numerous observations of a similar nature have been reported in England, but more especially in France. Sixty-three out of the sixty-nine inmates of an asylum for girls contracted the disease from a girl who entered with bald patches on the scalp. This girl finally left the asylum and was absent three years, in the mean while infecting the lady with whom she lived. Being readmitted to the institution a new epidemic arose, infecting twenty-six out of the then total of forty-five inmates. The areas of baldness were not so typically rounded nor so large as in the cases usually observed, but had a rather angular outline. Still the entire absence of the trichophyton fungus, and the failure to detect any organism which could be accused, led to the opinion that the epidemic was one of alopecia areata.

Dr. J. C. White, having seen some of the cases, gave his opinion that it was not the ordinary form of alopecia as he knew it.

Dr. C. W. Allen stated his belief that there were transition forms between the bald ringworm which resembled alopecia and true alopecia.

**Congenital Dermatitis Herpetiformis and Almost Complete Absence of Finger-Nails and Toe-Nails.**—Dr. S. Sherwell, of Brooklyn, reported a case of this nature. The patient, whose picture was shown, was a woman of twenty-eight years, the offspring of cousins, whose other children were healthy. Some fingers showed rudimentary traces of nails, but with the exception of the great toes the markings of the nail bed were alone visible. This had been the condition since birth, and the dermatitis herpetiformis had existed since earliest infancy; a bulla being discovered a few days after birth. The lesions were confined chiefly to the extremities, especially to the parts below the knee and elbows. There was always much itching. The reader was incined to attribute both conditions to a common neurotic origin.

**A Maculo-Anæsthetic Lepride of the Palm.**—Dr. D. W. Montgomery, of San Francisco, reported this case. The chief point of interest was the unusual location. The patient was a lad aged fourteen years, born in Hawaii, of American mother and Scotch father, and a resident of California for four years. A maternal uncle, aunt, and three cousins were lepers, all having apparently contracted the disease by prolonged association with lepers. When first seen by the speaker the skin over the forefinger was red and swollen, and presented the appearances of a moist eczema. Sensibility was impaired. No bacilli were found. In three months healing had occurred with scar formation. Subsequently there was extension along the palm with analgesia of the area, and the back of the hands showed the condition of non-pitting soft œdemas so often seen in lepers.

**Necrotic Granuloma and Indurated Erythema in the Same Subject.**—Dr. J. C. Johnston, of New York, reported this case. The subject of this observation was a girl aged sixteen years, with tuberculous family history, and enlarged cervical nodes presenting the clinical picture of Bazin's erythème induré des scrofuleux, many of the lesions resembling erythema nodosum before they had become ulcerated. Upon the arms were lesions of an entirely different appearance, but, according to the reader, they were but another expression of the constitutional vice underlying the erythema of the lower extremities. The author's designation, "necrotic granuloma," indicated the nature of these nodules, which have been designated "acnitis and folliclitis," by Barthélemy; "hydradenitis suppurativa," by Pollitzer, "necrotizing chilblain," by Allen; acne necrotica," by Boeck, etc. The lesion was of the chilblain type, of extremely indolent course, and when the central plug separated and slow healing occurred a pit was usually left behind. Treatment was very unsatisfactory. The histological findings showed that the disease began in the lowermost layers of the corium and in the subcutaneous fat. Cell infiltration, etc., began about the vessels and followed their course. The vessels became obliterated, and coagulation necrosis followed. Epithelial changes were secondary. Bazin's erythema and this granuloma were non-microbic, but the latter was thought by the reader to be toxinic. The connection with tuberculosis had been discussed in a recent essay by him on the "Paratuberculoses."

**The Rôle of Pus Organisms in Diseases of the Skin.**—Dr. G. T. Elliot, of New York, opened the discussion on this subject. He reviewed at length all that had appeared upon the subject from the pens of observers and experimenters. He showed that the causes of purulent dermatoses might be of a known chemical or microbic nature, or they might be unknown. Cutaneous infection might occur by metastasis from the interior of the body or directly by the bacteria effecting an entrance through the cutaneous follicles. Saprophytic staphylococci were to be found in large numbers upon the hairy scalp, beneath the nails, and in the perigenital region. Abscesses of the skin and subcutaneous tissue were due to the staphylococcus pyogenes aureus or albus, or to the streptococcus pyogenes. Phlegmon had been shown in ten out of fourteen cases to be caused by the streptococcus pyogenes. Carbuncle was thought by Unna to be due to a special streptococcus, yet experimental inoculation with the ordinary streptococcus had produced the disease. Furuncle was due to the action of staphylococcus aureus. Impetigo vulgaris was claimed by Unna to be produced by an ochre-yellow coccus which he called impetigococcus. He distinguished a number of different forms of impetigo. Folliculitis of lanugo hairs was said by Wickham to be caused by staphylococci. French writers made acne vulgaris dependent upon staphylococci. Ecthyma was thought to be due to the same coccus. Sabouraud claimed that certain tineæ (in the horse) had pus-producing properties. As an instance of metastatic influence the discovery of Neisser's gonococcus in the lesions of furunculosis, occurring in a subject of gonorrhœal urethritis, was cited. Contradictory results were often noted in the bacteriological reports, and the reader found as the result of his investigations that there were other causes for suppurative processes besides the recognized pyogenic micrococci, and that non-pyogenic organisms were capable under favorable conditions of taking on pus-forming qualities. The

whole question was looked upon as being in a still very unsettled condition, and no classification was attempted.

Dr. Gilchrist continued the discussion with a paper entitled "The Bacteriological and Microscopical Examination of Over Three Hundred Vesicular and Pustular Lesions of the Skin, with Some Experimental Observations." The cases which were examined occurred in public and private practice, and were to some extent chosen ones. The following was a summary of his results:

Impetigo contagiosa: Seventeen cases were examined, cultures being taken from the pustules or from beneath the most recent scabs. The streptococcus pyogenes was obtained in pure culture in ten cases and was also present in the other cases, but the staphylococci pyogenes aureus and albus were both present. Smears from the lesions showed the presence of chains of diplococci. The disease was reproduced in a boy, and the pure culture of the same organism was obtained from the lesion.

Ecthyma: Two cases. Pure cultures of the streptococcus pyogenes were obtained from beneath the scabs in both cases.

Impetigo vulgaris, or infected scratch: Sixteen cases. The following organisms were obtained: Streptococcus pyogenes pure in two cases. Five cases yielded the streptococcus pyogenes and staphylococcus epidermidis albus; in seven cases the staphylococcus pyogenes aureus was obtained pure; one case gave the staphylococci pyogenes albus and citreus; one case gave the albus alone.

Tinea sycosis: One case. From a large pustular lesion the tricophyton megalosporon ectothrix was grown pure in one culture, but in the other culture numbers of colonies of the staphylococcus pyogenes aureus were also present. Some of the pure culture of the fungus was inoculated on a man's arm, and a small pustular eczematous lesion was produced. A pure growth of the fungus and no pus organisms were obtained on slant agar from three of the pustules at different times. Smears from the pustules did not demonstrate the presence of any diplococci. The disease was reproduced again on another man's arm with the pure culture obtained from the last case, and again a pure growth of the ectothrix followed a smearing the pus from the pustule over slant agar. Two other cases of tinea megalosporon ectothrix, occurring as discrete pustular lesions over the scalp in negro children, also yielded pure cultures, and no staphylococci or streptococci were present either in the smears or in the culture. One case of tinea megalosporon endothrix was met with on the wrist of a man, and pure cultures of the fungus were obtained from a pustule. The disease was reproduced in two men by inoculation with the pure culture, and the fungus was obtained from the pustules in pure culture.

Furunculosis: Twenty cases were examined. In every case pure cultures of the staphylococcus aureus was obtained.

Scabies: Nine cases. In four patients in whom the lesions were severe and were impetiginous and ecthymatous in character, pure cultures of the streptococcus pyogenes were obtained. In two cases the staphylococcus pyogenes aureus was mixed with the streptococcus pyogenes. In one case only the staphylococcus aureus was obtained from a pustule. In one case a culture from a vesicle yielded the staphylococcus epidermidis albus. In another a vesicle gave the same organism and the staphylococcus pyogenes aureus; and lastly the culture from a pustule in the ninth case was sterile, probably due to faulty technique.

Superficial whitlow: Three cases. One yielded the streptococcus pyogenes and staphylococcus pyogenes aureus; one gave the streptococcus pyogenes and staphylococcus epidermidis albus; one gave the staphylococci pyogenes aureus and albus.

Pediculosis capitis: Cultures from beneath a scab gave the streptococcus pyogenes, the staphylococci pyogenes aureus and albus.

Pediculosis corporis: In one case culture from beneath a scab gave the streptococcus pyogenes and staphylococcus epidermidis albus. In the second case the staphylococcus pyogenes albus resulted.

Sycosis non-parasitica: Three cases. The basal portion of the hair and the pus in each case yielded the staphylococcus pyogenes aureus. In one case of lupoid sycosis culture gave the same micro-organism.

Syphilis: Nine cases. In one case of the small pustular syphilide culture from a pustule gave a pure culture of the streptococcus pyogenes. Two cases of a similar eruption yielded respectively the streptococcus pyogenes and staphylococcus epidermidis albus, and the staphylococci pyogenes aureus and albus. From a case of rupia the pure culture of the staphylococcus pyogenes aureus grew. Cultures from a pemphigoid lesion on the hand of a three-hour-old child were sterile. Pus from a week-old gumma was sterile. The contents of a tubercular lesion were also sterile.

Potassium iodide eruption: Two cases of pustular lesions. One case gave the staphylococcus pyogenes albus; the other was sterile. Cultures from vesicles and pustules produced by the application of carbolic acid, corrosive sublimate, and croton oil respectively gave negative results.

Herpes zoster: Ten cases. Cultures from the vesicles were all sterile, except in one case four small whitish colonies of a short bacillus grew on the media.

Sebaceous cyst: Two cases. Cultures from the contents were sterile.

Dermatitis venenata: Eleven cases. Cultures from the vesicles were all sterile, and even from the pustular lesion no growth was obtained.

Pernio: Four cases. Cultures from the bullæ yielded negative results.

Tuberculosis cutis: In one case the cultures were sterile when taken from the pus. In a second case the streptococcus pyogenes and staphylococcus aureus were present.

Erythema multiforme: Three cases, vesicles and bullæ. The results were sterile. In two cases of herpes iris negative results also followed.

Pemphigus pruriginosus: In one case cultures from numerous vesicles were sterile.

Blastomycetic dermatitis: One case. Cultures from the pus were sterile of the ordinary pus organisms, but a pure culture of blastomycetes was obtained.

Protozoic dermatitis: There was no growth from the pus.

Eczema: Twenty-eight cultures, in nineteen cases. In five cases of eczema vesiculosum, four were sterile; and in one were a few colonies of the staphylococcus epidermidis albus. In thirteen cases of eczema madidans, cultures from the liquid oozing from the lesions in five gave the staphylococcus pyogenes aureus only; two the staphylococcus pyogenes aureus chiefly, and the staphylococcus albus; four gave the staphylococcus epidermidis alone; two were sterile. In ten cases of eczema pustulosum, two gave the staphylococcus pyogenes aureus pure; four gave the staphylococcus epidermidis albus; two gave the staphylococci epidermidis albus and aureus; one was sterile.

Acne vulgaris: Ninety-one cultures from acne pustules of fifty-three patients. Fifty-one cultures were sterile on slant agar; thirty-one cultures gave the staphylococcus epidermidis albus (Welch), and in the large majority of cultures only a few colonies were obtained; nine cultures on glycerin agar gave a pure culture of a bacillus. This bacillus grew slowly *en*

*masse;* it was of a creamy white at first, gradually turning a pinkish red; grew when transplanted *en masse* on blood serum; in glucose agar as a stab without forming gas; invisibly on potato and in bouillon, but not in milk nor in Dunham's solution. It did not decolorize by Gram's method; it was motile and branched (streptothrix). This bacillus was found in all the smears taken from all the pustules, but no diplococci could be found in those which gave sterile results on slant agar.

Since acne vulgaris was by far the commonest of all cutaneous diseases, and its lesions were usually very numerous, it was not impossible to suppose that the pustular lesions of acne vulgaris almost outnumbered all those of all other cutaneous diseases added together. If the fact could be proved, then this bacillus, which is the probable cause of the acne pustules, was the commonest pus producer in all cutaneous diseases. It was somewhat surprising to find that the streptococcus pyogenes outnumbered the staphylococci pyogenes aureus and albus as the next in the series of the pus producers in cutaneous lesions. The staphylococcus pyogenes aureus came next, and the albus next. Another fact which was brought forward was that the majority of vesicular lesions of the skin were sterile, showing that other substances or micro-organisms which could not be grown at present were the cause of these lesions. Other pus producers which were to be added to those just mentioned were tinea megalosporon ectothrix and endothrix, blastomyces protozoa, and tubercle bacilli.

Dr. S. Pollitzer, of New York, made an interesting exhibition of cultures of ringworm and favus, demonstrating the identity of some forms found here with those of cultures he had received from other countries.

**Modes of Infection in Leprosy.**—Dr. P. A. Morrow, of New York, read a paper on this subject. Of late years the view had been gaining ground that contagion could take place or that the entrance of the bacilli could be effected in a variety of ways. There was unquestionably an individual susceptibility and a predisposition to resist which must be reckoned with. Some individuals were practically immune, having a total lack of receptivity. Again, the disease might be inoculable only at certain periods of its existence. Many observers looked upon the skin as offering the most favorable entrance for the bacilli, and in support of this view there was the fact that the lesions first showed themselves upon exposed surfaces. It was here that abrasions, open wounds, bites of insects, mosquitoes, etc., mostly occurred. The mosquito had been credited with playing an important part. It is said that the mosquito and leprosy were introduced into the Hawaiian Islands at the same time, but the reader opposed the opinion that the disease was spread largely by the bite of this insect. The attempt to find the bacilli in the mosquito had until recently always been unsuccessful. Kissing, which is so common in Russia, and rubbing of noses in salutation, as practised in some leprous countries, should prove a fruitful source of infection, especially in view of the frequency of intra-nasal lesions. Catarrhal conditions added to the predisposition. Inhalation must be a common mode of contracting the disease, since the breath of a leper was loaded with bacilli. The reader agreed with the majority of investigators that through the upper air passages most transmission of the disease occurred. Culture plates exposed where lepers were exhaling showed a great abundance of bacilli. Lepers themselves most frequently attributed the onset of their affliction to catching cold, since in leprous countries the disease was apt to be ushered in with symptoms of a "cold."

**The Treatment of Scabies.**—Dr. S. Sherwell, of Brooklyn, read a paper on this subject. He believed that washed sulphur was the cleanest, least disagreeable, and altogether the most efficient remedy at the physician's command, when applied according to the speaker's method. Since the disease usually affected a whole family, it was useless to treat only one member. After a bath, in which the tougher portions might be lightly rubbed with sand soap or sapolio, one-half teaspoonful of the sulphur lotum should be gently rubbed over or into the dry skin, and an equal amount sprinkled between the sheets of the bed or upon the clothing which comes next to the skin. The advantages of this method (which it was not claimed cured in a shorter time than others) were its cleanliness, freedom from production of inflammatory changes, dermatitis, etc., so frequently seen after some other methods, freedom from personal discomfort and from disagreeable odor. It was innocuous and inoffensive, and might be used prophylactically among emigrants, soldiers, etc The reader had employed the method with the greatest success and satisfaction for twenty years.

In the discussion those who were familiar with this manner of using sulphur spoke highly in its favor, while some who had not tried it expressed satisfaction with other methods in common use, and could see no advantage of the dry sulphur over sulphur ointment.

**A Contribution to the Histo-Pathology of Epidermolysis Bullosa.**—Dr. G. T. Elliot, of New York, read a paper with this title. The case described, and which formed the basis of some histological investigations, was one which the reader had on several occasions presented at the meetings of the New York Dermatological Society. It was a typical example of the condition in a man twenty-three years of age, in whom the disease, or, as the speaker preferred to consider and call it, the congenital condition, had existed since birth. The history as to heredity was negative, and there had been no similar instance in the family. The result of the reader's investigations led him to believe that the peculiar tendency in this individual to the formation of bullæ upon the slightest traumatism, friction, or pressure over a given area of skin was due to the fact that he was born with a physiological condition of skin which responded in this way to any slight irritation. As a result of the latter the rete was continually bathed, as it were, in perspiration, was finally swept off, and the bulla then formed.

**Blastomycetic Dermatitis.**—Dr. J. N. Hyde, of Chicago, read a paper on this subject and illustrated it with a series of lantern slides. The reader, who had been assisted in his work by Drs. Hektoen and Bevan, presented the history of a man aged fifty-seven years, with lesions on the back of the hand resembling tuberculosis verrucosa or lupus, together with the histological findings, illustrated by many sections showing the blastomyces, some in the process of budding. This was the seventh case of this rare affection to be recorded in which the causative organism had been cultivated and scientifically studied. The larger number of these were American cases. The reader concluded as follows:

(1) A sufficient number of cases had been recorded, with etiological relations of the disease demonstrated by laboratory experiments, to establish the identity of blastomycetic dermatitis as a dermatosis distinct from all others, and due solely to invasion of the skin by one of the plant forms of the yeast family. (2) This affection was one bearing a close resemblance to certain forms of tuberculous infection of the skin; and while the large number of cases suggesting in clinical aspect the tuberculous nature of the process would, as heretofore, be demonstrated to be such only, yet in a small proportion of such cases it was probable that blastomycetic invasion might have occurred, and such cases required for differentiation exact investigation in

the pathological and bacteriological laboratory. (3) While it was by no means certain that such treatment would benefit every case, the internal administration of the iodide of potassium in every instance of blastomycetic invasion was worthy of trial.

Dr. Fordyce referred to two cases he now had under observation; one in a young girl who had been treated for syphilis and then for lupus. The entire scalp was involved, with loss of hair and superficial white scar formation. The second case involved the bend of the elbow in an ulceration which had existed for fifteen years. The diagnosis of lupus had been made, but the microscope showed no giant cells, while there were the appearances of proliferation and miliary abscess formation such as were present in blastomycetic dermatitis, of which these cases might possibly be unrecognized examples. The interest of these cases in their connection with the cell theory of the cancer controversy was referred to. It was thought that the work done by the dermatologist in helping to solve these difficult problems had not received the attention it deserved.

Dr. Pollitzer pointed out that there were many blastomycetes, while no reason had been advanced why some other form might not produce cancer, as the Italian observers had claimed it did.

Dr. Bowen thought the greatest care should be exercised, in all such cases as that reported by Dr. Hyde, to exclude tuberculosis, which it so closely resembled.

Dr. Hyde said he had examined many cases of tuberculosis and had failed to find blastomycetes.

Dr. T. C. Gilchrist, of Baltimore, reported the death of Dr. Robert B. Morison, of Baltimore, who was president of the association in 1894, and died in September of 1898. Dr. Morison's library, which was rich in dermatological literature, was bequeathed to the Johns Hopkins University.

In the last session of the meeting there was an exhibition of patients, pictures, etc. About two hundred photographs and colored drawings were hung up for inspection. Among the interesting patients shown by Philadelphia physicians were the following: Total alopecia; alopecia areata in negroes; extensive epidermolysis bullosa, for a long time regarded as a pemphigus; extensive *x*-ray burns; lupus treated by the *x*-rays; alopecia areata in brother and sister; dermatitis papillaris capillitii in two negro brothers, with keloid outgrowths; ainhum in a native of New Jersey, with loss of toes and almost complete separation of little fingers.

An exhibition of color photography was made by Mr. Ives, who demonstrated, by means of the "Kromskop," pictures in the natural colors from some of the patients present.

**Election of Officers.**—The officers elected are: Dr. Stelwagon, of Philadelphia, *President;* Dr. Jackson, of New York, *Vice-President;* Dr. F. H. Montgomery, of Chicago, *Secretary and Treasurer.*

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**Papillitis.**—The many varieties of papillitis which occur independently of intracranial disease indicate that the papilla is a structure prone to be inflamed.—Schweinitz.

The treatment is: First, if possible, to remove the cause. In the beginning of mild cases much can be accomplished by active purgation and the use of diaphoretics. The best treatment, I think, is pilocarpine hypodermically sufficient to produce free diaphoresis. The use of the same remedy locally may amount to something. Blood-letting accomplished nothing as far as I have seen. Alteratives can be used, but they are too slow in their action to effect much.—R. H. Chilton.

## Therapeutic Hints.

**Stomatitis in Smokers.—**

℞ Saloli. . . . . 2
Tinct. catechu . . . . . 4
Spir. menth. pip. . . . . 100
M. S. Teaspoonful in a glass of warm water as a mouth wash.

**Acute Tonsillitis in Children.—**

℞ Tinct. aconiti . . . . . 1
Liq. ammon. citrat. . . . . 30
Syr. aurant. . . . . 20
Aq. destill. . . . . ad 120
M. S. Two teaspoonfuls every three hours.

—Ash.

**Chronic Constipation in Children.—**

℞ Podophyllotoxini . . . . . gr. ¹/₈
Spir. vini rectific . . . . . ♏ xx.
Syr. rubi idæi. . . . . ad ℥ i.
M. S. One teaspoonful once or twice daily for a child three years old.

—Baginsky.

**Enuresis Nocturna.—**

℞ Sodii benzoatis,
Sodii salicyl. . . . . āā gr. xx.
Extr belladonnæ. . . . . gr. x.
Aq. cinnamomi . . . . . ad ℥ iv.
M. S. One teaspoonful every four or five hours. For a child four to six years old

Or:

℞ Extr rhois aromat liq. . . . . 10
Elix simplicis. . . . . 10
Aq destill . . . . . 60
M. S. ℥ i. three times daily For a child six years old.

—Freyberger.

**Hydro-Pericardium.—**

℞ Saponis viridis . . . . . 50
S. A piece the size of an almond to be rubbed into the skin over the cardiac region twice a day

—Senator.

**Cardiac Dropsy in Children.—**

℞ Potass iodidi . . . . . 2
Tinct scillæ . . . . . 10
Tinct. strophanthi,
Spir. chloroformi . . . . . āā 5
Infus. senegæ . . . . . 240
M. S. One tablespoonful three times a day For a child eight to twelve years old.

—Ashby.

**To Disguise Cod-liver Oil.—**

℞ Olei morrhuæ . . . . . 150
Olei eucalypti ether . . . . . gtt ij.

—Duquesnel.

**Inhalation** in tuberculous laryngitis:

℞ Menthol,
Ether. sulphuric.,
Ol. pini sylvestris,
Tinct. iodi . . . . . āā ℥ ij.
Tinct. benzoin. co. . . . . ad ℥ ij
M. S. Ten drops on an oro-nasal inhaler which is worn as much of the time as possible

—W. Fowler.

**Pulmonary Tuberculosis.—**

℞ Creosoti carbon.,
Ammonii sulpho-ichthyol. . . . . āā 15
Glycerini puri. . . . . 30
Aquæ menthæ piperitæ. . . . . 10
M. S. Ten to thirty drops three times daily, according to age

—Hugo Goldmann.

**Turpentine Emulsion.—**

℞ Oil of turpentine. . . . . ℥ ss.
Powdered acacia . . . . . ℥ ij.
Cinnamon water . . . . . q.s. ad ℥ iv.

Place the powdered acacia in a mortar; put the oil of turpentine in a graduate, and three drachms of the cinnamon water in another graduate; pour the oil and

water on the powdered acacia, rub thoroughly, add the remainder of the water, and strain.—*Bulletin of Pharmacy.*

**Vomiting of Uterine Origin.—**

℞ Menthol . . . . . gr. v.
Tincture of opium . . . . . ʒiiss.
Elixir of pepsin . . . . . ʒi.
M S. Ten to twenty drops before meals.

—Lutaud.

**Gastralgia.—**

℞ Codeinæ phosphatis . . . . . gr. ¼
Bismuthi subnitratis . . . . . gr v.
Sacchari lactis . . . . . gr iij.
M. S. One dose. To be taken every two hours.

—Ewald.

**Intestinal Worms.—**

℞ Sulphate of pelletierine . . . . . gr. iij.
Tannin . . . . . gr. xv.
Distilled water and simple syrup . . . . . ʒ ij.
Essence of orange . . . . . gtt. x.
M. S. This is to be taken in two doses at half-hour intervals. Follow this by a large draught of Hunyadi water.

—Lyon.

**Scrofula.—**

℞ Iodide of arsenic . . . . . gr. 7.5
Distilled water . . . . . ♏ 730.0
M. Dissolve cold. S. Five, ten, or twenty drops to be taken in divided doses during the day.

—S. Saint Phillippe.

**Erysipelas.—**

℞ Tr. aconiti . . . . . ʒ ss.
Ext. gelsemii fl . . . . . ʒ ij.
Chloroformi . . . . . ʒ i.
Aq. ammonii . . . . . ʒ i.
Ext. belladon. fl . . . . . ʒ ss
Tinct. saponis comp . . . . . ʒ ss.
M. S. Apply with a camel's-hair pencil three or four times daily to the inflamed surface.

—L. Hill, Jr.

**Nasal Catarrh.—**

℞ Sodii bicarb . . . . . ʒ ss.
Sodii biborat . . . . . ʒ ss.
Glycerini . . . . . ʒij.
Listerini . . . . . ʒi.
Aquæ . . . . . ʒiij.

This is a modification of Dobell's solution, and, when slightly warmed and used as a spray, is excellent for cleansing and disinfecting the nasal cavities.—J. Addison Stucky.

**Seborrhœa.—**

℞ Tr. cantharidis,
Liq. potassii arsenitis,
Spts. ammoniæ aromatici,
Glycerini . . . . . āā ʒ ss.
Aq. rosæ . . . . . q.s. ad ʒ vi.
M. S. On alternate days use with tar soap

—S. C. Martin.

**Palatable Effervescing Quinine.—**

℞ Quininæ sulphatis . . . . . 4
Acidi citrici . . . . . 10
Syrupi simplicis,
Syrupi aurantii cort . . . . . āā 1
Aquæ destillati . . . . . q.s. ad 20
M. S. Add ten or more drops to about 50 gm. of water in which 0.3 gm. of bicarbonate of sodium has previously been dissolved, and drink while effervescing.

—*Klin. therap. Wochenschrift.*

**Hemorrhoids.—**

℞ Bismuth. subnitrat . . . . . ʒ i.
Hydrarg. chlor. mitis . . . . . gr. xl.
Morphini . . . . . gr. iij.
Glycerini . . . . . ʒ ij.
Vaselini . . . . . ʒ i.
M. S. Use in pile-pipe.

—Allingham.

℞ Ungt. belladonnæ . . . . . ʒ ij.
Camphoræ,
Tr. camph. comp . . . . . āā ʒ i.
M. et ft ung. S. Apply to painful hemorrhoids.

—Neligan.

# Correspondence.

## OUR LONDON LETTER.

(From our Special Correspondent.)

ELECTION AT COLLEGE OF SURGEONS—CLOSING SESSION—PRIZES—MALE AND FEMALE PELVES—DECIDUOMA MALIGNUM?—THE "WESTMINSTER REVIEW" AND THE GLOUCESTER EPIDEMIC—RABIES IN IRELAND.

London, July 14, 1899.

The election to the Council of the Royal College of Surgeons went off without any excitement. Only sixteen fellows recorded their votes personally and four hundred and seventy-seven by post. As there are more than twelve hundred fellows this is a poor display of their interest in the college. If the privilege of voting is not worth the trouble of filling up the paper, they might surely be willing to restore it to members. It is possible at least that such a restoration of the usurped right would tend to the prosperity of the college, but the fellows hold to their empty privilege and disdain to use it.

The election resulted in the return of Mr. H. W. Page with two hundred and eighty-six votes, and Mr. T. R. Jessop with two hundred and thirty-three. Dr. Ward Cousins is thus left out, and if he cares much for the honor it seems rather hard on him, for the short time he has served has been subject to the annoyance of re-election. He first entered the council to fill up the remnant of the time of the late Mr. Hulke. Then he had to seek the suffrages of the electors again, and he came in for another remnant of a period caused by the death of Mr. Rivington. That term expires this year, so that Dr. Ward Cousins had to seek re-election for a third time within four years. It is an unprecedented occurrence and suggests reflections on the method of election. Dr. Cousins, as you know, is president-elect of the British Medical Association, and, as the meeting is approaching, he will find work enough in preparing for that to dissipate his chagrin at this election, if indeed he feels any.

The approach of the long vacation is making itself manifest in the schools by the distribution of the prizes. Guy's had a very lively celebration on Friday, Mr. Robert Gordon, the donor of £12,000 to the funds, performing the ceremony. Lord James of Hereford was to have officiated at Charing Cross, but ill health intervened, and his place was taken by Sir Robert Finlay, the solicitor-general. The London Hospital distribution is for next Tuesday, when Lord and Lady Knutsford are to officiate.

Another sign of the season is the closure of wards or hospitals for repairs or alterations. University College Hospital has given notice that the institution will be closed through the month of August. St. George's and King's College hospitals will also be closed for as long or longer. The out-patient department at St. Bartholomew's will be almost shut up. St. Mary's and West London will close their out-patient departments for a couple of months, and there are other institutions where holidays of longer or shorter periods are to be taken. In some of these cases the reason for closing is to enlarge the departments. But is not all this an object-lesson on the abuse of the out-patient system? The general practitioners may cry out that they are being ruined, but hospital managers still enlarge their borders, and the consultants aid and abet them.

The differences in the conformation of the sexes are marked at an early period of development, and no doubt exist earlier than they have been traced. And yet it has quite commonly been taught that the differences in the pelvis do not become manifest until the

age of puberty. If so, it would be an anomaly, for the sexes are clearly enough differentiated in other anatomical respects. Even that most careful Dr. Mathews Duncan seems to have been led somewhat astray by the curious notion that the pelvic differences are established at puberty and suggested in explanation that the bones in the male are thicker and stronger, as well as earlier consolidated. Prof. Arthur Thompson, of Oxford University, has brought this subject before the Obstetrical Society in a paper which is published in full in the *Journal of Anatomy and Physiology*. He assigns to Fehling the credit of discovering that the differences in form and appearance are such as to enable the observer to distinguish the male and female pelvis as early as the third month of fœtal life. Professor Thompson's careful researches corroborate this, and by means of specimens, diagrams, and lantern slides he demonstrated the differences to the satisfaction of his audience.

Dr. Galabin said after this they must give up their ideas as to the difference between the adult and fœtal pelvis, though it might be that at a certain stage of life there might exist what they called infantile pelvis, *i.e.*, one in which the transverse diameters are not so much developed in proportion as in adult women.

Mr. A. Doran (president) said it was quite consistent with biology that sex distinctions of the pelvis should be marked at birth, for it was so with the genito-urinary tract. It would really be far more remarkable if the differences were not established until puberty.

What is deciduoma malignum? The great differences of opinion about this were illustrated at a recent meeting of the Gynæcological Socety, when Drs. F. W. Haultain, of Edinburgh, showed a specimen and gave a lantern demonstration of microphotographs. He considered the condition to be one of chorio-epithelioma.

Dr. Macnaughton Jones was inclined to accept this view, which coincides with that of most continental authorities. The differences met with might be explained as due to typical or atypical forms.

Dr. Eden doubted whether the ninety-one cases which have been recorded would bear careful examination. The new theory had proved fascinating and led to some extravagance, especially in Germany, but there is evidence of a steadier opinion prevailing. Thus the editor of Veit's "Handbuch" has abandoned the chorionic theory and regards the disease as sarcoma modified by pregnancy. So Dr. Haultain admits that the growth presents the broad characteristics of sarcoma. The only peculiar structures in it are the long bands and loops of nucleated protoplasm. The chorionic theory formed so novel a departure from pathological principles that much more evidence is required to sustain it.

Dr. Herbert Snow regarded the disease as sarcomatous, and thought there was no need for a separate nomenclature. He thought, too, that some of the recorded cases were not malignant at all.

Dr. William Duncan deprecated making a special pathology for the uterus. Doing so had only kept gynæcology back many times in the past. Thus he had heard of corroding ulcer of the os uteri, but that was either malignant disease or tuberculosis. He hoped the term deciduoma malignum would soon disappear.

Dr. Haultain in reply said the question was a vexed one, and the difficulty was increased because the cells from which the disease arose were embryonic and not found in adult life. He, too, discarded the term deciduoma malignum as bad, but thought sarcoma worse. He preferred the term chorio-epithelioma.

Readers of the *Westminster Review* must have rubbed their eyes with wonder and doubt when they found in the June number a letter signed A. S. Hunter, professing to reply to Mrs. Garrett-Anderson's letter in *The Times* on vaccination. How such a lucubration could have been admitted to so grave and learned a review threatened to be a literary puzzle. The letter extolled the proceedings of one "John Pickering, F.R.G.S.," who introduced baths containing permanganate as a rapid cure in the smallpox epidemic at Gloucester. Mr. Pickering, said Mr. Hunter, "did not believe so much in infection," although in his pamphlet that person declared his baths would not only arrest the disease, but "kill infection."

This month's *Westminster Review* contains a brief but pungent reply to A. S. Hunter. Perhaps it was for this that the editors inserted his letter and to excite the curiosity of the readers on a tiresome subject. Be that as it may, it is satisfactory to find the journal which was once so closely associated with John Stuart Mill has not fallen into the fallacies exploited by antivacs and other quacks. The reply is from a writer who declares he was in Gloucester during the epidemic (not, like Mr. Hunter, after it) and watched the proceedings day by day. He quotes the report of Dr. Coupland to the Royal Commission to show that the adoption of the Pickering treatment led to the dissemination of the disease, and was to some extent responsible for keeping up the epidemic. Pickering's chief assistant was attacked early and carried the disease to his home, where four of the household were attacked. Ten cases were "directly due to the disinterested labors of those who believed in Mr. Pickering's specific for killing infection." Worse still, people were urged to go out within a few days, and it is impossible to say how many were infected by those who did so. One transgressor of the law was fined by the magistrates for exposing himself while suffering from the disease. Will the public ever give up a ready belief in the statements of every quack or confidence in the assurances of enthusiasts whose chief qualification is ignorance of the points on which they wish to instruct others?

A parliamentary blue-book issued on Wednesday contains a report on the operation of the diseases-of-animals act in Ireland. The veterinary department declares that its experience confirms the opinion of the board of agriculture that muzzling is the only efficient means for exterminating rabies. In 1897 there were four hundred and ninety-seven recorded cases. The order for muzzling came on July 1st of that year. In 1898 the number of cases fell to one hundred and thirty-two. The progress made affords ground for hope "that Ireland will be finally freed from the ravages of rabies." The people who are constantly crying out against muzzling their pets would do well to restrain their selfishness and assist in saving human beings from hydrophobia and dogs from rabies.

## LETTER FROM THE STRAITS SETTLEMENTS.

(From our Special Correspondent.)

PREVALENT DISEASES—SUN FEVER AND MALARIA—SYPHILIS—BERIBERI—LEPROSY—CHOLERA—SMALLPOX—AN OPENING FOR AN OPHTHALMOLOGIST—DYSENTERY.

PENANG, S. S., May 24, 1899.

AMONG the diseases most prevalent in this part of the world, malaria holds the first place. The most common form in which I have met it is the daily intermittent, although I have also seen it in the every-other-day and every-three-days type. There is not much of the type which is ushered in by a distinct "chill," but alternating cold and hot flashes are common. There is a form of fever which is here called "sun fever," which I believe to be malarial in origin. It

begins, so far as my personal experience goes, usually at night time and with a sudden onset of very high temperature, 105° to 107° F. I have met with it only among the Chinese, both immigrants from China and those born here. If the patient does not quickly die from what I take to be shock, he will recover under a good purge and large doses of quinine. I do not think the sun has anything to do with its causation, but would rather class it under the head of pernicious malarial fever, as I think it is just a sudden explosion of accumulated malarial poison, whatever that may be. I have been extremely interested in the reports in your journal regarding the experiments as to the relation of the mosquito to malarial infection. May I just give an instance that has occurred in my own house within the last fortnight? I live upstairs with my family, going downstairs only to meals and when about my work. My servants and five students live downstairs. Mosquitoes are very plentiful both upstairs and down. We all use mosquito curtains, servants and students as well. The last two weeks it has rained a great deal. Every one of the people living downstairs has had malarial fever, and not one of those living upstairs has had it. I was born and brought up in the Wabash Valley, in Indiana, and from the time I can first remember I had what was called there "the shakes." I have been here going on twelve years and have had malarial fever but once in that time, and that was during a furlough home in 1893. When I got back to the old home, I was promptly seized with the same old "fever and ague."

The next most frequent trouble I have met with is some form of syphilis. The ravages made by this loathsome disease are terrible. I thought I had seen it in its worst forms at the clinics and hospitals of Cincinnati, but I was undeceived when I came out here. The native doctors know nothing of its proper treatment, and even if they did the cost of iodide of potassium is so prohibitive that the vast majority of the population, earning as they do but three to four dollars per month, cannot avail themselves of its benefits. The prevalence of syphilis is explained by many on the ground that whereas vast numbers of Chinese men come to these settlements, very few bring their wives. This is compensated for by a regular trade in women and girls brought into the colony for immoral purposes. These women and girls are confined in houses licensed for the purpose, where they carry on, or rather are compelled to carry on, their trade, as it is termed. Being public property, they all soon become diseased and centres of contamination. There is at present no system of medical examination of these women. My own belief is that no system of inspection that included the women alone would prove at all effective in lessening the ravages of this disease. To be effective it should require every inmate of these houses to be free from syphilis, and every man who went in the door should be certified to be free from syphilis also

Beri-beri is a disease confined mostly to the coolie or laboring class, and among them to those who work in opening up new tracts of country, plantations, or tin mines. Almost every medical man has his own theory of the disease, based upon his own experience and methods of treatment. Good food and a prolonged course of tonics seem to effect more good than anything else in the management of this disease. One of the most constant premonitory symptoms of beriberi with which I have met is a constant pain always located at about the lower end of the sternum

Another disease constantly met with is leprosy. There is no proper segregation law in this colony, and so lepers wander around practically at their own sweet will. One meets them everywhere. I have discovered two cases in people in my own employ—one a woman and one a man. In the woman the first thing to attract attention was a constantly occurring sore on the toes of one foot. In the other case the man hurt the big toe of one foot by stepping on a piece of glass, and I found that the toe was anæsthetic. Both these persons were kept under observation for a time, and other unmistakable symptoms of leprosy developed. I tried to persuade them to go to the leper hospital, but they refused, and as I could not compel them to go I had to let them go out to mix with other people at their own pleasure. The government maintains well-equipped hospitals for these people, but residence there is purely voluntary. Horrible sights greet one as he passes through the native portions of the cities and towns, as these people beg piteously for a few cents.

Cholera and smallpox are practically with us all the time, although there has been but one general outbreak of smallpox and none of cholera since I have been here. There are very great opposition and forcible resistance by the natives to segregation and quarantine regulations, and the authorities experienced very great difficulty in controlling an outbreak of smallpox in April of this year.

I think there would be a great field here for an eye-and-ear specialist, as there is a very great deal of eye-and-ear disease. Cataract is especially common. Tuberculosis prevails to a limited extent only. The influenza has prevailed to a large extent on at least three different occasions within the last few years, and appears to have left behind a legacy of weakened constitutions which succumb more readily to the attacks of pulmonary tuberculosis.

As I began my letter with an account of a very prevalent disease, so I will close with the mention of what may almost be regarded as the deadliest foe to human life in these parts, and that is dysentery. It attacks all classes, rich and poor, strong and weak, young and old, and is very fatal. My own experience has been that large doses of ipecac combined with calomel is the best treatment for the acute form, and that a decoction of the bael fruit, or ægle marmelos, is the best that can be done for the chronic or often-recurring type.

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## LETTER FROM BRAZIL.

(From our Special Correspondent.)

MEDICAL PRACTICE LAW—YELLOW FEVER—TUBERCULOSIS—SYPHILIS—MEDICAL STUDY IN BRAZIL.

São João del Rei, Brazil, June 15 1899

The medical profession of Brazil are very much stirred up just now over two recent decisions in the state courts on the medical law One of the decisions was in the state of Minas and the other in the state and city of Rio de Janeiro. A federal law prohibits the practice of medicine in any of its branches, including dentistry and pharmacy, by any person who has not been approved by one of the two national medical faculties, one in Bahia, the other in Rio, and imposes heavy fines and imprisonment of from three months to a year in prison, upon any one who unlawfully prescribes or administers any medicine or applies any remedy. The two cases above cited were almost identical. A *curandeiro*, an unqualified practitioner, was arrested for the violation of the medical law. His lawyer made the plea that under the constitution of the republic such a law could not be enforced, and the plea was sustained in each case. They justified their action upon the following article of the federal constitution defining individual rights. "The free exercise of any moral, intellectual, or industrial profession is guaranteed." The judges in these cases held that this gives perfect liberty to any one to prac-

tise medicine, while the medical profession maintain that the word "free" in this article of the constitution cannot be forced to mean such great liberty as this. It has not yet been passed upon by the supreme court, but several leading physicians have published long articles in the daily papers showing the absurdity of the judge's decisions.

Juiz de Fóra, about one hundred and fifty miles northwest of Rio, in the state of Minas, is suffering from an epidemic of yellow fever, but it is hard for an outsider to get the facts in the case, as the press and physicians do not care to have the true state of things known, and attribute the deaths to other causes than yellow fever. But, as one of the refugees told me, the cases they call typhoid and malarial result in death as quickly or quicker than the cases called yellow fever. There has been very little cold weather yet this winter, in this state, and the fever continues. Usually we have our coldest weather in June, but so far it has not checked vegetation at all. We rarely ever have frost, but it usually is much colder than this year.

Speaking of yellow fever, Dr. George Butler, an American medical missionary, practising in the state of Pernambuco, has reported a large number of cases treated with small repeated doses of castor oil and turpentine, and says he has not lost a case when the treatment was begun before the action of the kidneys became involved, and when yellow fever was not complicated by some other disease. His treatment is as follows: Three drops of turpentine in a teaspoonful of castor oil every hour for twelve hours, after which only once in two hours until the fever ceases.

The people and profession in Brazil are firm believers in the contagiousness of tuberculosis. A friend of mine, on her way to Rio to embark for New York, passed through the city of São Paulo, and the hotel proprietors refused to give her a room to wait for a train, because she was suffering with this disease. Owners of houses will not willingly rent them to consumptives, and servants will not work for them. They have a great horror of night air, and usually sleep in alcoves without windows, and if at all ailing will not go out in the evening.

Syphilis is perhaps the most common disease in Brazil, as a large portion of cases seen in the hospitals and in private practice come under this head or are modified by it. So common is it that the patients make no effort to conceal the fact of their having it, and they talk about it as freely as they would about a bad cold. It yields readily to treatment, and although it is so common it is rare to see a person disfigured by it as is often the case in the United States, where it is less common.

To secure a diploma it is necessary to take a seven years' course, three of preparatories and four of regular medical studies. The preparatories may be taken in any one of the government colleges, but the medical studies must be taken in one of the two national faculties, and three series of examinations passed—written, oral, and practical. Foreigners bringing a diploma from any reputable medical college are not required to pass the examinations on the preparatories, but are required to take the same examinations as the medical students on all medical studies.

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**Consumption of Beer.**—It is estimated that the consumption of beer in the entire world amounts to $1,080,000,000 per annum. This seems to be an almost incredible figure, but it does not appear so strange when it is considered that the beer which is consumed throughout the world in a single year would make a lake three and three-quarter miles long, a mile wide, and six feet deep.—*Scientific American.*

## Medical Items.

**A Consumer of Pins.** — Dr. Thomas Annandale reports the case of a twelve-year-old feeble-minded boy who claimed that he had swallowed a large number of pins. He was, however, not believed, because aside from slight epigastric pain he neither complained of nor manifested other noteworthy symptoms. Nevertheless a dose of castor oil was administered, following which he passed per rectum a quantity of straight and bent pins. Within the next fourteen days the following bodies were discharged per vias naturales: fifty-two pins, one needle, five large nails with broad heads, three smaller nails, one shirt-button, four carpenter's nails, and finally three shoe nails. The case is noteworthy, in that the patient was almost free from symptoms, notwithstanding the large number of foreign bodies he disposed of.

**"Superficial Neuralgia" and Its Possible Alliance with Herpes.**—Mr. Jonathan Hutchinson, writing in his *Archives*, says: "A lady who inherits gout and has also in slight form suffered from it, replied in answer to my inquiry as to neuralgia: 'I am liable to superficial neuralgia.' 'What do you mean by that?' I asked. 'I mean that I am liable to have one-half of my scalp become so that I cannot brush my hair without causing pricking pain. It lasts a few days and then goes away completely.' I suspect that many persons are liable to this kind of pain, and that not a few of my middle-aged readers may have experienced it in their own persons. It is a pain very similar, I think, to that which precedes an attack of herpes, but no herpes follows it. I have often thought that it must be allied to herpes and should perhaps be reckoned as one of its abortive forms. It is always strictly one-sided, and its favorite site is the scalp, exempting all other parts of the head and face. It is not attended by much if any sense of pain independently of pressure, but the slightest touch suffices to elicit a crop of tingling pricks followed by a burning sensation. The liability always disappears after a few days, and the recurrences usually have intervals of a few months or it may be years."

**Lord Lister,** says *English Outlook*, was born of Quaker parents in a quiet little Essex town. He was educated medically at the University of London, and soon attracted attention by original work with the microscope. Like many another prophet, however, he had to leave his own country to gain recognition, and at twenty-eight years of age was called to the chair of surgery in the University of Glasgow, and thence to Edinburgh, where in 1870 he published his modest paper upon "A New Method in the Treatment of Wounds," which fairly set the world on fire. There also he married a lady, the daughter of one of Edinburgh's most famous surgeons, whose death only a few years ago left him alone and childless, as solitary in his affections as in his fame. Only after he had won world-wide reputation was he recalled to a chair in his home city, London. A Quaker by birth and for nearly forty years of his life, Lord Lister is the embodiment of the church of his fathers. Sparing of speech, shy of manner, and simple to the verge of asceticism in his tastes and habits, the sweet nobility of his character can be read in his face and seen in his self-forgetful attitude in his work before the world. Never was innocent mortal more embarrassed than when at the great Pasteur celebration a few years ago, the master in his address, after eloquently describing what the world owed to antiseptic surgery, suddenly turned to Lord Lister and, leading him out upon the

platform, embraced him and kissed him upon both cheeks before the widely delighted assembly of scientists.

**Preservatives in Food.**—Dr. Hill, medical officer of health for Birmingham, England, says: "During the three years ending March, 1899, twenty-three hundred of the samples of food received by me as public analyst for the city of Birmingham have been examined for preservatives. In four hundred and sixty instances, or twenty per cent., boric acid, formic aldehyde, or salicylic acid has been detected. This fact will show that the use of preservatives has risen to very large dimensions and requires serious consideration by all interested in the health of the community." What information have we as to the effect of boric acid and borax on health? Several surgical cases have been reported by Moldenkow, Hoguer, Welch, Lemoine, and others, in which the use of these drugs has produced serious and even fatal results. A number of experiments have been made on men and animals by Maltern, Forster, Schlenker, and Chittenden, with the result that they all found smaller or larger doses interfered with digestion and nutrition. *The Lancet* on January 2, 1897, published the opinions of a number of eminent medical men on the subject, who appeared generally to regard the use of preservatives with suspicion, and disapproved of it as likely to produce deleterious effects. *The British Medical Journal* on January 28, 1899, published the experience of Dr. J. Jameson Evans, of Birmingham, who found the continued use of boric acid in cases of cystitis and urethritis produced an erythema followed by a fine scaly exfoliation. Prof. D. J. Leech, of Manchester, has recently expressed the following opinion: "It appears to me that many patients can take either boric acid or borax for a long time in very large doses with impunity, but that in some people the unpleasant results are produced by comparatively small quantities, and it is quite possible that serious harm might in these cases follow its ingestion in the quantities in which it is used in the preservation of food. There can be no doubt that it should not be used to preserve milk."—*Public Health.*

**Seats for Store Assistants in England.**—There has been an agitation in Great Britain recently in favor of providing seats for shop assistants. Indeed, a bill to this effect for Scotland has been introduced to the House of Commons, and possibly would have become law had it not been for a speech of Lord Salisbury, entirely antagonistic to the movement. *The Sanitary Record* comments on the speech of the prime minister of Great Britain in these caustic terms: "Lord Salisbury's speech on the seats for shop assistants—Scotland—bill has occasioned deep disappointment to men of all shades of political opinion all over the country. He pours the vials of his ridicule over the idea of a law which will say when you are to stand up and when sit down, and inquires whether it is proposed to pass a similar law for the benefit of housemaids, and if so, where you are to stop? He objects to the principle of 'grandmotherly' legislation, and believes that more good will be achieved by the growth of humanitarian spirit. Undoubtedly if the humanitarian spirit governed all employers of labor, there would be no need for legislation of this class; the whole of the factory acts might be repealed, and the millennium would be in sight. But it is just because men are not so benevolent as Lord Salisbury professes to believe that laws are required. A large section will always remain hard and selfish and dead to the claims of others; and in the present case the claims of the employees are founded not simply on a desire for greater comfort, but to a right to the consideration of the requirements of health, which is a question of national import and national duty. For girls to be compelled to stand behind a counter as they usually are, for long periods at a stretch, often till late in the evening, is indisputably found to have an injurious effect on their constitutions, and as the remedy is simple, the public is entitled to require that it be provided." Not only in Scotland but everywhere in Great Britain and throughout the whole civilized world, seats should be found for store assistants. When they are not engaged in their duties it seems but humane that they should be permitted to enjoy a little hard-earned rest.

**Increase of Consumption among the Inmates of Prisons.**—Another seeming proof of the contagiousness of tuberculosis has been afforded by the statements made, upheld by statistics, that consumption is greatly on the increase in prisons in the South. Dr. Blake, physician-inspector at the Alabama penitentiary, speaking at the Prison Congress recently held in New Orleans, declared that in Alabama in sixteen years the percentage of convicts to die from consumption had risen from seventeen per cent. to nearly thirty-seven per cent., while during one year—that of 1895–96—above fifty per cent. of the deaths in the penitentiary had been from that disease. Dr. Blake also showed that in the prisons of Mississippi, Texas, Georgia, Virginia, and other States the mortality from tuberculosis has increased steadily. In Texas in 1896 two-thirds of the total number of deaths of convicts were caused by consumption. Dr. Blake is of the opinion that the reason for this high death rate is the fact that tuberculous and non-tuberculous convicts are herded together. This crowding is especially marked in winter, when for the sake of economizing fuel and blankets the convicts are packed into the smallest possible space.

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ending July 29, 1899:

SMALLPOX—UNITED STATES.

| | | Cases. | Deaths. |
|---|---|---|---|
| Florida, Jacksonville | July 8th to 22d | 5 | |
| Kentucky, Louisville | July 13th to 20th | 10 | |
| Louisiana, New Orleans | July 15th to 22d | 1 | |
| New York, New York | July 15th to 22d | 3 | |
| Ohio, Cincinnati | July 22d | 5 | 1 |
| Cleveland | July 15th to 22d | 2 | |
| Dayton | July 15th to 22d | 2 | |
| Pennsylvania, Pittsburg | July 15th to 22d | 1 | |
| Virginia, Portsmouth | July 15th to 22d | 1 | |
| Washington, Spokane | July 18th to 22d | 5 | |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Belgium, Antwerp | July 1st to 8th | 3 | 1 |
| Brazil, Sao Paulo | July 27th | Epidemic. | |
| China, Hong Kong | May 27th to June 3d | 5 | 1 |
| Cuba, Santiago | July 1st to 8th | 1 | |
| Greece, Athens | July 1st to 8th | 18 | 5 |
| India, Bombay | June 20th to 27th | | 14 |
| Mexico, Mexico | June 9th to 16th | 10 | 5 |
| Russia, Moscow | June 17th to July 1st | 27 | 11 |
| Warsaw | June 24th to July 1st | | 3 |
| Straits Settlements, Siogapore | June 10th to 17th | | 1 |
| Uruguay, Montevideo | May 27th to June 3d | 1 | |

YELLOW FEVER.

| | | | |
|---|---|---|---|
| Brazil, Rio de Janeiro | June 9th to 16th | | 5 |
| Colombia, Panama | June 8th to 15th | 10 | 4 |
| Cuba, Havana | July 6th to 13th | | 2 |
| Manzanillo | June 27th | 1 * | |
| Santiago | June 27th to July 1st | 68 | 13 |
| Mexico, Cordoba | June 27th to July 1st | 17 | 9 |
| Tampico | July 1st to 7th | 1 | 1 |
| Vera Cruz | July 13th to 20th | | 17 |

* In barracks.

CHOLERA.

| | | | |
|---|---|---|---|
| India, Calcutta | June 10th to 17th | | 6 |
| Japan, Asaka and Hiogo | June 10th to 17th | 1 | 1 |

PLAGUE.

| | | | |
|---|---|---|---|
| China, Hong Kong | May 27th to June 3d | 92 | 97 |
| Egypt, Alexandria | June 6th | * | |
| India, Bombay | June 20th to 27th | | 50 |
| Calcutta | June 10 to 18th | | 9 |
| Straits Settlements, Penang | June 10th to 17th | 11 | 8 |
| Siogapore | June 10th to 17th | | 1 |

* One or two new cases daily.

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 56, No. 7.
Whole No. 1501.

NEW YORK, AUGUST 12, 1899.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### AN ABDOMINO-SACRAL METHOD FOR THE REMOVAL OF RECTAL CARCINOMA.

BY H. OTTO SOMMER, M.D.,

WASHINGTON, D. C.

DURING the time that I have been at Kraske's clinic in Freiburg, I have had the opportunity to observe closely several extirpations of rectal carcinomata performed according to the well-known typical Kraske sacral method, but a recent case was operated upon according to so radical a departure from, or addition to, the original type that it must be considered as a different method and not as one of the many slight modifications to which the original sacral method has been subjected for better or worse. Having the consent of the author, I will herewith make public a description of the operation with a history of the subject upon which it was performed, giving the steps of the operation as they actually occurred, and indulging as occasion offers in such allusions to other procedures as will serve to elucidate the new method and at the same time show the necessity for its existence in the face of the inadequacy of the numerous methods in vogue.

Maria R——, aged forty-nine years; farmer's wife. For the last year the patient has suffered from pains in the abdomen and urging to stool, especially after eating. The pains and inconveniences have grown worse since January. Ten days ago the patient passed a large quantity of blood per rectum in the shape of large black clots. Her family history is good and the history of her early years also, except that seven years ago she began to have "pains in the stomach," from which she suffered for five years.

Present state: The patient is well built but markedly emaciated and cachectic, with a leathery, yellowish appearance of the skin. Her abdomen is distended, a few coils of intestine being distinguishable *de visu*. The presence of a tumor was not determinable by palpation of the abdomen. A slight diastasis of the recti abdominales is noticeable. The colon descendens is filled with movable masses, evidently fæces. Per anum one feels at the height of the sphincter ani tertius a tumor which is firmly adherent posteriorly, as well as anteriorly to the uterus. In this region the intestine is much infiltrated. The tumor is of irregular shape and consists of papilliform projections. Its upper termination cannot be reached. The general condition of the patient was improved by administration of purgatives. The operation was performed as follows:

The tumor was located so high up in the pelvis and was at the same time so intimately adherent to the sacrum as well as to the uterus that every attempt to remove it by the sacral route, however modified, appeared from the first to be impossible, and therefore a combined method, the abdomino-sacral, was applied. Two fingers' breadth above and parallel to the left Poupart's ligament an incision was made dividing the abdominal coverings from the vicinity of the anterior superior spinous process of the ileum to the median line. As the patient was lying with the pelvis highly elevated, the extrusion of the viscera was easily prevented, and the abdominal cavity above could be shut off by the introduction of gauze tampons. In the lowest portion of the sigmoid flexure there immediately became visible a tumor in the wall of the intestine, extending downward into the rectum, and firmly adherent to the uterus and sacrum, but especially to the former; thereupon the peritoneum was transversely incised posteriorly in the region of the promontory, and also laterally and anteriorly in Douglas' cul-de-sac; the mesorectum was also incised. At the same time a large branch of the superior hemorrhoidal was ligated. The peritoneum surrounding the intestine was separated therefrom, and now, working with the fingers alone, the intestine in the region of the rectum was freed from its communications with adjacent parts; this was more easily accomplished posteriorly in the concavity of the sacrum, but anteriorly toward the uterus only with the utmost difficulty, in consequence of which the intestine because of the fragility of its walls was penetrated. After the rectum had been entirely freed from surrounding tissues by means of the hand, which was accomplished with very slight hemorrhage, the great cavity thoroughly packed with gauze, and the patient placed in the right lateral position, the typical sacral incision was made: in the superior angle of the sacral cut one came directly upon the gauze tampons in the cavity which had been created by the separation of the intestine from above downward. Now the carcinoma, which had been entirely loosened from all its surroundings, was easily drawn out through the sacral incision, and after complete walling off of the abdominal cavity by means of gauze tampons the excision of the carcinoma and the anastomosis of the resected gut could be performed with the greatest ease. While Kraske has, up to the case described, practised almost exclusively the sacral operation, of which he is the undisputed parent, with as few variations as possible from the typical method as originally laid down by him, he is inclined to propose this combined or abdomino-sacral method for nearly all cases of rectal carcinomata, and certainly for those in which the tumor is situated high above the anus. This, of course, does not include such growths as are situated externally—or, in other words, confined to the anal region, and which in their treatment do not call for a resectio recti but rather for a far less radical treatment, that is, the amputatio recti. He does this notwithstanding the fact that in one of his earlier communications he says that not only is the high location of a rectal tumor not a contraindication to operation, but nay, more, that a highly situated rectal tumor is more easily removable than a lower; providing, of course, that it is confined to the intestinal wall and easily movable. Further, to show that in advising the new method he does not contradict his optimism in regard to the old sacral method, it is well to remember that in this same earlier advocacy he admits that a highly located tumor may be often very difficult or even impossible of removal if complicated with strong adhesions, although he has occasionally successfully extirpated one; and he adds that in spite of this he considers it more proper to regard a highly situated one as

inoperable when it is complicated by strong adhesions or involvement with the bladder, uterus, sacrum, or promontory, the very obstacles he has successfully combated by the abdomino-sacral method. The advantages to be obtained from the new procedure are obvious, and while at first thought the operation may appear extremely radical and severe, the actual experience gained from the first case decidedly contradicts this apprehension. In the first place the general shock which would first seem natural in consequence of the addition of the first step—the abdominal entrance to the already by no means conservative sacral approach which follows—proved to be no item in the consideration; on the contrary the ease of access to the actual field of operation is so much increased that if anything the general depression is less than would result from an attempt to work through the inadequate posterior entrance alone; and moreover tumors which are practically inaccessible by the sacral route alone become accessible and hence make the abdomino-sacral method almost imperative in certain cases which would otherwise have to be pronounced inoperable. Another great advantage, and one which it is impossible to overlook, is the fact that by this new method the part of the intestinal tract which comes into consideration during the operation is not only rendered more approachable, but can be actually so far drawn out of the sacral wound, and the abdominal cavity so well shut off with gauze tampons, that the removal of the tumor and resection of the rectum can be accomplished, so to say, extraneously to the patient, and with a minimum danger of infection, a danger which Kraske considers of great moment for the prognosis of a good result. Nay more, he considers the possibility of delaying the opening of the bowel until it has been isolated to be almost the chief advantage of the new method, and refers to his former discussion of the sacral method,[1] in which he advises careful tamponade and open-wound treatment after resection, because he considers the danger of peritonitis far less threatening than that of a phlegmon resulting from a penetration of the lumen, and firmly believes that this phlegmon results from an infection derived from the contents of the bowel in this region! Further, the complete removal of the surrounding infected tissues, especially glandular, in which apparently lies the chief source of recurrence of the cancer, after most operations is made possible. Not to be overlooked, however, is the facility afforded by the ligation of important blood-vessels, as described, previously to taking any active steps toward the removal of the growth itself, an advantage which cannot be overestimated in the face of the difficulty usually encountered in this direction, and which frequently necessitates important ligations being performed during the course of evulsion of the growth itself, or at any rate under great disadvantage as to their accessibility.

That the abdomino-sacral method may find almost universal application may be questioned and undoubtedly will be; but that it will be frequently applicable seems clear, for Kraske himself says that in his experience it has been very noticeable that a relatively large percentage of the tumors were situated in the uppermost portion of the rectum, but he frankly admits that it may be mere chance that has brought to his notice such a large percentage. That the possibility of a radical extirpation is a great advantage will hardly be questioned, as it is self-understood that the treatment of rectal carcinoma is the same as for carcinoma elsewhere, namely, a scrupulous removal of all cancerous tissue, including, of course, such glandular tissues as might be the source of the dreaded recurrence; and yet there are at present in France surgeons who oppose all radical treatment and advise the formation of an artificial anus by colotomy. That there are cases in which a palliative colotomy is applicable the most ardent advocate of radical methods will not deny, but they will hardly come into consideration when speaking of curative means. When, however, a colostomy is indicated the practice at this clinic is to make the artificial anus at the transverse colon instead of, as commonly advised, at the sigmoid flexure, not only because it is more easily and rapidly made there than at the immovable ascending and descending portions, but also and especially because in those cases in which it is necessary to follow with the secondary and radical procedure of rectal resection the closure of the artificial anus will be more easily effected. Furthermore it must not be overlooked that a previous iliac colostomy would seriously complicate the latter sacral procedure, owing to the fact that the adhesions formed would either seriously hinder the pulling down of the portion above the resections, or would even absolutely prevent it. The question may be asked, "Since the abdominal preparatory step assists the freeing of the intestine, is not the performance of an iliac colostomy now more than ever in order instead of the transverse incision?" The answer must be that it is actually less necessary than ever, as its presence would prevent the carrying out of the first step; but at the same time this question paves the way to another eminent advantage of the combined abdomino-sacral method, by the very fact that the abdominal incision serves as an exploratory step by which the inoperability or operability of the rectal tumor can be determined, and in the former case a colostomy can be immediately made as a palliative measure, while in the latter the sacral operation can be subsequently performed.

The operation was performed June 9th, and the temperature since operation has varied only between 36.4° and 37.8° C. On the twelfth day the gauze drains were completely removed and renewed. The first few days the patient did not have a free movement of the bowels and consequently suffered from occasional cramps, especially on the 13th, when she had several successive attacks. On the 27th of June, urine first passed spontaneously, and on the same day the patient stood up for a while, and has since done so each day without any ill effects.

In closing I wish to express my thanks to Hofrath Professor Kraske, director of the surgical clinic, for his courtesy to me as an American at a German university, and also to the assistant surgeons, especially Doctor Meisel, to whose division the patient belongs, for their kindly assistance in various directions.

University of Freiburg, Germany, June 29, 1899.

[1] "Erfahrungen über den Mastdarm-Krebs," p. 214.

## ACUTE BRONCHITIS—A SYMPTOM; THE TREATMENT FROM AN ETIOLOGICAL STANDPOINT.

By THOMAS F. KEILLY, M.S., M.D.,

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THIS subject was suggested to my mind by a recent case in which an eminent practitioner of this city was prescribing one of the nauseous mixtures known as stimulating expectorants to a patient having an irritable stomach, and who was then suffering from an attack of acute bronchial catarrh of gouty origin. Further investigation makes it safe to say that a large number of the profession are as blindly using "Stokes' mixture," or some other similar one, to-day in the treatment of acute bronchitis, without any thought of the etiology of the complaint, as did their brethren of a century ago. Certainly this statement holds good as far as the bulk of dispensary practice is concerned.

The term "bronchitis" as applied to catarrhal conditions of the bronchial mucous membrane dates from the writings of Barnham and Falk in the early part of the century. Gradually this symptom came to be regarded as a disease entity. Later views, in the light of clearer pathological findings, lead us to regard it, as well as many other similar affections of the mucous membranes, as only one manifestation of a constitutional disorder.

It has been customary to say that bronchitis is due to "catching cold," and even the latest text-books, almost without exception, mention that as the commonest cause. This term "catching cold" has been handed down for ages as a safe refuge from the too pertinent inquiries of exacting patients. So potent a charm is there in the phrase that beyond its pale no layman may go. Up to fifty years ago it covered inflammatory conditions of every kind from a conjunctivitis to a cystitis. A peritonitis, to the layman, and to many of the profession as well, was due to "catching cold" in the bowels. Even to-day a wound in which one has "caught cold" affords a convenient refuge for many practitioners in cases of cellulitis, infected wounds, etc. It was the cave whence the grim, white spectre consumption issued to begin his ravages. Probably the last den "catching cold" inhabits is the mucous membrane of the air passages. That simple exposure of an otherwise normally constituted individual to a draught of air may cause, by reflex nervous influence, a congestion of certain parts of the air passages cannot be doubted. The experiments of Levy, Bishop, and others have clearly proved this fact. But such a congestion without some morbid agents or agents back of it will not cause a true inflammation, otherwise acute catarrhal affections of these structures would be repeatedly occurring in most individuals. However, should there be a toxic factor present in the blood the congestion will certainly favor the deposition of the toxic material there, thus forming a *locus minoris resistentiæ*.

We know that poisonous matters are constantly excreted by the mucous membranes of the respiratory tract, as well as by the skin and kidneys, and that in the perfect performance of function there must exist a proper balance. If, however, the amount of poisonous substances to be eliminated be greater than usual, and the skin and kidneys cannot excrete it, there will be a deposition of the same at the point of least resistance, and, consequently, irritation of that structure will result. That these poisons should be deposited in the mucous membrane of the respiratory tract sooner than elsewhere is very evident when we consider that here the blood-vessels have less covering, the lymph channels are more superficial, and, in the case of some parts of the mucous membrane of the air tract, the temperature of the blood is lower than in the more deeply placed structures.

Barringer, in speaking of uric acid, suggests that in many cases the poisons are kept in solution while the blood is at a certain temperature, but that whenever, in any part of the circulation, the temperature of the blood falls below that point the solubility of the poisons is diminished, and precipitation is likely to occur. Whether this be true or not is a question; it is a fact, nevertheless, that poisonous matters are deposited in these membranes sooner than elsewhere, and consequently catarrhal conditions occur. Thus, we see the red throat and larynx in scarlet fever twenty-four hours before the other objective symptoms manifest themselves. A preliminary throat irritation almost invariably precedes by several hours an attack of acute rheumatism. In like manner we shall invariably find an irritation of these membranes slightly earlier than the other objective manifestations in all of the acute infections. In many cases when the toxæmia is slight the eruption on the mucous membrane will be the only symptom. In some instances the irritation will be greater in one part of the respiratory passages than in another, but there is generally a slight inflammation throughout the entire air tract.

One of the most brilliant results of such a conception of etiological factors is to be seen in the results of our treatment of many cases of tonsillitis and pharyngitis. A score of years ago it is safe to say that most practitioners were industriously administering teaspoonfuls of tincture of the chloride of iron and chlorate of potash; now all is changed. The antirheumatic remedies go to the root of the trouble in most cases, and the condition lasts half as long.

A similar method of reasoning applied to catarrhal affections of the mucous membrane of the lower air tract would lead to a far more rational basis of treatment than exists to-day. Clinically, it has been customary to recognize as acute bronchitis a condition of increased temperature, a feeling of malaise and sleeplessness, a sense of oppression in the chest, probably due to the determination of a large amount of toxic material to the larger bronchi beneath the sternum, accompanied sooner or later by a bilateral bronchial catarrh. Other signs of a toxæmia are evident in many cases in the impaired gastric functions, headache, myalgia, etc. The fact that the condition is a bilateral one is strong evidence of its constitutional nature. As in every irritation of any mucous membrane, there is a discharge of mucus or muco-pus lasting a week or more, depending on the amount of poison excreted, the toxicity of the same, the individual resistance, and the amount of secondary infection. Naturally the mucous membranes of children are more delicate and susceptible than those of adults, and consequently catarrhal conditions are far more common in them. Probably the commonest cause of this symptom in children is the elimination of toxic products due to decomposition in the gastro-intestinal tract. In dispensary practice the largest percentage of cases in children are due to this cause. In most juvenile institutions attacks of bronchial catarrh are very frequent for a day or so following the regular visiting-days. This is to be explained by the indigestible food given surreptitiously, or otherwise, by friends to the children on these occasions. These attacks, in almost every instance, subside after a purgative and the proper regulation of the diet.

Attacks of this kind are usually characterized by other symptoms of a toxæmia, such as great acceleration of respiration, high temperature, anxious countenance, and marked head symptoms. Faurel has proved that in many of these cases we are dealing with a toxæmia due to infection by the ordinary colon bacillus. It seems very likely that the disturbance in digestion increases the virulence of this organism, that normally inhabits the bowel. Cutaneous manifestations, such as erythema and hives, often accompany such attacks.

The bronchial catarrh accompanying foreign bodies, tubercle, etc., is somewhat different from the symptomatic bronchial catarrh already described. The inflammatory condition, when simple, is entirely local, and is not accompanied by the constitutional symptoms, and it begins less abruptly. The bronchial catarrh of rachitis is essentially a toxic symptom, and is often the earliest objective manifestation of the disease.

After excluding the foregoing there are still, especially in adults, two classes of causes to be considered. The causative factor in by far the larger percentage of such cases, seen in private practice, is the so-called uric or lithic acid poison; that, back of the other, bears an unmistakable relation to the acute infections. When we find people of widely different habits brought into contact for a short time only with a person suffer-

ing from an acute infection, characterized by fever, malaise, and bronchial catarrh, and a short time later we discover that many of these people develop a condition similar to the foregoing, our suspicions are aroused. For this to happen repeatedly, and for the disease to spread by progressive series without feeling that there is an infective agent of some kind causing it, seems hardly possible.

From a review of the literature it seems probable that several organisms are capable of producing affections of this general type. F. Grün claims that he has discovered a germ that was present in all the cases examined, and which was capable of producing a similar condition in others. Dessi has isolated in a similar manner an organism partaking of the characteristics of both the pneumococcus and streptococcus. Claisse obtained a pure culture of a similar organism. By injecting this in the trachea, provided there was an abrasion present, the animal was made to suffer malaise, elevation of temperature, bronchial catarrh, etc., similar to the patient from which the infective material was removed.

Like most other microbic agents, their favorite breeding-places are the haunts of man. It is a common experience that one can often endure severe wetting and exposure in the country, and seldom will any evil result; yet in the same person a slight wetting of the feet in the city will quite often suffice to precipitate an attack of bronchial catarrh by providing a fit soil for the organisms that are lurking there, only waiting for a point of lowered resistance. Nansen and his followers, while in the far Arctic regions, did not contract any catarrhal conditions of the air tract, but as soon as they reached civilization the greater number were thus attacked.

The fault with most of the experimental work in the past is that it has been directed solely to the condition of the air passages, disregarding the fact that inflammation in these structures is but one expression of the constitutional disease.

In cases having a bacterial origin complications are more apt to occur. Relief may be afforded, but they will run a more or less definite course in spite of all our present means of treatment. The possibility that some drug will be found that may act in a way analogous to the antitoxins, or perhaps by destroying the infectious agent itself, as quinine destroys the plasmodia in the bronchial catarrhs of malaria, will always afford an avenue for the hope and enthusiasm of the practitioner.

As before stated, it is the opinion of the writer that the commonest cause of this symptom in adults is the so-called uric or lithic acid poison. This term is intended to embrace the large number of complex substances, more or less closely related to uric acid, that have a similar origin but differ slightly in chemical constitution. Within recent years the relation this poison bears to catarrhal conditions of the mucous membrane has been clearly demonstrated. The relation it bears to many asthmatic conditions has been elucidated by Alexander Haig. Beverley Robinson has called attention to its position in many catarrhs of the appendix. The use of antilithic remedies in many forms of gastric catarrh has been attended with excellent results. The statements contained in L. D. Bulkley's paper, calling the attention of the profession to the great value of sodium bicarbonate in the treatment of catarrhal conditions of the upper air tract, have since been confirmed by many competent observers.

J. Scott Bishop, of Chicago, has proved the relation that this poison bears to coryza and hay fever. His experiments are very interesting, and show that in the morning, when the blood contains most free acid, the lithæmic symptoms are aggravated. That most cases of bronchial catarrh are worse in the morning is a notorious fact. This aggravation is not altogether the result of a collection of mucus due to repose, because it occurs in those who do not sleep at night, and it does not generally occur after sleep at other times of the day.

It is a common clinical observation that bronchial catarrh and rheumatic (lithæmic) affections are (1) prevalent at the same season, and (2) are prevalent under the same conditions. It is during those seasons when there is less fresh air inhaled, less exercise indulged in, more sweets and liquors are taken, that we commonly see these two affections. The skin does not act so freely, and consequently the poisons are stored up awaiting, as it were, a signal to explode. The conditions affording such a spark may be a falling barometer, damp, foggy weather, a sudden chilling of some part of the surface, an attack of indigestion, or some shock to the nervous system. It has long been observed that both affections were common in damp localities and during damp weather.

The hereditary tendency in both lithæmic and bronchial affections is very marked. The frequency of the two classes of complaints in the same individual is also very striking. In many of these patients an attack of bronchial catarrh will alternate with other rheumatoid or gouty symptoms. Often these individuals are aware for several days beforehand of the oncoming attack. Again, the frequency of the two affections is very marked in regular drinkers. To be classed especially among the attacks having a lithæmic origin are the cases recurring periodically. In almost every instance, upon close questioning, a lithæmic history is obtainable from such patients.

Duclos thinks that in these rheumatic cases—(1) the invasion is generally brusk; (2) it involves the greater part of the mucous membrane on both sides very early, and (3) the dyspnœa is out of proportion to the space involved. (4) The râles are dry in those with a gouty tendency and moist in the rheumatic. (5) If not treated, it runs its course unless some other lithæmic manifestation, such as a herpes or an eczema, takes its place. In this connection it may be mentioned that herpes—the "cold sores" of the laity—very commonly occurs in these subjects at the height of the affection and is usually a favorable sign.

In considering acute bronchitis in the light of a toxæmic manifestation we find a ready explanation for the undoubted value of profuse diuresis and diaphoresis in the treatment of this condition. By rapidly eliminating the toxins in this manner many attacks are cut short. In almost every case the patient will experience relief.

From time immemorial expectorants, so-called, have been employed in the treatment of this symptom. That they have some slight effect in relieving the distress can scarcely be denied. By their irritant and congestive action on the stomach they act as local derivatives, much after the fashion of a counter-irritant. That they have any curative effect is problematical. A few are diuretics, and so aid in the elimination of the poison. Any advantages that they may have are more than compensated for by the disturbance of digestion due to their irritating effect, and to the fermenting syrup that affords an excellent medium for the growth of the yeast sarcinæ. Whatever value there is in the ammonia preparations is due—(1) to their antilithic properties, (2) to their local effect on the stomach, and (3) to cardiac stimulation. Other less irritating alkalies will often answer as well.

As far as rational therapeutics can carry us, the indications for treatment point—(1) to the repeated cleansing of the intestinal tract; (2) to aiding the skin and kidneys in the elimination of toxic products by repeated diaphoresis and the ingestion of large

quantities of water; (3) to neutralizing or hastening the elimination of the so-called lithic-acid poison. These poisons, as before stated, are complex and multiple, and in some cases react to one of the antilithic remedies better than to another. Whether the iodides, salicylates, alkalies, or colchicum will be successful in a given case will thus have to be determined. A combination of an alkali with the iodide and salicylate will answer in a large percentage of cases. By means of antiseptic inhalations the danger of secondary infection may often be lessened. It is, however, beyond the limits of the present paper to describe the very many valuable adjuvants to the treatment of the distressing features of this condition.

To summarize: (1) Acute bronchitis is a symptom. (2) The diseased condition of which it is a symptom is a toxæmia, which may be due (*a*) to the so-called uric-acid poison; (*b*) to auto-intoxication from the intestinal canal; (*c*) to specific infectious agents. (3) The treatment with nauseous mixtures, under the name of expectorants, is illogical, and is opposed to modern therapeutics. (4) In every case we should endeavor to discover the etiological factor, and treat the same.

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## A CASE OF ASEXUALISM.

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Cases of sexual perversion or of marked anomalies of the sexual organs so rarely come to autopsy, that the writer believes the report of this instance will be of value to those interested in this condition. It seems to the writer that a careful study of a sufficient number of various cases might throw much light on the development of the sexual sense, and on the true relation of the sexual glands to the general system and to the special differential physical and mental development beginning at the time of puberty, which distinguishes the male and female.

The patient was twenty-nine years of age, born in Russia; he was a resident in the United States fifteen years; business, harnessmaker. He entered the Montefiore Home February 8, 1897, and remained there up to the time of his death. He entered with the symptoms of intracerebral hemorrhage, and was treated while resident in the hospital for the resulting paralyses. As this condition has no bearing on the sexual peculiarities of the case, no further mention of it will be made.

At the time of the examination of the patient, it was noted that the voice was high-pitched and the inflection feminine. The physical anomalies to be mentioned later were also remarked at this time. The patient, who remained in the hospital two years, was very retiring and modest in his behavior—"lady-like," as one of the nurses expressed it. During the examination Dr. Frankel at once noticed that he seemingly instinctively attempted to keep the body as much covered as possible, and especially to conceal the genitals.

He denied having ever attempted sexual intercourse of any kind, and stated that he was devoid of sexual desire toward either men or women. He had erections of the penis, but without any particular pleasant sensations and without emissions. While in the hospital, the patient associated but little with the other patients. This may have been partly due to the fact that he was constantly subjected by his fellow-inmates to more or less ridicule, on account of his diminutive sexual organs. As a whole his general behavior, tastes, conversation, and especially his relations toward the other patients were more such as would be expected in a female than in the male, though at no time did he show any sexual manifestations toward the male sex. He died from the results of a mitral stenosis of extreme degree, and at the autopsy the following facts bearing on the sexual condition were observed and are quoted from the protocol:

The body was that of a person of average size, but the lower extremities were of unusual length in proportion to the size of the body; the distance from the anterior superior spine of the left ilium to the arch of the left foot was 1.4 metres. The thighs were massive and the general conformation of the lower extremities was spindle-shaped; there was a slight œdema of the lower extremities from the thighs downward; this was most marked on the right. The musculature was of less volume and less sharply defined than in the ordinary male body of this size. The chest was long and barrel-shaped. The lower border of the ribs extended to within 3.5 cm. of the crests of the ilia. The pelvis was flat and very broad, nearly equalling the breadth of the shoulder girdle. The formation of the upper extremities was also of a somewhat feminine type; the musculature was fairly ample; both forearms and hands were quite œdematous, but the muscles of the right arm were atrophic.

The neck was rather short and unusually full. The head and face were small, and the features were fine, regular, and of a distinctly feminine type. The ears were large and the Darwinian tubercles were especially pronounced. The scalp showed numerous scars due to the tinea favus. The hair of the scalp was fine, dark brown in color, and that in the axillæ, like that over the pubes, was fine, curly, and rather sparse. There was no growth of hair on the face. The body showed a fairly good state of nutrition and the skin was thin and white. There were numerous white spots, which varied from 2 to 10 mm. in diameter over the surface of the body; they appeared like minute scars, but no history or indication of their origin could be obtained; possibly they were trophic lesions resulting from the cerebral hemorrhage.

There was a very large deposit of fat and loose connective tissue over the pubes, giving rise to a condition simulating very closely a well-developed mons veneris, and the growth of hair in this locality was sharply confined to the supra-pubic pad, not extending more or less up the median line as is generally the case in normal males. The penis was small, measuring but 4.5 cm. from its root to the tip of the glans. The organ was well shaped and the glans was fully exposed; a circular cicatrix back of the corona indicated that circumcision had been performed. There were no scars or other evidence of disease or malformation on the glans. The meatus urinarius was very small, barely admitting a 2 mm. probe. The scrotum was represented by a small, transparent, slightly œdematous sac, which apparently contained no testes. The median raphe was intact, well formed, and there was nothing about the genitals to indicate hermaphroditism; the only genital abnormality being the absence of testes, the small size of the penis and scrotum, and the close simulation of a well-developed mons veneris. The breasts were atrophic and the nipples small, presenting no deviation from the usual male type.

Taken as a whole, the body presented a very peculiar appearance, neither male nor female in its general characteristics, but resembling more closely the conformation of the female rather than that of the male.

Examination of the brain revealed the lesion of the left internal capsule which had been diagnosed. The thoracic and abdominal viscera exhibited nothing of interest bearing on the sexual condition of the patient or showing any peculiarities or faults of development;

hence I have omitted these portions of the protocol. Drs. Frankel and Onuf will use the neuro-pathological findings of this case in a study soon to be published by them.

On section it was found that the prominence of the neck was due to hypertrophy, apparently hyperplastic, of the thyroid gland. Of the other ductless glands the thymus was absent. The adrenals were natural and the prehypophysis was slightly enlarged. The larynx was very small, so explaining the high-pitched voice. The pelvis and its contents presented several points of considerable interest. The blades of the ilia were broad, spreading, and shallow, and the bony ring was unusually ample in both superior and inferior straits, so that in its entirety the pelvis presented a quite distinctively female form.

On removing the pelvic peritoneum, a rudimentary testis was found situated subperitoneally on each side. They were bean-shaped and of about equal size, measuring 2.5 cm. in length, 11.5 mm. in breadth, and 3.5 mm. in thickness; both were located at a distance of 4 cm. from the internal ring, with which they were connected by a cord of loose connective tissue and fat which evidently represented the undeveloped gubernaculum. They were surrounded by a considerable quantity of areolar connective tissue, infiltrated with fat. The gross appearance of the cut surface was very similar to that of ordinary testicular tissue. No mediastinum could, however, be seen, and the consistence of the bodies was much more firm than is that of the normal testis. On the posterior surface of the left organ was a small nodular body which was apparently the rudiment of the epididymis, since from it was continued a cord-like structure which passed inward and downward to the posterior surface of the neck of the bladder. This epididymis-like body was not apparent on the right side, where the vas evidently took origin directly in the testis itself. The vasæ were found to be of about the usual size, but on section no lumen could be demonstrated in them. They converged to unite finally each with the duct of the seminal vesicle on the posterior surface of the base of the bladder. The seminal vesicles were much smaller than normal, and attempts at inflation demonstrated them to enclose but a very small lumen, which was obliterated in the greater part of their extent. The ejaculatory ducts were present only as firm fibroid cords, the lumen being obliterated on both sides.

No prostate gland could be made out on gross examination, but a slight thickening was observed in the usual location of this body, and bits of this tissue were subsequently subjected to microscopic examination. The superior surface of the prostatic portion of the urethra was slit open, and the spindle-shaped dilation of this part was found natural and of a commensurate size with that of the penis. The veru montanum was well-formed and proportionately large. On either side of the veru were a few minute perforations which were taken to be the entrance of prostatic ducts. A tiny sinus pocularis was demonstrable just anterior to the veru montanum, but the entrance of ejaculatory ducts was not seen.

Sections across the body of the penis showed its macroscopic appearance to be natural, though the organ was below normal in size.

The internal rings and the inguinal canals were closed on both sides.

The scrotum contained only a small amount of loose connective tissue and considerable œdematous fluid. (Œdema was quite general, as the patient presented extensive kidney and cardiac lesions.)

Microscopic examination of one of the supposed genital glands showed the following structure: The body was surrounded by a fairly thick coat of loosely arranged adult areolar connective tissue. From this capsule passed in dense adult connective-tissue septa which carried numerous blood-vessels. Extending out from these septa was a very intricate network of fine adult fibrils which permeated the section in every direction, even separating the individual cells which are presently to be described. Immediately surrounding the septa were groups of small round cells. These cells were mononuclear and had proportionately small amounts of protoplasm; they were morphologically identical with lymphocytes. Intervening between these areas, which with their enclosed septa made up the bulk of the tissue, were epithelioid cells, which also intermingled more or less in the peripheries of the cell groups just described, and which filled in the remaining spaces of the tissue. These cells were irregularly polyhedral in shape, and varied in size from two to four times that of a lymphocyte. The cytoplasm was granular and in some cells seemed to enclose vacuoles. The nucleus was centrally placed and was frequently irregular in shape. A few of these cells were grouped as though an attempt toward acinus formation was indicated. No evidence of cell activity was seen in any of the elements making up the structure, but, notwithstanding this, blood-vessels were very numerous, though they were mostly poorly formed.

There was nothing in any of the sections which resembled the normal structure of either the male or female genital gland, and under low magnification the appearance was very similar to that of a compound lymph gland.

Sections of the small mass attached to the testis and taken for a rudimentary epididymis show its structure to be similar to that of the body first described, with the exception that the epithelioid cells were much less numous. No evidence of duct formation was present. A few corpora amylacea, mostly situated within connective-tissue whorls, were present.

The slight thickening about the prostatic portion of the urethra microscopically showed a few glandular acini situated in those parts nearest to the urethra. These acini were usually lined by several layers of polygonal cells, but some were completely filled by the cells; in others the most internal cell layer was made up of columnar cells, while those against the basement membrane were still of polygonal form. When a lumen was present within the acini, it was usually partly filled with a homogeneous colloid-like substance or occasionally by a few large, spherical, highly granular cells. The amount of involuntary muscle about these gland-like structures was very small.

It is evident from the above examination that the development of the testes and the prostate gland was arrested at an early stage. The testes have, of course, been entirely functionless, and in all probability the prostate has also been unable to elaborate a secretion, or at least a normal one.

Briefly the chief characteristics presented by the case are these:

1. General habitus and physical development of the female rather than of the male type.

2. Small but naturally formed male external genitals.

3. Undeveloped, non-functionating sexual glands (testes and prostate).

4. Presence of a normal spinal sexual arc, shown by the fact that erections of the penis took place.

5. Absence of all psychic sexual manifestations.

Cases of this nature are clearly defined from the large class of sexual psychopathies in which the sexual abnormalities and manifestations are chiefly or wholly mental. Here no mental sexualism, either normal or abnormal, was present. The case also differs very essentially from those of the various forms of hermaphroditism in which malformations of the genitals, at

least resembling those of both sexes, are present. In our case, all the sexual organs were of a distinctly male type, and aside from their diminutive size were of natural anatomical conformation. Hence I would class this case as a congenital psychic neuter, or as one of psychic asexualism, associated with non-developed sexual glands. It is a well-recognized fact that when castration or ovariotomy is performed before puberty, especially when no mental sexual concepts have been previously formed, the body of the subject develops to a type resembling somewhat that of the opposite sex. Statements that the female subject of ovariotomy becomes "mannish," and that the castrated male becomes "womanish," are, I believe, exaggerated and untrue; preferably we should state that the body assumes a neutral or asexual type. That this form developed from either sex more closely resembles what we choose to call the feminine figure, will, I think, be generally admitted. The cause of this lapse to a neutral physical type after the removal of the sexual glands is in all probability a withdrawal of some internal secretion of these glandular structures.

As confirmatory of this theory are several cases recently reported by Ochsner, who found that when the vas was resected by operation or obliterated by disease the patients still possessed natural sexual desire and power, though, of course, the ability to impregnate was removed, and none of the usual mental or physical changes which ordinarily follow castration developed. Glass also relates a case which strongly supports the internal-secretion theory. A young woman had undergone double oöphorectomy, and as a result sexual desire had disappeared, and the patient complained of numerous neurasthenic symptoms, which are not unusual in these cases. At an operation performed two years after, a normal human ovary was introduced immediately after it had been removed from another patient. A return of sexual desire followed this procedure, together with the disappearance of the various nervous symptoms and the reëstablishment of menstruation.

The mental alterations, while no doubt partly dependent on the same factor, are, I believe, largely subjective; especially is this true of emasculated subjects, such a person being very apt to become an object of ridicule to his more fortunate brethren. This leads the patient to avoid male society, not that he may seek female society, but to escape from the imposed shame and ridicule, preferably to associate with creatures of his own condition or to remain by himself. This is, I think, also the reason that the congenital neuters habitually seek isolation and object to exposure of their bodies.

Congenital neuters, such as the case described in this paper, are not uncommon. Three quite similar cases, all of the male type, are now present in our wards at the Montefiore Home. The condition is, however, I believe much more common among subjects possessing female genitals. Several of these cases have come under my own observation, and gynecologists of experience will be able to recall large numbers. A case of my own was that of a married woman, twenty-nine years of age. The body was not badly formed, though the type was far from a good one of the female figure. The breasts were undeveloped, but the external genitals were of natural configuration. The patient had never menstruated, and expressed herself as utterly unable to comprehend the sexual passion of her husband or that of other women. Internal measurements by means of the sound and bimanual examination showed the uterus to be very small, probably not more than a few centimetres in length. The ovaries could not be felt, and as menstruation had always been absent, I think that we can fairly presume that they were wanting or undeveloped.

A still more striking instance came under the observation of a friend, a general practitioner. In this case the woman was recently married, and consulted the physician because her husband had told her that "something was wrong with her." She had never menstruated, and stated that she had never experienced any sensations of a sexual nature, and the caresses of her husband had never excited anything more than friendly feelings on her part. The figure was of a fairly good form, the breasts were quite well-developed, and the mons veneris, labia majora, and clitoris were all natural. The vagina was represented by only a small pointing inward of the skin.

I do not wish to be misunderstood as inferring that none of these cases has mental sexual manifestations; on the contrary some of them have, and these desires are, just as in the physically natural, sometimes perverted. One of our patients of this class at the Montefiore Home is suspected of having voluntarily amputated his penis, evidently because he thought it neither ornamental nor useful. Similar perversions are seen among eunuchs, and the persistence of not only sexual desire, but of actual gratification, is not unusual in adult females after ovariotomy or complete hysterectomy. I believe, however, that the vast majority are, as the instance reported in this paper, mentally as well as physically essentially neuter, and it seems to me a mistake to class such as cases of hermaphroditism or pseudo-hermaphroditism.

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## EPIPHORA, OR THE WATERY EYE: ITS COMPLICATIONS, ETIOLOGY, AND MANAGEMENT.[1]

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The selection of a subject in ophthalmology for discussion before a society composed for the most part of general practitioners is a task that is not easy of satisfactory accomplishment. When invited to read a paper before you at this time, I decided upon attempting to interest you in a *résumé* of the salient and important factors pertaining to a class of patients who quite as frequently consult the family doctor as the specialist in diseases of the eye. For failure to relieve epiphora is, you know, not very uncommon. I believe this to be unnecessary, and I am forced to the conviction that an important reason why such failure occurs must be sought in the fact that these cases have been too completely surrendered to the care of specialists. It is not possible for the majority of these patients to remain under an oculist's direct supervision very long, nor is it convenient for them to return to him always, should a relapse occur. Under such circumstances, the absence of proper supplementary effort on the part of the patient's physician must inevitably tend to nullify the most skilful treatment, even though it has been applied by the most intelligent ophthalmic surgeon. And it is because of these things that I have ventured to prepare a sketch of this common affection, which, though never a direct menace to life, is always a source of great annoyance to the patient, and is sometimes responsible for the hopeless destruction of an eye.

**Symptoms and Complications.**—Epiphora is a symptom dependent upon a variety of conditions, and characterized by a more or less constant overflow of tears upon the cheeks. The conjunctival space at the inner commissure of the eyelids (locus lacrimalis) is full to running over. This accumulation of liquid frequently blurs the vision of the affected side and so

[1] Read before the New York County Medical Association, May 15, 1899.

disturbs the patient's comfort that he is constantly wiping his eye. The margin of the lower lid and the integument over which the tears flow may become red and may be excoriated, which constant rubbing with a handkerchief intensifies. The conjunctiva of the lower lid and that of the nasal side of the eyeball will become irritable, and sooner or later this irritability may be succeeded by a chronic catarrhal inflammation. The lacrymal sac is not inflamed, nor are its contents abnormal in character or in quantity.

A large number of cases of "watery eye" never exhibit any additional symptoms; and they may be regarded, therefore, as examples of simple epiphora.

On the other hand, there is a considerable number of cases that differ materially from those just described, by virtue of the fact that in addition to the symptoms already enumerated they present others that are dependent upon inflammatory changes in the tear sac. Because of the overweening prominence of the disturbances in the lacrymal sac, the affection is commonly spoken of by ophthalmologists as a dacryocystoblennorrhœa, or as a dacryocystitis. The term dacryocystoblennorrhœa is used to signify a chronic inflammation of the mucous lining of the lacrymal sac, which causes an excessive production of mucus. The term dacryocystitis is used to designate a condition in which the lacrymal sac becomes the seat of an inflammation that causes a purulent or a muco-purulent discharge. Dacryocystitis begins as a chronic process, and may continue indefinitely as such; but the cases are often subject to the occurrence of acute exacerbations. When an acute inflammatory outburst occurs in a lacrymal sac that is the seat of a chronic purulent inflammation, we have to deal with a lacrymal abscess.

In dacryocystoblennorrhœa we have added to the symptoms of simple epiphora the following: (1) Accumulation of a quantity of glairy mucus in the lacrymal sac, the presence of which alone impedes the passage of tears into the nose; and, (2) distention of the sac to form a tumor-like prominence at the inner angle of the eye (mucocele). Evacuation of the sac, in this affection, as well as in dacryocystitis, and diagnosis of the nature of its contents is effected by means of digital pressure over the region of the sac, which forces at least a portion to pass through the canaliculi and puncta into the eye, where it may be examined. In a relatively small number of cases, unless the direction of the pressure be carefully regulated, the contents will all run through the nasal duct into the inferior meatus of the nose, and escape observation. Dacryocystoblennorrhœa may continue a number of years without alteration in the nature of the discharge; or, gradually or suddenly, the inflammatory process may assume the characteristics of a dacryocystitis.

In dacryocystitis we have the symptoms already enumerated for simple epiphora and dacryocystoblennorrhœa, with this modification, that the discharge from the lacrymal sac is purulent or muco-purulent. The presence of pus in the discharge works a marked alteration in the importance of these cases. All the symptoms are apt to be intensified. The eye weeps more profusely; the blepharitis is more marked; the conjunctivitis is more intense; the eyelids are commonly stuck together in the morning; and vision is more disturbed than in the other cases. Should an abrasion of the cornea occur from any cause, the uncovered spot will become infected by the discharge from the lacrymal sac, and a destructive ulceration will ensue immediately. It is even possible that constant exposure of the normal cornea to such infectious material may induce ulceration of its structures. At all events, when the epithelial layer of the cornea is destroyed in cases of dacryocystitis, either by traumatism, or by operative measures, or by pathological processes, a destructive infectious inflammation immediately springs up in the exposed part, and ends in partial or total destruction of visual power in the affected eye, or in loss of the eyeball itself.

It has been noted already that dacryocystitis is a chronic process. Many cases run on for years, presenting only the symptoms of a weeping eye and a more or less profuse purulent or muco-purulent discharge from the lacrymal sac, which either slowly escapes through the puncta into the eye or is expressed in quantity from time to time by the patient. A large number of cases, however, have acute exacerbations (lacrymal abscess). Such attacks are frequently diagnosticated as erysipelas of the face.

Without any warning the tissues about the lacrymal sac become swollen. The tumefaction closes the eye, and may obliterate the natural depression at the inner angle of the orbit. The skin takes on an erysipelatous blush, which may spread over the whole side of the face. General prostration may be marked; and a febrile movement will be observed. The inflammatory process which began in the lacrymal sac has extended to the circumjacent structures, and has terminated in abscess formation outside of the tear sac, but communicating with it. Sooner or later the abscess is incised, or it ruptures spontaneously on the cheek; then the acute symptoms begin to ameliorate. Under antiseptic handling suppuration diminishes rapidly, the inflammatory induration soon passes away, and the external wound closes. Under other circumstances, the suppuration is prolonged, the induration subsides slowly, and a lacrymal fistula is established at the point, or the points, of rupture. The skin may be undermined by numerous fistulous tracts, and its surface broken by superficial ulcerations. Some cases present appearances resembling those of epitheliomatous degeneration at the inner canthus. Scarring of the face and deformity of the lower eyelid may be irremediable sequelæ of a lacrymal abscess.

**Etiology.**—The causes of epiphora may be grouped under two subdivisions: (1) Conditions that induce an excessive production of tears; and (2) conditions that interfere with the proper function of the drainage system.

In the former, the drainage system may or it may not be normal; in the latter, the production of tears may or it may not be normal.

(1) The conditions that induce an excessive flow of tears are: emotional states; acute and chronic inflammations of the conjunctiva; irritation or inflammation of the cornea, iris, choroid, or retina; foreign bodies in the eye; eye-strain from excessive use of the eyes, or from using them in bad lights and during enfeebled states of the general system; and eye-strain due to errors of refraction, or to anomalies of the ocular muscles; cold winds, and irritating vapors and substances in the air; and reflex irritation produced by states of the nasal chambers and by other things that increase the sensibility of the fifth nerve.

(2) The drainage system of the eye is composed, as you know, of the superior and the inferior canaliculi, the orifices of which, known as the puncta lacrimalia, are found at the posterior edge of the eyelid near the inner canthus. The canaliculi empty into the lacrymal sac, which carries the tears to the nasal duct. The latter passes through a bony canal and empties into the inferior meatus of the nose on the outer side of the inferior turbinated bone.

In order that this system may properly perform its function it is essential that its ways be patent, and that the puncta should lie in gentle contact with the conjunctiva of the eyeball, and that the lower extremity of the nasal duct should discharge into an unobstructed inferior meatus. The tears—comprising the secretion of the lacrymal gland, the glands of Krause, and the mucous follicles of the conjunctiva—are moved

toward the inner canthus by force of gravitation, and by the act of winking. They enter the drainage system by virtue of the forces of capillarity and gravitation, and by the same influences they are conducted through the drainage system and discharged into the nose.

The conditions which suspend or impair the function of this system operate in mechanical ways, and naturally group themselves in the following manner:

(1) Conditions pertaining to the puncta lacrimalia.

It has been said already that the puncta must lie in gentle contact with the bulbar conjunctiva. They must be patent and of sufficient calibre to take up the tears. While these things may be predicated of both puncta, it should be noted that the inferior punctum and the inferior canaliculus are very much more important in this connection than are the superior canaliculus and the superior punctum. And, whenever reference is henceforth made to a punctum or a canaliculus, it will be understood, unless otherwise specified, that reference is made to the inferior group; although nearly every statement that I may make regarding the one may be truthfully applied to the other.

The edge of the eyelid may be everted (ectropium) so that the punctum cannot collect the tears, or it may be inverted (entropium), with the same result. There may be congenital absence of the punctum; or it may be constricted or obliterated by cicatrices due to wounds or burns, or pathological ulcerations.

(2) Conditions pertaining to the canaliculi.

Abnormal conditions of the canaliculi may consist in their congenital absence; or they may be constricted or occluded by the same causes that constrict or occlude the puncta. They may be obstructed by foreign bodies—*e.g.*, eyelashes and lacrymal calculi—or by mucous polypi. The punctum may be removed from contact with the eyeball, and the lumen of the canaliculus may be encroached upon by hypertrophy of the caruncle. The calibre of the canaliculus is frequently obstructed by a stricture at the point where it enters the lacrymal sac.

(3) Conditions pertaining to the lacrymal sac.

Chronic inflammation in the lacrymal sac, by virtue of the consequent swelling of its mucous lining and the viscidity of the discharges retained in the sac, seriously impedes the passage of tears through the drainage system. This is, no doubt, the most important complication that we commonly encounter. The reason why such inflammation ever occurs is not easy to determine. If infection of the mucous lining by micro-organisms is the cause of it, whence do they enter the tear sac? Clinical experience demonstrates, I think, that they do not often come from an inflamed conjunctiva. After dacryocystitis has set in, there is no doubt that the discharge is infectious. The conjunctiva is frequently infected by it, but evidence that the mucous membrane of the lacrymal sac is ever infected from the conjunctiva is difficult to find. One would suppose, for example, that gonorrhœal ophthalmia would infect the tear sac with great certainty; but I doubt if there be an ophthalmologist in this city who has ever seen an example of such infection. It seems to me far more probable that the inflammatory process in the tear sac is propagated, in certain instances, from the nose through continuity of tissue; while, in other cases, it is induced primarily by virtue of continued reflex dilatation, both of the veins of the lacrymal sac and of the veins composing the plexus surrounding the nasal duct in its bony canal, caused by irritations of the fifth nerve in its septal and turbinal distributions. Common observation teaches daily that chronic congestion of a mucous membrane is accompanied by an excessive production of thick mucus; and that a purulent infection is readily grafted upon such a condition.

Cicatrices of burns or wounds, or ulcerations, may occlude or deform the lacrymal sac so as to suspend its function as a section of the drainage apparatus.

(4) Conditions pertaining to the nasal duct.

Inflammatory stricture occurs at the upper extremity of the nasal duct, and at its opening in the inferior meatus. It is less common, however, than are strictures at the nasal end of the inferior canaliculus. Chronic dilatation of the plexus of veins about the nasal duct is, I believe, the most common cause of loss of function in this part. Bony obstructions due to fracture have been encountered. But the lumen of the nasal duct is far more commonly encroached upon by bony formations developing from an osteoplastic periostitis in the bony canal, that has been excited by violence in probing the nasal duct, or by excessive probing. Tuberculosis, gummata, and invading tumors have been recorded as obstructions in the nasal duct. False passages made by forcible probing would naturally impair the function of the drainage system.

(5) Conditions pertaining to the nose.

Finally, rhinitis, acute and chronic, hypertrophic and atrophic, plays an important rôle in epiphora. Hyperæsthesia of the fifth nerve should not be forgotten in this connection. Deviations of the septum and septal spurs, when they interfere with the function of the nose, and intra-nasal growths of every sort, have important etiological bearings upon these cases, and ought never to be neglected.

**Treatment.**—I think all will agree, that for a little thing epiphora has a tremendous etiology. It must be evident to every one that the management of it consists in much more than probing the nasal duct. But complete discussion of the treatment of the various causes that induce the symptom would, of course, be out of place now, because unneccessary. Simple enumeration of the etiological factors is sufficient to suggest to every one the proper handling; and I shall conclude my remarks, therefore, with a few observations upon the purely local management of some of the conditions that impair the function of the drainage system.

(1) Punctum and canaliculus.

We have seen that the size and position of the inferior punctum are altered in a certain proportion of the cases. Narrowing of the lumen of the punctum is common, and may be detected best by attempting to introduce the smallest lacrymal probe—00. Eversion of the eyelid may be very slight indeed, and yet be sufficient to remove the punctum from proper contact with the eyeball. For both of these conditions, removal of a V-shaped segment from the posterior wall of the punctum and canaliculus is the most satisfactory procedure. The canaliculus will not collapse when cut into, but maintains its form very much like a rubber tube under every sort of manipulation. Having removed the V-shaped segment the patency of the drainage system may be estimated by injecting a solution of boric acid into the canaliculus by means of a hypodermic syringe provided with a blunt needle, or by passing lacrymal probes. I prefer to syringe all cases first, and avoid probing whenever it is possible to do so.

When the canaliculus is insufficient, and when there is a stricture at its nasal extremity, the custom is to divide longitudinally the posterior wall of the canaliculus, cut the stricture, and pass the largest probe that the nasal duct will hold. It seems to me, however, that simply slitting the canaliculus is not sufficient. The edges of the wound will lie in contact with one another, and hence the freedom of drainage will not be much increased by the operation. For a number of years, I have been in the habit of remov-

ing, instead, a portion of, or the entire length of, the posterior wall of the canaliculus. I am convinced that the results obtained have been much better for this change in management. Frequently, I have noted also that the caruncle was sufficiently enlarged to pass upon the canaliculus. In common with others, I formerly used astringents, hoping to reduce the size of the caruncle thereby. In the milder cases, no doubt, that treatment will succeed. But in the more marked cases, the caruncle should be cut away. During the past six or seven years, I have practised this small operation upon a considerable number of cases, and I am pleased to believe that the results have been satisfactory to me and to my patients.

Incision of the stricture at the extremity of the canaliculus, when made freely through the lower segment, will usually permit the immediate passage of a very large probe—No. 9 Theobald, in adults. During healing of the wound, occasional probing is necessary to obviate reformation of the stricture. After that period has passed, frequent probing will irritate the parts to their detriment. Should obstruction still exist, the opening into the lacrymal sac ought to be enlarged by cutting away its posterior margin with scissors.

The posterior wall of the canaliculus, and the caruncle, should be removed in cases of chronic inflammation in the lacrymal sac, and all strictures should be thoroughly divided. This treatment will change the conditions so that it will be easy for the patient to express discharges from the tear sac. As large probes as possible should be passed through the nasal duct, but always without force sufficient to injure the mucous membrane. Probes should be used in these cases according to the principles upon which sounds are used in the urethra, and it should not be forgotten that repeated probing will often do more harm than good.

Syringing with a saturated solution of boric acid may be practised in chronic inflammation of the tear sac daily, until the discharge has ceased. It is not safe to attempt to syringe through the nasal duct immediately after dividing strictures, nor is it safe to inject into the passages of the drainage system irritating solutions like those of nitrate of silver or chloride of zinc. For, in either instance, orbital cellulitis with its serious consequences may follow the injection. Under all circumstances, the various manipulations with probe and syringe should be gentle. Each physician ought to be able to do these things as skilfully as another, for there is nothing difficult about them. And it is owing to the fact that they are not practised by the family physician that some cases of inflammation in the tear sac resume their former proportions after leaving the ophthalmic surgeon.

When inflammation in the tear sac has been subdued, the syringing may be discontinued. But the patient should occasionally medicate his drainage passages, by lying upon his back with his head low and filling the inner angle of the eye with the boric-acid solution, which, after a few minutes, will run through into the nose.

Relapses are commonly due to attacks of cold in the head. When they become manifest, the probe should be passed, and the syringing resumed, according to circumstances.

Lacrymal abscesses are treated like other abscesses. As soon as the acute symptoms have subsided the chronic condition in the drainage system may be attacked.

Failure to cure inflammation in the lacrymal sac by the means referred to may induce the surgeon in bad cases to consider the advisability of extirpating the lacrymal sac. Before this is done, however, the patient should be put under a general anæsthetic, and the sac should be thoroughly curetted, and packed with iodoform gauze. This may be accomplished without making a wound through the skin. It will be advisable in most cases to irrigate and repack the wound daily. By the end of a fortnight, irrigation only will be sufficient.

Extirpation of the lesser lobe of the lacrymal gland has been especially extolled by de Wecker, for simple epiphora. It will diminish the secretion of tears, and may be advised for cases that prove obstinate. But it must not be forgotten that even extirpation of the entire lacrymal gland will not alone cure simple epiphora.

There are undoubtedly cases of suppurative inflammation in the lacrymal sac that are severe enough to warrant extirpation of the sac. The lacrymal gland should be removed also, for otherwise the epiphora will be almost unendurable. Removal of the gland appears to be, in general, a perfectly safe operation. The glands of Krause and the mucous follicles of the conjunctiva will secrete sufficient liquid to keep the parts properly moistened and lubricated. The cases, however, in which removal of the entire gland is indicated are seldom seen.

Finally, it is needless to add that the strictest asepsis is essential to success in every ophthalmic operation. Cocaine will produce sufficient anæsthesia for nearly all the work in the cases we have been considering. Should cocaine fail, or should the patient be timid and nervous, a general anæsthetic ought to be used.

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## THE OPERATION OF CŒLIOTOMY.[1]

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The operation of cœliotomy has changed so greatly during the last fifteen years, that in looking backward over that period of time it is hard to realize that the methods then pursued could be followed with any great degree of success; for the lack of asepsis, in fact the general want of cleanliness, warrant me in making this broad assertion, and as I look still further back it would seem as if the operations of this character were almost rudimentary compared with the operations of to-day.

Gynæcologists worked along in their line doing plastic work, and doing that plastic work more or less successfully, but when it came to a cœliotomy they felt and acted as though they had finally come to an operation which to them seemed to be the climax of surgery in their line. The late Dr. Edward Peaslee once made the remark that ovariotomy was the keystone of gynæcology. In those days, cœliotomy was to the average man an operation to be dreaded, on account of the danger to the patient, and one of serious damage to the reputation of the surgeon in case of failure. And I can remember well when many a good case was turned away from the hospital because the surgeon was unwilling to take the risk. To-day, pause and see where we stand. Every post-graduate matriculate who can handle the scalpel with any amount of dexterity will undertake to do cœliotomy with comparatively little fear, and even the young hospital interne expects to do his two or three cases of cœliotomy before he leaves the hospital. The young general practitioner is not content until he has done his first case in private practice. And here let me ask, Is it right that every general practitioner, who perhaps has had only a limited experience in surgery or has been watching the operation at some post-graduate

[1] Read before the Manhattan Medical and Surgical Society, April 15, 1899.

school for a few months, should be encouraged to undertake the work of abdominal section and do the work as it is being done to-day? Of course there are exceptions; some men, already well trained in the work, come to the larger cities for the benefit to be derived from seeing operations done by the best operators, with all the improvements that a large city has, and only a large city can command.

On the other hand the hospital interne of any large hospital that has its gynæcological section is well fitted for his work in this line when he has completed his course, and enters the field of private practice. Where could he get a better training than in such a hospital, working directly under the hand and eye of his attending surgeon? The training of an interne under these circumstances is so complete, and yet gradual, that he hardly knows when he has become a good, thorough, and well-trained cœliotomist.

But as to the general practitioner, who is likely to get only an occasional case in his private practice, perhaps in a country town or small city, without competent assistants, without proper hygienic surroundings or all the equipments for rendering the instruments and ligatures aseptic, I regard it a grave error on his part to undertake the work, and on our part to encourage him. Cœliotomy and like operations should be performed only by surgeons trained for the work, with assistants well trained also in their work, in rooms that are made as thoroughly aseptic as it is possible to make them, and with all the modern apparatus and conveniences that the operation may need, and the operation to be done under the best aseptic methods possible. Then, and only then, can we reasonably expect the best results.

Now a few words in regard to preparing the patient for the operation. The heart is examined, and if there is any weakness or lesion strychnine sulph., gr. $\frac{1}{30}$, is given every four hours, with whiskey, ℥ ss. to ℥ i., three times a day. The chest is examined, and if bronchitis is found to exist to any marked degree, the disease is properly treated. Chloroform is ordered at the operation instead of ether. The urine is examined, and if casts or albumin continue to exist after suitable treatment, chloroform is given instead of ether. The same may be given when sugar has been found in the patient's urine. If much sugar or albumin or many casts still continue in the urine after proper treatment, the operation would be postponed.

On the second evening before the operation the patient is given a good cathartic. I usually give two compound cathartic pills, to be followed in the morning by a seidlitz powder, should the bowels not move freely. If the bowels are still stubborn, an enema is given, one-half cup of sweet oil and O i. warm castile soap-suds. On the evening before the operation another dose of cathartics is given, usually a repetition of the first dose, namely, two compound cathartics; this is followed on the same evening by a high enema until the whole lower portion of the bowel is well emptied. The patient is also given a bath and the mons veneris shaved. Then, six hours before the operation, a compress of cheese-cloth saturated with a solution of bichloride, 1 : 5,000, is placed over the abdomen where the incision is to be made, and held there by a binder, and this is not to be removed until the time of operation. In the morning, after the patient has had her movement, a small enema is given to remove any fecal matter that may remain. The urine is drawn by catheter, and then the patient is ready to go into the operating-room. In hospital or private work I always start the anæsthetic in bed, and after the patient is thoroughly under it I remove her to the operating-table, as this is far pleasanter for her. On the operating-table the vagina is well washed out with a solution of green soap, followed by a douch of bichloride 1 : 5,000. The mons veneris and thighs are cleaned in the same manner. Then the uterus is drawn down, the cervix dilated, well curetted, and generally packed with iodoform gauze, which is removed at the end of the operation. The green-soap solution used is made up in the following proportions: Green soap $\frac{1}{3}$, alcohol $\frac{1}{3}$, water $\frac{1}{3}$, glycerin $\frac{1}{12}$.

The cheese-cloth pad is then removed from the abdomen, which is well scrubbed with the solution of green soap followed by ether, then alcohol, then sterilized water, and finally the solution of bichloride 1 : 5,000. The patient is then ready for operation. The patient is placed on the back and the operation is begun. In regard to the incision, I often make it in the median line, but when the abdomen is very thin I make it about one inch from that line to the right or the left, and directly through the rectus muscle; in that way I get a better, firmer wall when the wound unites. The patient is then put in the Trendelenburg position, with the head down and the lower limbs elevated. This removes the intestines from the pelvic cavity, and they slip down under the ribs, and by this method we can easily get at the deeper vessels and ligaments, to tie the arteries. As to the tying of arteries, I always, if possible, use a knot tied in such a manner that it binds itself, and there can be no possibility of the ligature slipping. The only danger is from the contracting of the surrounding tissue when too much has been taken in the bite. The ligature is passed around the tissue twice, and the first half of the knot is tied under the loop, and as it is tightened the loop binds the knot; then an ordinary square knot is tied over this. This method is of great service in tying in deep tissues, where it is almost impossible to keep the first half of the knot from slipping until the square knot has been made.

The ligatures used are of sterilized catgut, No. 3 or 4. Ligatures of silk I have given up, as we have had so much trouble with them; the silk often acting as a foreign body in the abdomen and causing abscess to follow, and later the formation of sinuses, which would not heal in many cases without secondary operation. In some cases the silk would after months eventually work its way up through the sinus and be washed out in douching or have to be pulled out with forceps. I have seen three of these at the Woman's Hospital in which the ligatures were finally washed out of a pelvic sinus with a syringe, and two in which they had ultimately ulcerated through and finally lodged in the bladder, and were removed from the viscus with forceps. The ligatures being thoroughly embedded in a phosphatic deposit, the patient had suffered for some months from cystitis, the result of this foreign substance in the bladder. This danger is obviated by the use of catgut. In selecting the catgut, care must be exercised always to get the best, as there is great difference in it. Nos. 1, 2, 3, and 4 are the most serviceable sizes. One of the best methods of preparing it is as follows: Place the catgut in Squibb's ether, allowing it to remain for one day. Dry it, and place it in a salt-mouth jar filled with absolute alcohol; cover the jar, not too tightly, and place it in the inner compartment of an Arnold's sterilizer, or a common six-quart tin pail, and cover it. Pack towels, cotton, or gauze all around the jar. Then place the covered tin pail in a larger tin pail filled with water, cover the outer pail, and set it over the fire and boil for five hours. At the end of this time remove the catgut with sterilized hands or instruments and cut in convenient lengths. Coil each length and place it in a small glass jar filled with absolute alcohol, cover tightly, and the ligatures are ready for use.

Or should you prefer to use the chromicized catgut, wind the catgut tightly on medium-sized test tubes.

Hold the ends in place with a small elastic band. Place the tube and catgut in a larger test tube filled with chromicizing fluid. Allow it to stand for forty-eight hours; then remove it and dry thoroughly. When dried, unwind it and cut in lengths, coil, and put it in tight glass jars ready for use.

The chromicizing fluid is composed of

| | |
|---|---|
| Potass. bichromat. | 1.05 |
| Carbolic acid | 10.0 |
| Glycerin | 10.0 |
| Distilled water | 480.0 |

The advantage of the chromicized catgut over the simple sterilized gut is that the fluid hardens the catgut so that it will remain longer in the tissues before it is absorbed, lasting from three to six weeks; ordinary catgut will last five days. For this reason, the chromicized catgut is much more to be desired in sewing up or tying of vessels in the deep tissues of the abdomen.

I now come to take up the question of tying off the deep vessels in cases of cœliotomy for hysterectomy, single or double salpingo-oöphorectomy, or the removal of cysts or fibroids of the uterus or surrounding tissue. We have the choice of three methods: First, the use of the ligature; second, electro-cautery with compression; third, simple compression. Which of these three methods is best—best, to control hemorrhage and lessen the liability to shock—best, as being less liable to cause sepsis at a later date? There are two great dangers in the use of ligatures: one is the liability to slip directly after being applied or within forty-eight hours afterward. Do the best we can, we shall once in a while have this accident occur. The second danger is, that they are liable to become and act as a foreign body in the pelvic cavity, causing irritation, pain, and abscess, which ultimately may lead to the formation of an open sinus, to be cured only by a secondary operation for extraction or else by spontaneous ejection through a sinus after allowing the patient to wait during many months of torture.

On the other hand, we have used the ligature so long and been so accustomed to it that when we have been very careful in seeing that it is well tightened on the vessel we can go to bed and feel that we have done all that has been necessary, and can rest accordingly. And to-day the ligature is a grand good thing in its proper place, and there are some places in which it only can be used, and in which the other methods for obliterating vessels (of which I will speak next) cannot be used.

The next method for securing bleeding vessels in the operation of cœliotomy is one that has been pursued by Dr. Skene, of Brooklyn. The method was described some weeks ago in a paper he read before a monthly meeting of the Obstetrical Society of this city, and he also exhibited the instruments and battery. The method consists in the combined use of electro-cautery and compression. The battery is not a large one, and it is connected by insulated wires with a heavy pair of compression forceps, the surface to be heated being confined to one side of one of the jaws of the instrument. The portion of the tissue to be obliterated is firmly seized in the jaws of the forceps, and these jaws are tightened to the third ratchet in the handle, there being four in all. The current is then turned on and allowed to remain one minute, the parts becoming fairly well baked; at the expiration of the minute the jaws are tightened still more until the fourth ratchet is reached, and the current is allowed to remain two minutes more, or three minutes in all. At the expiration of this time the tissue to be removed is cut off with the scissors, and the jaws of the forceps are loosened; the forceps finally is removed gently, the work having been accomplished. This instrument was devised by a young electrician named Pinolet, under Dr. Skene's direction. Pinolet worked long and laboriously at this apparatus, and judging from the results so far accomplished at the Woman's Hospital it certainly has many merits in its favor. On examination of the tissues after the forceps has been removed they seem to be so thoroughly amalgamated and blended together that there is no danger of any after hemorrhage whatever. The only thing necessary is to see that the tissues are well distributed along the jaws of the forceps; as otherwise they will be well baked in some parts and not so well in other parts, thus leaving a chance for some vessel to burst through the stump. But this can be avoided by care, and we have had no trouble of the kind in our sections at the hospital where we have used the instrument more or less all winter.

The next method, and one that I wish particularly to call your attention to, for securing the vessels in cœliotomy is by Tuffier's angiotribe. This instrument was introduced to the medical profession by Dr. Tuffier, of Paris, and though in its present development it is a little heavy and clumsy, still it is about as perfect in its operation as anything we have. It is simply an immense pair of compression forceps, with a groove running along one jaw and a tongue along the other which will allow the jaws to meet approximately all over their closing surface. It has a large hand-crank wheel on a gradual screw at the handle extremity, and on tightening gives an immense pressure of three thousand pounds to the square inch. The tissues to be secured are simply caught between the jaws. The hand-crank wheel having been put in place and the wheel screwed down as tightly as possible, this pressure is maintained three minutes, during which time the diseased tissue is removed with the scissors, and then the jaws are carefully loosened, and the work is done. We have used this method at this hospital a number of times during the last two months, with a perfect result. There have been no shock, no hemorrhage, at the time or following, and no fear of any after irritation or ulceration from the use of ligatures. I can regard it only as the most perfect instrument yet devised for that purpose. After the diseased tissue has been removed with the scissors, the vessels have been secured, and the sponges removed, the patient is given an internal abdominal douche of from one to four gallons of sterilized water, at a temperature of 115° F. An opening for drainage is made in Douglas' cul-de-sac through to the vagina if necessary. For the drainage iodoform gauze is carefully packed into the abdomen and the end left protruding from the vagina. The parts are again carefully examined to see if there are any bleeding points, and if all is secure the abdominal incision is sewed up. In doing this I always use silkworm gut, passing the stitches with a Peaslee needle through the skin, fasciæ, muscle, and peritoneum (being very careful to protect the intestines with a sponge). After the stitches are *in situ*, and before I tie them, I remove the sponges. I start at the upper end of the incision and sew up the fasciæ with a sharp Hagedorn cutting-edge needle, using chromicized catgut No. 1, with the uninterrupted, interlocked stitch, tying the catgut at both ends of the incision. After this is accomplished I have the incision once more washed out with sterilized water. Then, finally, the silkworm stitches are tightened and tied with a single and not double turn of the first half of the knot; then tied square, and the work is done. An aseptic dressing is bound over the incision, the uterine gauze is removed, and the patient is put to bed. At the end of twenty-four hours a cathartic of calomel gr. ss. is given every half-hour until three grains have been administered; this is followed by a saturated solution of magnesia sulph. ℥ ii. every hour until ℥ ss. to ℥ i. has been given, or until the bowels have moved, and

this is later followed by an enema if needed. The silkworm gut stitches are removed on the twelfth day.

37 West Sixty-eighth Street.

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## TYPHOID MORTALITY IN TWENTY-FOUR AMERICAN CITIES, 1889–1898.

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Two facts of importance are brought clearly to light in the statistics here presented of typhoid mortality in our large American cities. First, the typhoid mortality rates are almost uniformly excessively high, and second, there has been a notable reduction in the rates of most of the cities during the decade under observation.

Table II. shows that Pittsburg had an average annual typhoid mortality rate for the decade of 82 per 100,000 of population, and Brooklyn, at the other extreme, experienced an average annual mortality of 19 per 100,000 of population. In comparison with the typhoid mortality of the large cities of England and Europe, the rates in American cities are exceptionally high. To cite only two examples of foreign cities, London and Berlin, the English metropolis during 1890–1898 had an average annual mortality from typhoid fever of 13 per 100,000 of population, and the German capital during the same period showed the remarkably low rate of 7 per 100,000 of population.

By reference to Table III. it will be seen that in twenty-three of the cities represented the average annual typhoid mortality rate for the latter half of the decade under observation was lower than for the first half, the percentage of reduction ranging from 70.1 per cent. in Newark to 4.7 per cent. in Boston. New

TABLE I.—Typhoid Mortality in Twenty-Four American Cities: 1889–1898.

| Cities. | Number of Deaths. | | | | | | | | | | Totals, 1889–98. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1889. | 1890. | 1891. | 1892. | 1893. | 1894. | 1895. | 1896. | 1897. | 1898. | |
| New York | 397 | 352 | 384 | 400 | 381 | 326 | 322 | 296 | 299 | 376 | 3,533 |
| Chicago | 453 | 1,008 | 1,097 | 1,489 | 670 | 491 | 518 | 751 | 437 | 636 | 8,450 |
| Philadelphia | 736 | 666 | 683 | 440 | 456 | 370 | 469 | 402 | 401 | 563 | 5,186 |
| Brooklyn | 161 | 182 | 180 | 162 | 179 | 159 | 173 | 163 | 173 | 271 | 1,803 |
| St. Louis | 146 | 140 | 165 | 441 | 215 | 171 | 107 | 108 | 124 | 95 | 1,712 |
| Boston | 186 | 155 | 154 | 137 | 148 | 141 | 163 | 162 | 173 | 185 | 1,604 |
| Baltimore | 191 | 247 | 150 | 193 | 224 | 222 | 173 | 188 | 189 | 189 | 1,966 |
| San Francisco | 160 | 133 | 128 | 191 | 129 | 118 | 108 | 85 | 59 | 130 | 1,151 |
| Cincinnati | 143 | 205 | 186 | 121 | 134 | 169 | 120 | 164 | 101 | 105 | 1,448 |
| Cleveland | 185 | 461 | 155 | 167 | 153 | 89 | 117 | 142 | 73 | 121 | 1,663 |
| Buffalo | 73 | 102 | 133 | 98 | 112 | 185 | 98 | 68 | 69 | 98 | 1,036 |
| New Orleans | 41 | 50 | 59 | 51 | 39 | 76 | 113 | 99 | 141 | 184 | 844 |
| Pittsburg | 218 | 315 | 249 | 256 | 292 | 152 | 213 | 175 | 184 | 218 | 2,272 |
| Washington | 180 | 222 | 175 | 196 | 191 | 210 | 222 | 141 | 121 | 182 | 1,840 |
| Milwaukee | 48 | 73 | 77 | 76 | 95 | 70 | 63 | 46 | 31 | 46 | 625 |
| Newark | 153 | 114 | 186 | 81 | 44 | 34 | 59 | 47 | 33 | 41 | 783 |
| Minneapolis | 108 | 68 | 93 | 76 | 134 | 101 | 88 | 60 | 148 | 86 | 962 |
| Jersey City | 123 | 148 | 158 | 99 | 105 | 119 | 134 | 114 | 41 | 71 | 1,103 |
| Louisville | 144 | 142 | 130 | 116 | 135 | 145 | 120 | 131 | 93 | 118 | 1,280 |
| Omaha | 46 | 50 | 28 | 19 | 22 | 49 | 29 | 18 | 11 | 32 | 295 |
| Rochester | 39 | 43 | 51 | 71 | 58 | 18 | 38 | 26 | 35 | 21 | 400 |
| St. Paul | 93 | 65 | 61 | 47 | 51 | 32 | 38 | 37 | 22 | 43 | 489 |
| Providence | 59 | 39 | 62 | 51 | 50 | 70 | 40 | 40 | 24 | 39 | 480 |
| Denver | 188 | 287 | 99 | 64 | 71 | 59 | 43 | 91 | 63 | 41 | 1,006 |
| Totals, twenty-four cities | 4,271 | 5,207 | 5,743 | 4,943 | 4,068 | 3,567 | 3,571 | 3,545 | 3,045 | 3,891 | 41,931 |

TABLE II.—Typhoid Mortality Rates in Twenty-Four American Cities: 1889–1898.

| Cities. | Rates per 100,000 of Population. | | | | | | | | | | 1889–98. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1889. | 1890. | 1891. | 1892. | 1893. | 1894. | 1895. | 1896. | 1897. | 1898. | |
| New York | 27 | 23 | 25 | 25 | 23 | 19 | 18 | 16 | 16 | 20 | 21 |
| Chicago | 48 | 92 | 173 | 123 | 53 | 37 | 37 | 51 | 28 | 39 | 65 |
| Philadelphia | 71 | 64 | 64 | 40 | 41 | 33 | 40 | 34 | 33 | 45 | 46 |
| Brooklyn | 21 | 23 | 21 | 18 | 19 | 16 | 17 | 15 | 15 | 23 | 19 |
| St. Louis | 33 | 31 | 36 | 93 | 44 | 34 | 21 | 21 | 23 | 17 | 35 |
| Boston | 43 | 35 | 34 | 29 | 31 | 29 | 33 | 32 | 33 | 35 | 33 |
| Baltimore | 45 | 57 | 34 | 42 | 48 | 46 | 35 | 37 | 36 | 35 | 41 |
| San Francisco | 55 | 45 | 42 | 32 | 40 | 36 | 32 | 25 | 17 | 36 | 35 |
| Cincinnati | 49 | 69 | 62 | 40 | 43 | 54 | 38 | 50 | 31 | 31 | 46 |
| Cleveland | 74 | 176 | 57 | 59 | 51 | 29 | 36 | 42 | 21 | 33 | 54 |
| Buffalo | 30 | 40 | 50 | 35 | 39 | 61 | 31 | 21 | 20 | 27 | 35 |
| New Orleans | 17 | 21 | 24 | 21 | 16 | 30 | 44 | 35 | 54 | 68 | 34 |
| Pittsburg | 95 | 132 | 100 | 99 | 108 | 54 | 72 | 57 | 57 | 65 | 82 |
| Washington | 80 | 96 | 74 | 81 | 77 | 82 | 85 | 53 | 44 | 64 | 73 |
| Milwaukee | 25 | 36 | 36 | 34 | 41 | 29 | 25 | 18 | 12 | 16 | 27 |
| Newark | 87 | 63 | 99 | 42 | 22 | 16 | 23 | 21 | 14 | 17 | 38 |
| Minneapolis | 71 | 41 | 54 | 43 | 72 | 52 | 44 | 29 | 68 | 38 | 51 |
| Jersey City | 78 | 91 | 95 | 53 | 60 | 67 | 73 | 61 | 21 | 36 | 62 |
| Louisville | 92 | 88 | 79 | 68 | 78 | 81 | 69 | 70 | 48 | 60 | 72 |
| Omaha | 33 | 36 | 20 | 13 | 15 | 27 | 19 | 12 | 7 | 20 | 20 |
| Rochester | 30 | 32 | 37 | 49 | 38 | 11 | 23 | 15 | 20 | 11 | 26 |
| St. Paul | 75 | 49 | 43 | 31 | 32 | 19 | 21 | 19 | 11 | 20 | 29 |
| Providence | 46 | 30 | 46 | 37 | 36 | 49 | 32 | 27 | 16 | 25 | 34 |
| Denver | 195 | 269 | 88 | 54 | 56 | 44 | 31 | 61 | 40 | 25 | 77 |
| Twenty-four cities | 49 | 58 | 61 | 51 | 41 | 34 | 33 | 32 | 26 | 33 | 41 |

Orleans is the single exception. In that city the last quinquennial periods show a considerably higher typhoid mortality than the first.

In Table I. is presented the actual annual mortality from typhoid in twenty-four American cities.

Table II. shows the annual mortality rates from typhoid fever. The populations upon which the calculations are based were carefully estimated for the intercensal years. The cities in Tables I. and II. are arranged in the order of their size in 1890. With two exceptions the years end December 31st. The figures for Newark are for the years ended June 30th, and those for Louisville are for the years ended August 31st.

Table III. shows the percentage of reduction in the typhoid mortality rates of the twenty-four American cities. The reduced rates are in most instances directly attributable to improvements in the water supplies. Newark and Chicago, which head the list, are typical examples. The Newark water supply was decidedly improved in April, 1892, when the Pequannock river was substituted for the polluted Passaic as a source of water supply. The water supply of Chicago has been gradually improved during the last decade, principally by the extension of the water tunnels and the placing of the supply cribs at points more remote from the lake shore.

TABLE III.—PERCENTAGE OF REDUCTION IN TYPHOID MORTALITY RATES IN TWENTY-FOUR AMERICAN CITIES: 1889–93 TO 1894–98.

| | Rates. | | Percentage of Reduction.[1] |
|---|---|---|---|
| | 1889–93. | 1894–98. | |
| Newark | 61 | 18 | 70.1 |
| Chicago | 99 | 39 | 61.2 |
| Cleveland | 82 | 32 | 61.1 |
| St. Paul | 45 | 18 | 60.0 |
| Denver | 126 | 40 | 58.5 |
| Rochester | 38 | 16 | 57.1 |
| St. Louis | 48 | 23 | 51.9 |
| Milwaukee | 35 | 20 | 43.2 |
| Pittsburg | 107 | 61 | 42.6 |
| Philadelphia | 50 | 37 | 33.3 |
| San Francisco | 43 | 29 | 32.2 |
| Jersey City | 75 | 51 | 31.7 |
| Omaha | 23 | 17 | 27.3 |
| New York | 25 | 18 | 26.9 |
| Providence | 39 | 30 | 24.0 |
| Cincinnati | 52 | 41 | 22.6 |
| Buffalo | 30 | 31 | 19.3 |
| Louisville | 81 | 65 | 19.1 |
| Washington | 82 | 65 | 19.1 |
| Minneapolis | 56 | 46 | 17.6 |
| Baltimore | 45 | 38 | 16.2 |
| Brooklyn | 20 | 17 | 14.8 |
| Boston | 34 | 33 | 4.7 |
| New Orleans | 20 | 47 | + 137.8 |
| Twenty-four cities | 52 | 32 | 38.6 |

[1] The percentages are calculated on the rates carried to one decimal place.

In the above table, Philadelphia shows a reduction in typhoid mortality of 33.3 per cent. The present epidemic would seem to indicate that the reduced mortality was due to no permanent improvement in the conditions of water supply. During the first twenty-five weeks of the present year there were reported seven hundred and seventy-four deaths from typhoid fever in the Quaker City. During the entire year of 1898, which was an exceptionally bad one from the viewpoint of typhoid fatality, there were five hundred and sixty-three deaths from typhoid fever. In view of the facts it is little wonder that the people of that city are at last making herculean efforts to improve their water supply.

In Table IV. is given a summary statement of the typhoid mortality in the twenty-four cities, the cities being arranged in the order of their typhoid mortality, from highest to lowest.

TABLE IV.—A SUMMARY STATEMENT OF THE TYPHOID MORTALITY IN TWENTY-FOUR AMERICAN CITIES DURING THE DECADE 1889–1898.

| | Deaths. | Rates per 100,000 of Population. |
|---|---|---|
| Pittsburg | 2,272 | 82 |
| Denver | 1,006 | 77 |
| Washington | 1,840 | 73 |
| Louisville | 1,280 | 72 |
| Chicago | 8,450 | 65 |
| Jersey City | 1,103 | 62 |
| Cleveland | 1,663 | 54 |
| Minneapolis | 962 | 51 |
| Cincinnati | 1,448 | 46 |
| Philadelphia | 5,186 | 46 |
| Baltimore | 1,966 | 41 |
| Newark | 783 | 38 |
| San Francisco | 1,151 | 35 |
| St. Louis | 1,712 | 35 |
| Buffalo | 1,036 | 35 |
| Providence | 480 | 34 |
| New Orleans | 844 | 34 |
| Boston | 1,604 | 33 |
| St. Paul | 489 | 29 |
| Milwaukee | 625 | 27 |
| Rochester | 400 | 26 |
| New York | 3,533 | 21 |
| Omaha | 295 | 20 |
| Brooklyn | 1,803 | 19 |
| Twenty-four cities | 41,931 | 41 |

In passing, it may be of interest to note that had the Brooklyn average rate (18.6) for the decade prevailed in all of the cities under observation, the total typhoid mortality would have been 19,156 instead of the 41,931 deaths actually recorded. In other words, had the Brooklyn rate prevailed there would have been a saving in this brief period of 22,775 lives.

In conclusion I present a table showing the estimated population, the deaths from typhoid, and the typhoid death rate per 100,000 of population of the twenty-four cities in aggregate for each of the years of the decade, for the two quinquennial periods, and for the entire decade.

TABLE V.—TYPHOID MORTALITY IN TWENTY-FOUR AMERICAN CITIES BY YEARS.

| Years. | Population. | Deaths. | Rate per 100,000. |
|---|---|---|---|
| 1889 | 8,757,556 | 4,271 | 48.8 |
| 1890 | 9,148,645 | 5,267 | 57.6 |
| 1891 | 9,449,741 | 5,743 | 60.8 |
| 1892 | 9,703,186 | 4,943 | 50.6 |
| 1893 | 10,088,493 | 4,088 | 40.5 |
| 1894 | 10,426,154 | 3,567 | 34.2 |
| 1895 | 10,776,855 | 3,571 | 33.1 |
| 1896 | 11,140,833 | 3,545 | 31.8 |
| 1897 | 11,518,802 | 3,045 | 26.4 |
| 1898 | 11,921,287 | 3,891 | 32.6 |
| 1889–93 | 47,207,621 | 24,312 | 51.5 |
| 1894–98 | 55,783,931 | 17,619 | 31.6 |
| 1889–98 | 102,991,552 | 41,931 | 40.7 |

**X-Ray in Lupus.**—A boy of sixteen who had suffered from lupus for five years was treated with rays from a vacuum tube with success. There were seventeen sittings within three months. The hair on the same side of the head was lost, but grew again.—C. T. HOLLAND, *Liverpool Medical and Chirurgical Journal*, January, 1899.

## Progress of Medical Science.

**Important Characteristics Distinguishing the Bacillus of Leprosy from that of Tuberculosis.**—Dr. E. Jeanselme (*Presse Médicale*, April 8th) says that while the bacillus of tuberculosis and that of leprosy possess almost the same form and almost identical reactions, they are nevertheless distinguished by the following important characteristics: (1) In leprosy the number of bacilli infiltrating the tissues is enormous, so great that the mass of bacilli constitutes an important part in the volume of the leprous nodule. (2) The bacilli of leprosy are rarely separated from one another, but almost always exist as colonies, the appearance of which may be likened to a bunch of cigars or to an ear of corn. (3) The bacillus of Hansen cannot be cultivated by any known means. The numerous experiments of Campana, Leloir, Arning, Ducrey, Kanthack, Barcklay, and others have been varied beyond number; all known methods have been tried and all have failed. In several instances in which the effect appeared to be successful, examinations of the culture showed only the bacilli of tuberculosis. (4) The bacillus of Hansen cannot be inoculated in animals. It is impossible to enumerate the various experiments that have been made without result in the endeavor to transmit leprosy to different kinds of animals. (5) The cells that are invaded by the bacillus of Hansen give only a weak reaction. We never find in leprous nodules the grouping which belongs to the elementary tuberculous follicle. (6) The resistance of the bacillus of Hansen to physical and chemical agencies is less than that of the bacillus of Koch. According to the observations of Schaeffer, the bacillus of leprosy, left five or six days in a solution of sulphuric acid, 5 : 100, is no longer colored; while the bacillus of tuberculosis will still retain its coloring matter when it has been subjected to the same treatment for eleven or twelve days. (7) The leper and the tuberculous subject do not react in the same way when submitted to injections of tuberculin. In spite of these differences the analogies are such that we cannot help asking if the bacillus of leprosy and that of tuberculosis are not the issue of a common ancestor. Although it may be impossible to verify this hypothesis it is certain that, at the present time, they represent two distinct species. We are totally ignorant as to the habitat of the bacillus of leprosy when outside the human organism. It has been sought in vain in the soil, even in cemeteries of lepers, and in the foods which has been considered as favorable to the development of leprosy.

**Treatment of Fifty Cases of Infantile Broncho-Pneumonia.**—Dr. E. Vidal (*Gaz. Hebd. de Méd. et de Chir.*, April 13th) reports that out of 50 cases of infantile broncho-pneumonia treated at his private clinic 29 have recovered. Fifteen cases were complicated with measles, 7 were bilateral, and 19 involved the entire lung. Five were under one year, 11 between one and two years, and the remainder between two and six years of age. Three methods of treatment were used: (1) In 11 cases the limbs were enveloped in cotton-wool; cupping, sinapisms, and hypodermatic injections of hydrochlorate of quinine were employed if the temperature was above 39.5 C. The result was 6 deaths and 5 cures. (2) Thirty-three cases were treated by an entirely different method, *i.e.*, cold baths and saline injections to the exclusion of all other medication. Twice daily, and in severe cases three or four times daily, a bath at 28° was given under the personal supervision of the author, lasting four minutes; this was followed by a vigorous massage of all parts of the body with warmed towels. In addition to this 200 to 300 c.c., according to the age, of the following saline solution was given: chloride of sodium, 9 gm.; citrate of caffeine, 1 gm.; water, 1,000 c.c. Of this 40 c.c. was injected under the skin. The result of this method was 21 cured (sixty-three per cent.). (3) Six cases in which on the night following the first application of the treatment indicated under (2) the friends of the patients applied blisters and in three cases refused to return to the prescribed treatment. These three patients died. In the other three cases the families were induced to permit a return to the treatment, and they all resulted in recovery. The points to be studied from these figures are: (1) That the balneo-therapeutic method shows a number of cures larger than has been noted heretofore. It is possible that the series was a particularly fortunate one, but other authorities have obtained analogous results. (2) The baths and the injections have the same therapeutic aim—tonic action on the circulatory system and increased oxidation by means of arterial pressure causing the destruction and elimination of the toxins. Both are the physiological and therapeutical agents *par excellence*. (3) This method of treatment takes time and should have the careful supervision of the physician himself, never being entrusted to the family of the patient. (4) Among certain contraindications to this treatment are a precarious state of the heart and kidneys, and pulmonary tuberculosis. A second deduction is the almost uselessness of blistering in infantile broncho-pneumonia; it is useless, painful, depressing, dangerous, and should be banished from the therapeutics of broncho-pneumonia. If revulsives are required, cupping and hot baths are less disagreeable and far more efficacious.

**Military Surgery.**—Dr. F. A. Abbott (*The Lancet*, January 21, 1899), in an article on the surgery in the Græco-Turkish war, offers the following conclusions: The Roentgen rays should always, if possible, be available at that hospital nearest the front in which the wounds can be first properly examined and dealt with. The electricity should be derived from a secondary battery consisting of separate covered cells charged from the nearest town, a man-of-war or other steamer, or by means of a cycle motor, as has been recently done in the Soudan by Major Battersby. The skiagrams should be taken on Eastman's positive paper which is sufficiently satisfactory for the detection of foreign bodies. The apparatus is of no use on the field, where the detection of bullets can only be an incentive to premature exploration. The less wounds are tampered with before satisfactory surroundings are reached the better. All bullets difficult of access should be removed by a fresh incision and the track ignored. The modern bullet from its greater penetrating power will be much less frequently found in the body than its predecessors; it is practically aseptic and there is no urgency for removal. The hole of entrance is often extremely small. Suppuration is generally due to pieces of clothes carried into the tissues. Superficial septic sinuses should be excised. Wounds of lung by modern bullets run a comparatively favorable course. Small-bore bullets may bore through a bone without causing any line of fracture whatever, and every degree of injury from this up to the most extensive comminution may be met with. Passive movements and massage when possible should be begun early in bullet-wound fractures.

**The Operative Treatment of Hernia.**—Dr. McArdle recently brought before the Royal Academy of Medicine, in Ireland, the subject of the radical cure of hernia, basing his communication on the results in three hundred and forty-two cases. His conclusions were as follows: (1) Without opening up the inguinal

canal no complete operation can be performed. (2) It is a matter of little importance what you do with the hernial sac; it has no bearing on the case; a new sac forms with the greatest readiness if at any point the mid-stratum of the abdominal wall is defective. (3) There is no evidence in favor of opposing the arrangements of nature by displacing the cord. (4) To reconstruct the canal properly, the internal oblique and conjoined tendon should be brought down to Poupart's ligament, not merely to the edge of the external oblique. (5) The complete overlapping of the pillars of the external ring forms a firm basis of support for the healing of the underlying conjoined tendon.

**Foreign Bodies in the Pharynx and Œsophagus.**—From a study of his own cases of œsophagotomy and from a consideration of the reported results, Jones (*Lancet*, May 6, 1899) contends that bodies that have lain for some time and have given rise to symptoms of obstruction, irritation, or dyspnœa should be operated upon without delay. Forcible attempts at extraction by the mouth are to be condemned. Sharp or irregular impacted bodies specially demand œsophagotomy. In certain cases gastrotomy is indicated, and in some a combination of gastrotomy and œsophagotomy. When the wound in the œsophagus is jagged or its walls are inflamed, no stitches should be used. The routine practice when the œsophageal wound is clean-cut is to stitch it up with a continuous suture, care being taken, as in the case of the intestine, not to puncture the mucous coat. Only in exceptional cases, when no danger of suppuration and infection exists, should the external wound be closed. Liquid food may be given by the mouth in about twenty-four hours after operation.

**Secondary Melanotic Sarcoma of the Liver.**—Rolleston (*Lancet*, May 13, 1899) reports a case of melanotic sarcoma of the liver secondary to similar disease of the right eye which had been removed two years previously, and expresses the opinion that malignant melanotic tumors, though usually spoken of as sarcomatous, are not necessarily so; probably a fair proportion are sarcomatous. Secondary melanotic growths in the liver are more often found to follow primary growths of the uveal tract, and reach a larger size than when secondary to cutaneous growths. The hepatic growths are more frequent in men than in women in a proportion of 2.5 to 1. The average age of patients dying with secondary melanotic hepatic growths is 48.7 years. Ascites occurs in more than one-fourth of the cases and jaundice in one-sixth of the collected cases. The urine contains melanin, though when freshly passed it may be in a colorless form (melanogen). Its detection may be of use in diagnosticating a doubtful case of hepatic enlargement.

**A New Method of Reduction in Separation of the Lower Epiphysis of the Femur.**—Hutchinson and Barnard (*Lancet*, May 13, 1899) recommend the following method of reduction in cases of separation of the lower epiphysis of the femur: Under complete anæsthesia an assistant makes steady but strong traction upon the tibia in the line of the limb. This overcomes the upward pull of the quadriceps extensor and brings the epiphysis down to the line of separation. The operator then clasps his hands beneath the lower thigh, and draws it steadily upward, gradually flexing the knee and hip-joint, while the assistant still keeps up the traction on the leg. This causes the epiphysis to move back upon the fractured surface of the diaphysis until it has reached its normal position, and further movement is prevented by the periosteum coming into tight contact with the anterior surface of the femur. A bandage is then applied around the thigh and ankle, fixing the knee at an angle of about 60°. The limb is laid on its outer side on a pillow, and an ice-bag can conveniently rest upon the front of the knee. After fourteen days the limb can be extended, under gas if necessary, and put up in plaster in a position about 30° short of the straight line. The patient can then go about on crutches. The plaster remains on for from a fortnight to three weeks, and a little massage restores the movements of the joint. Four illustrative cases treated by the method described are reported, and the following conclusions are expressed: (1) Separation of the lower epiphysis of the femur is a serious injury, and when compound is attended with a high mortality. (2) In the extended position of the knee, even with an anæsthetic, reduction of the fragment is very difficult if not impossible. (3) When the epiphysis is not reduced the patient is laid up for about three months, and is lame for about six months, while the end of the diaphysis frequently requires removal by operation. Shortening of the limb, and secondary curves in the spine, always follow. (4) Nevertheless, the ultimate result in most cases in which recovery at all takes place is good. The articular surface of the femur gradually grows into a useful position. (5) With the method of full flexion, reduction is always easy, the treatment is short, and it is the rule to obtain perfect movement in the knee without shortening or deformity of the leg.

**Blennorrhagic Peritonitis in Young Girls.**—Including a thesis upon this topic Dr. Rousseau (*Thèse de Bordeaux*) speaks as follows concerning treatment. As prophylactic and for early treatment of the vulvovaginitis permanganate of potassium solution, 1 : 1,000, should be used at the onset, if pulse is good, with antiphlogistics (leeches, poultices with laudanum, ice); then opium; milk diet, acidulated and iced drinks, champagne. When the pulse becomes too frequent a median laparotomy should be performed; a rapid operation to avoid shock, using hot, dry, aseptic towels to keep the intestines warm. The earlier the surgical intervention the greater will be the chances of success.

**Kernig's Sign in Cerebro-Spinal Meningitis.**—Described by a Russian physician and studied in Germany and France, this interesting sign, says Osler, has not attracted the special attention of English and American physicians, though Herrick, at the last meeting of the Association of American Physicians, spoke of its value. It is an old observation that the subjects of protracted meningitis, particularly children, very often lie with the thighs flexed upon the abdomen, and with the legs in a state of partial contracture so that they are with difficulty extended. To test for Kernig's sign the patient should be propped up in the sitting position; then on attempting to extend the leg on the thigh there is contracture of the flexors which prevents the full straightening of the leg. On the other hand, in the recumbent posture the leg can be fully extended. The explanation of the phenomenon, given by Netter in his excellent article on Cerebro-spinal Meningitis in Vol. XVI. of the "Twentieth Century Practice," is as follows: "In consequence of the inflammation of the meninges the roots of the nerves become irritable, and the flexion of the thighs upon the pelvis when the patient is in the sitting posture elongates and consequently stretches the lumbar and sacral roots, and thus increases their irritability. The attempt to extend the knee is insufficient to provoke reflex contracture of the flexures while the patient lies on his back with the thighs extended upon the pelvis, but it does so when he assumes a sitting posture."

# MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

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PUBLISHERS

WM. WOOD & CO., 51 Fifth Avenue.

New York, August 12, 1899.


## THE LIABILITIES FOR THE TREATMENT OF PAY PATIENTS IN HOSPITALS.

A RECENT decision of the appellate division of the Supreme Court of this city establishes a very important precedent regarding the liabilities of hospitals for the proper treatment of pay patients. The case on which this ruling was made is that of Ward *vs.* the St. Vincent's Hospital, wherein a female patient occupying a private room, and paying full price therefor, was the victim of the carelessness of a trained nurse in being severely burned by an unprotected hot-water bottle applied after an operation, and while the patient was unconscious from previous etherization. The point of special interest is the fact that all previous decisions regarding the non-liability of hospitals for similar damages are now reversed. Justices Van Brunt, Barrett, Patterson, and Rumsey all concurred in this decision formally rendered by Justice Barrett. The following is the text of the ruling: "Though the defendant is called a charity hospital, it has its pay side, on which side it is in the habit of furnishing private rooms and nurses to well-to-do persons for a full price, thus entering into an express contract. For the breach of that contract the plaintiff is entitled to the same damages as though the action had been for negligence pure and simple, and she is entitled to an adequate compensation for her injuries. The person furnished (Miss Kinney) was not a trained nurse, but a pupil in the defendant's training-school, having studied only nine months of the two years required for the course. It stands to reason that such a misfortune as happened to Miss Ward would have been less likely to occur had she been in the hands of a fully trained nurse. It is for the jury to say whether, in furnishing this careless pupil, of limited experience, the defendant fulfilled its contract obligation to the plaintiff; and if it did not, and injury resulted from the breach of the contract, to award the adequate compensation for such injury." While this ruling is eminently just under the circumstances, it must be clearly understood that it refers to pay patients only, thus absolving from similar penalties the institutions in which patients are treated free. In the former case it is a contract for services for which money is charged, and in the other the moral obligation is involved to do the best for the sufferer on strict Samaritan principles only. Not that there is any difference in the essential duties to be performed, but in the accountability for their performance on a strictly pecuniary basis. Whenever there is a question of money in a transaction, the damages are necessarily decided by a pecuniary standard. The exact contrary of this principle applies to the strictly charitable institutions. When gratuitous service is rendered the recipient, who is the only person benefited thereby, must take them at his own risk. While wilful neglect on the part of beneficiaries is always subject to punishment, the presumption of fair dealing should always weigh in favor of the defendant, who has no real motive for wrong-doing. Pure charity should always be above such suspicion. It simply accepts results without bargaining to control them. Everything is given, and nothing is exacted but the due appreciation of kind offices rendered.

In thus defining the respective rights of the pay and free patient, the line of responsibility in case of malpractice and neglect is very satisfactorily drawn. It is eminently proper that this should be the case, in view of the important issues at stake with all hospital surgeons and physicians. Every one knows how many legal fights have been necessary before this desirable point has been reached. In future cases the latest ruling will effectually prevent any confusing of ideas as to responsibility, and will enable all free hospitals to make a good defence against the frequent and annoying suits brought by designing sharpers, arrant frauds, and shystering lawyers.

## BOVINE TUBERCULOSIS.

BOVINE tuberculosis has been known to stock breeders and owners from time immemorial, but the knowledge of its nature was so vague that no efforts were made either to prevent or cure the disease. The present war against consumption in all its forms has naturally aroused interest in this phase of this subject, and in consequence within the past few years much light has been thrown upon animal tuberculosis and the danger of its communicability to man. It seems more than probable that the risks attending the consumption of meat infected with tubercle bacilli has been considerably exaggerated; if this is not so, what then is the explanation of the fact that although since the middle of the present century meat has been a much more common article of diet than was the case in the first half of 1900, yet within the fifty years just gone by tuberculosis has not only shown no increase but on the contrary has steadily decreased. This happy result is doubtless greatly owing to better sanitation and more healthy hygienic surroundings; but if the meat of infected animals is so deadly as many would have us to believe, it appears reasonable to expect that the disease would be widely spread by it.

There is, however, one form of tuberculosis which has exhibited no apparent decrease. The British Royal Commission, whose report was handed in a few months ago, after referring to the decrease in the mor-

tality rate from tuberculosis makes use of those words: "But whilst this is so, it must be remembered that the rate of mortality from tabes mesenterica, which more than any other represents tuberculosis in infancy, has signally failed to undergo any noteworthy diminution during the very period of sanitary progress which has been associated with such substantial diminution of death from tuberculous affections at all ages in England and Wales, and that this result has coincided in point of time with a large increase in the consumption of milk." Possibly, owing to the greater care taken in many States of this country to insure a pure milk supply, and to the custom of sterilizing milk more frequently practised here, the death rate among infants from abdominal tuberculosis is less than in Great Britain; but despite these precautions tabes mesenterica is a much more fruitful cause of death than it should be.

The probability then stares us in the face that impure milk is the chief cause of this large infant mortality. For some time the identity of the organism found in human tuberculosis and that found in animals was stoutly denied by many, but now most authorities are coming round to the belief that the two bacilli are practically the same. Professor Nocard, of Alfort, France, announces that he has every reason to believe that he has succeeded in transforming the human bacillus into the bovine bacillus. It may then be assumed that milk drawn from the diseased udder of a tuberculous cow may, and in many instances will, be the means of implanting the germs of consumption in those—and especially in young children—who partake of it. Opinions differ, however, as to whether the milk of a tuberculous cow, the udder being unaffected, contains the micro-organism of the disease. In 1895 the Massachusetts Society for Promoting Agriculture is said to have demonstrated beyond a doubt that milk taken from a cow with healthy udders may contain tubercle bacilli.

This being the situation, the question may be fairly asked, "What steps have been taken in this country to guarantee a milk supply free from infection?" According to Dr. Knopf, writing in the *North American Review* of February last, "there are fourteen States which have bovine laws and regulations, and in which circulars are issued for public instruction in regard to tuberculosis in man, viz., California, Colorado, Connecticut, Iowa, Maine, Massachusetts, Michigan, New Jersey, New Hampshire, New York, Pennsylvania, Rhode Island, Virginia, and Wisconsin; two which have bovine laws, but where apparently nothing is done to stop the spread of tuberculosis in man, viz., Minnesota and South Dakota; one which has bovine laws, but which cannot enforce them for lack of funds, and where thus far the board has only issued circulars on the prevention of tuberculosis in man and beast, viz., Tennessee; two, the District of Columbia and Oklahoma Territory, which have a law prohibiting the sale of tuberculous milk, but nothing else concerning tuberculosis in man or beast; eight which issue circulars of instruction concerning tuberculosis in man, but where nothing is done in regard to bovine tuberculosis, viz., Delaware, Indiana, Kentucky, Louisiana, New Mexico Territory, Ohio, Texas, and West Virginia; nine where nothing is done to stop the spread of tuberculosis in either man or beast, viz., Alabama, Arkansas, Maryland, Mississippi, North Carolina, North Dakota, and South Carolina; seven which have no board of health, viz., Georgia, Idaho, Montana, Nebraska, Oregon, Utah, and Wyoming; five from which no answer was received, viz., Florida, Missouri, Nevada, Vermont, and Washington."

It will thus be observed that while fourteen States have adopted and put into force regulations calculated to check the spread of tuberculosis through the agency of milk, the remainder of the States and Territories—excepting the five from which no reply was received—have practically provided no safeguards against this occurrence. Nevertheless, that the large cities are becoming alive to the perils attendant on the existing state of affairs is revealed by the panic that appears to have overtaken Chicago in regard to the danger of contracting tuberculosis from milk taken from infected cows. The governor of Illinois is vigorously interesting himself in the matter, and has declared his intention of backing up the live-stock commissioners with all the power at his command. The commissioners are to be invested with almost arbitrary authority, and a "tuberculosis congress" is shortly to be held in Chicago, at which the whole question will doubtless be discussed in all its bearings.

The fact should always be borne in mind that with animals, as with human beings, tuberculosis does not spread much in those which have plenty of fresh air and light. The health authorities on the part of the general public should therefore insist that the cows from which milk is obtained should be kept in well-lighted and well-ventilated sheds or barns, and should wherever possible be turned out every day in order that these places may be well aired. In those cases in which the udder is infected the only remedy is to slaughter the animals; in other cases in which the beasts react to the tuberculin test isolation should be insisted upon.

The farmer, butcher, and cow-keeper can, of course, effect much by voluntary efforts to protect the public against disease in animals, but unfortunately this course, when it conflicts with their love of gain, is not likely to be followed. If, however, as with the inhabitants of Chicago, the public are thoroughly awakened to the danger of tuberculous milk, and refuse to buy the fluid unless guaranteed pure, the owners of cows will quickly find it to their interest to supply such an article. In the words of Mr. W. Hunting: "By man's ignorance the disease has been allowed to spread; by man's knowledge it can be controlled."

**A Boy's Curious Impulse.**—A boy was recently arrested in this city for spitting on women's skirts, and was fined in the police court for disorderly conduct. He has several times been apprehended for the same cause, and appears to derive gratification from indulgence in this impulse.

## DOMESTIC HYGIENE IN AMERICA AND GREAT BRITAIN.

At the Women's International Convention, held recently in London, a woman journalist from New York read a paper before the convention in which she declared her conviction that as a housewife the American woman was far superior to her British sister. Nor was this declaration of opinion made on idle premises, nor supported by insufficient testimony, but it professed to be a sober and well-matured judgment, based upon a varied experience of domestic life on both continents. Perhaps the remarks of the New York woman in regard to the lack of proper domestic sanitation, and her aspersions on the comfort of the guest chamber—especially as to the comparative cleanliness of the bedclothes—in the houses of well-to-do British matrons will be regarded by them as the unkindest cut of all. If there is one thing upon which the Englishwoman prides herself more than upon another, it is with respect to her super-excellent qualities as the manager of her home.

The English *Sanitary Record* takes up the cudgels in defence of the maligned British housewife, and strongly denies that in the matter of sanitation, or so far as domestic hygiene generally is concerned, the house controlled by the Englishwoman is one whit inferior to that of an American woman of the same class, but contends that there is no appreciable difference in their methods of management; and it then goes on to say: "The greatest difficulty our health officers experience is in getting the poorer people of the country to pay attention to the details of a healthy home. The lower you go down in the social scale the greater the evil. And we are bound to say this obliviousness to the elementary principles of health is more apparent in women than men. A journey has only to be made through some of the thickly populated thoroughfares of our great cities to realize this truth; for in many of them women may be seen standing about in a condition of dirt and filth which is only too true an index of the state of their homes. To alter this condition of things almost necessitates an entire change in the very nature of our poor people."

The New York woman journalist may be right or she may be wrong, but so far as the condition of the poor in large cities is concerned, it would appear that the remarks of *The Sanitary Record* might apply to America with as much truth as to England. The remedy lies in educating the people themselves, and thus awakening them to a sense of their danger and to the healthfulness of cleanliness.

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**The Uses of Germs in the Extortion of Money.**—A medical student in Gratz, Austria, was recently arrested for attempting to extort money from a rich widow under threat of scattering a number of pathogenic bacteria in her room and over her clothes. Several test-tubes containing cultures of cholera, typhoid, and tetanus bacilli, which he had abstracted from the bacteriological laboratory, were found upon him when he was arrested.

## News of the Week.

**The Plague** has reappeared at Calcutta, and some apprehension is felt that it may become epidemic, the sanitary condition of the native quarters not being above suspicion. In the speech from the throne on the occasion of the prorogation of the British parliament on August 7th, it is stated that the plague in India, though still confined to the areas affected during the winter, shows no sign of abatement.

**A Statue of the Late Dr. Pepper** has been erected in the grounds of the University of Pennsylvania at Spruce and Thirty-fourth streets, Philadelphia. It will be unveiled with appropriate exercises early in the autumn.

**Dr. John M. Holt.**—At the recent examination for assistant surgeons in the Marine-Hospital service, Dr. John Milton Holt, of Brooklyn, late assistant physician to the Manhattan State Hospital, successfully met the requirements and has reported for duty at the United States Marine Hospital, St. Louis, Mo.

**A Convert to Christian Science.**—Dr. A. L. Hunt, of Kansas City, who is said by a correspondent of the New York *Times* to have been a successful practising physician for fourteen years, is reported to have retired from material medicine and to have become an advocate of the Christian Science non-treatment of internal maladies. Dr. Hunt is a graduate of the University Medical College of Kansas City in the class of 1885.

**Yellow Fever in Tropical America.**—The yellow fever at Vera Cruz is reported to be diminishing, the deaths during the last week in July having been only seventeen, as against seventy-eight in the last week of June. At Panama one case of the disease was reported on August 4th, although on July 29th the epidemic was officially declared at an end. Up to that date there had been eighty-eight cases, forty-five of which resulted fatally. Two cases with one death occurred recently at Santiago, but there is no fear of a renewed outbreak. The first case of yellow fever among the troops in Havana occurred on August 7th at La Punta barracks.

**Famine and Disease in Russia.**—The accounts which come from various sources of the terrible famine now raging in the eastern provinces of Russia show a very distressing state of affairs. The lack of crops in Russia, caused by the long-continued drought, has affected an immense tract of land, and the peasants are, in consequence, literally dying by thousands. In addition to the famine, the attendant diseases, typhus and relapsing fevers and scurvy, are causing great havoc. The *Novoe Vremya* says that the harvest this year will be even worse than the one last year, and nothing but the most extensive charity will save entire provinces from extinction. The Russians themselves are giving liberally, and the government has ordered the undertaking of several works of pub-

lic utility in order to give employment to the destitute. Large amounts of supplies and money have been sent from England, and recently a committee has been formed in New York to solicit contributions in aid of the sufferers.

**The Charité Hospital of Berlin** is being demolished and will be replaced by a structure built in accordance with the latest sanitary ideas. The new building will have a large amphitheatre with seats for two hundred and fifty students, post-mortem rooms, rooms for microscopical work, and a special wing for the pathological museum.

**Another Tuberculosis Cure.**—In a report published in the United States Consular Reports, the United States commercial agent at Roubaix, France, describes a method of treatment of pulmonary tuberculosis claimed to have been devised by a Dr. Mendel. It consists in intratracheal injections of a solution of eucalyptus, thymol, and cinnamic acid in olive oil. Dr. Mendel says he has treated sixteen patients suffering from tuberculosis and two with simple bronchitis. In all these cases he has noted, after a treatment lasting one or two weeks, a lessening or complete cessation of the cough and expectoration, as well as a return of sleep, appetite, and strength.

**Yellow-Fever Inoculations** —The case of Mr. Lackey, recently treated for yellow fever at the New York Quarantine by means of serum, was apparently not the first case of such treatment in this country. Dr. P. E. Archinard, of New Orleans, treated twelve patients during the fall of 1898 with Sanarelli serum. A belated report of these cases is published in *The New Orleans Medical and Surgical Journal* for August, 1899. Of the twelve patients treated, four died and eight recovered, but the latter, Dr. Archinard believes, would have recovered without treatment, and he concludes that the agent showed no curative powers whatsoever, none of the important and dangerous symptoms of the disease having been in any way mitigated or prevented by its administration. Dr. Doty is reported to have made arrangements to have a test of the yellow-fever serum among patients suffering from that disease at Bahia, Brazil, where considerable yellow fever has been reported.

**Inhumanity of Strikers.**—We mentioned recently the brutal attack by street-railway strikers or their sympathizers upon a physician of this city solely because he had dressed the wounds of a so-called "scab," and now the story of conduct equally inhuman comes from Cleveland. The strikers on the street-railway lines in that city, in the hope of compelling acquiescence in their demands, organized a boycott on all who dared ride in the cars, and tradesmen were forbidden to sell anything to or to have dealings of any kind with those who disobeyed the strikers' commands. In several instances, it is said, druggists refused to compound prescriptions, although the remedies were urgently needed, because the physicians who wrote them had been known to ride in the cars while visiting their patients. It is to be hoped that the physicians of Cleveland will know how to show their appreciation of such cowardly and inhuman conduct.

**Fire in a Soldiers' Hospital.**—Fire broke out one night last week in the kitchen of the United States Hospital on the government reservation at Fort Hamilton, New York harbor. It was discovered by a sentry, who sent out an alarm, but before the firemen arrived the fire was put out. There were fourteen patients in the hospital, who were removed promptly without accident.

**Yellow Fever at Hampton.**—The health officers have quickly gained control of the yellow-fever invasion of the Soldiers' Home at Hampton, but one new case, up to the present writing, having been reported in the institution since Thursday of last week. The scare to which the outbreak gave rise in Norfolk has subsided, and most of the refugees have returned to their homes. Dr. A. H. Doty, health officer of this port, has denied the report that yellow fever was taken to Hampton by a man who passed New York quarantine without examination. Since May 1st every passenger arriving at this station on a vessel from a Cuban port has been held at quarantine for five days from the time of embarkation, unless he has presented an immune certificate issued by a representative of the Marine-Hospital service at the port of departure. The baggage of arrivals from Cuban ports is also disinfected.

**Consolidation of Veterinary Colleges.**—The two veterinary schools in this city, the American Veterinary College and the New York College of Veterinary Surgeons, have been incorporated into the New York University. The new school will bear the name of the New York American Veterinary College, and will be on a like footing with the other six schools of the university. The college building is the one formerly occupied by the American Veterinary College on West Fifty-fourth Street. The two veterinary hospitals formerly used by the respective schools will be continued, affording abundant material for clinical instruction. New York University hereafter will grant the degree of doctor of veterinary surgery to all students entering its college who meet the regents' requirements as to preliminary education, and who pursue successfully the three years' course of study. In order to enter the school a student must have obtained forty-eight counts in a regents' examination, this being considered the equivalent of a high-school education. Dr. Alexander F. Liautard has been appointed dean of the college. Drs. Edward K. Dunham and William H. Park, of the New York University Medical College, have been appointed to the chairs of comparative pathology and bacteriology respectively.

**Fatal Christian Science in Chicago.**—A woman died of septicæmia a few days ago in a hospital in Chicago, after having been attended by a notorious "healer" of that city. The hospital physicians attributed the death directly to the neglect of treatment, and an investigation of the case has been undertaken by the State board of health. The healer said that her

victim's death was due to the fact that the woman did not believe sufficiently in "divine healing." The healer explained her inability to obtain a license by the fact that "the regulations of the law are not in accord with the faith of divine healing." It is reported that when the Illinois State board of health meets in September, the physicians of the whole State will memorialize the body to begin prosecuting every one who practises according to the tenets of Christian Science. The followers of this belief smile at the threat, and say that they are strong enough in the State to defeat any modification of the present law in case it is found not to be comprehensive enough to deal with their crimes; or in case any convictions are obtained under it as it now stands, they will have it amended so as to legalize their murderous but lucrative inactivity.

**The Health of the Pope.**—Dr. Lapponi, physician to the Pope, said in a recent interview that his illustrious patient was in better health and strength than for several years past. His improvement dates from the early spring, when a cyst which had caused him much annoyance was removed from his leg.

**The New Jefferson Medical College.**—The new buildings and laboratories of the Jefferson Medical College, Philadelphia, will be opened with appropriate exercises on Monday evening, October 2d. Dr. Thomas Addis Emmet, of New York, of the class of 1850, will preside, and the introductory address will be delivered by Dr. Phineas S. Conner, of Cincinnati, a graduate in the class of 1861.

**An Epidemic of Infantile Paralysis.**—The occurrence of acute anterior poliomyelitis in epidemic form among little children is rare, but Poughkeepsie, N. Y., seems to be having such a visitation at the present time. Over fifty cases in children, the great majority of whom are under five years of age, have exhibited all the symptoms of sudden spinal paralysis. Dr. Henry D. Chapin, of this city, was requested by Dr. D. M. Sheedy to examine some of the cases under his care. Dr. Chapin regarded the cases as poliomyelitis. An examination of the blood has proved to be negative.

**Health Work in New York City.**—According to the report of the board of health for the first quarter of this year, the inspectors of the sanitary bureau made 451,781 inspections and reinspections, and returned 29,979 complaints. The division of food inspection reported a total of 268,521 inspections, and 1,402,773 pounds of milk, fruit and vegetables, meat and fish were condemned. Inspections made by the sanitary police numbered 88,048. There were reported 9,377 cases of contagious diseases; measles, diphtheria, and scarlet fever comprising about two-thirds of the total. The number of rooms fumigated or disinfected was 13,497; 15,262 pieces of goods were disinfected, and 1,330 destroyed. Antitoxin was administered in 171 diphtheria cases, in 110 of which a cure was obtained. In all 814 schools were inspected, the total number of visits being 28,892. The average of attendance of scholars was 389,304; of these, 41,043 were examined, the examinations resulting in the temporary or permanent exclusion of 2,536 children. The deaths reported during the quarter were: Manhattan 9,420, death rate 19.29; Bronx 936, death rate 22.89 (mainly due to deaths in institutions of inmates transferred from Manhattan); Brooklyn 5,422, death rate 17.61; Queens 608, death rate 18.13; Richmond 331, death rate 19.68. The deaths in the entire city numbered 16,718, giving a rate of mortality of 18.84.

**A Latin-American Medical Congress** will be held at Santiago de Chili in the autumn of 1900. The initiative was taken by the government of Chili, which has invited all the medical bodies and governments of Latin America to send delegates.

**Smallpox in New York State.**—A case of smallpox has been discovered at Cato, Cayuga County, another at Seneca Falls, and three at Niagara Falls. It is feared that there have been other cases which have escaped recognition. During the prevalence of the disease in the State last winter much difficulty was experienced by the health officers in locating the cases in consequence of the frequent mistakes in diagnosis, the disease being regarded as simple chickenpox and so not being reported to the State board of health.

**Pennsylvania State Medical Examinations.**—At the examinations recently held fifty-two (12.2 per cent.) of four hundred and twenty-five candidates for license to practise medicine in the State of Pennsylvania failed.

**The Status of Charlatans in Indiana.**—The Indiana State board of medical examiners recently obtained from the attorney-general an opinion as to the standing of osteopaths, Christian Scientists, and others of the ilk under the present medical law. He states that it is a violation of the law for an unlicensed person to attempt the cure or relief of disease, injury, or deformity, especially when any fee is charged for such service. It is obvious, he says, that the non-treatment of a disease requiring treatment may be as injurious as the administering of erroneous treatment or remedies, and it is the intent of the law to protect the public from the evil of non-treatment or non-action as fully as from that of wrong treatment. "In so far, then, as Christian Scientists, faith curists, mental healers, and metaphysical medicators advertise themselves as physicians and accept fees for treating diseases by silent or other forms of prayer, or by moral advice, or by profound thought, or by absolute non-action, they unquestionably violate the law." On the other hand, osteopaths and magnetic healers who abstain from claiming to be doctors and from advising treatment, and simply administer massage, cannot be prevented from doing so whenever they please, and there is nothing in the law which requires masseurs to be licensed. One who administers massage, whether recommended by a physician or voluntarily sought by an afflicted person, is at liberty to charge for his services whatever he deems them to be worth, but such a person must not claim to be a physician or to possess the ability to cure disease.

**Smallpox in the South.**—Smallpox prevails to a considerable extent and is increasing in the border towns in Tennessee, Kentucky, and Virginia. A

quarantine has been established against several of the infected towns.

**Foreign Students in Germany.**—There are twenty-two hundred and eighty-four foreign students at the German universities this summer, including three hundred Americans. Only a few of these are medical students, although proportionately their number is fairly great.

**Navy Department,** Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending August 5, 1899. July 31st.—Assistant Surgeon C. A. Crawford detached from the *Wabash* and ordered to the *Massachusetts*; Assistant Surgeon E. J. Grow detached from the *Massachusetts* and ordered to the *New Orleans* immediately; Assistant Surgeon M. S. Elliott detached from the marine examining-board, August 2d, and ordered to temporary duty at the marine recruiting rendezvous, New York, during leave of Passed Assistant Surgeon E. S. Bogert; upon completion of this duty, directed to wait orders. August 1st.—Surgeon C. G. Herndon ordered to the museum of hygiene for temporary duty; Passed Assistant Surgeon J. C. Rosenbleuth detached from the *Vermont* and ordered to the *Nashville;* Assistant Surgeon F. L. Pleadwell detached from the *Nashville* and ordered to the bureau of medicine and surgery.

**A Pension for Mrs. Kanthack.**—The widow of the late Dr. A. A. Kanthack, formerly professor of pathology in the University of Cambridge, has been placed on the civil list for a pension of £60 a year, "in consideration of eminent services rendered to science" by her late husband.

**A Definition of a Medical College in Good Standing.**—A resolution adopted on July 11th by the Illinois State board of health defined the phrase in the State medical practice law "medical college or institution in good standing" to include only "legally organized, properly conducted medical institutions, having a sufficient and competent corps of instructors, and ample facilities for teaching, dissections, ambulatory and hospital clinics, which conform to the requirements relative to the preliminary education of matriculates, the course and period of study, the number, character and length of lecture terms, the duration of attendance on hospital and clinical instruction, which obtain in the majority of medical colleges in the United States" The board also resolved that it would not consider in good standing, after January 1, 1900, any medical institution which does not require of all students (excepting graduates of reputable colleges of arts and sciences, or of reputable colleges of dentistry, pharmacy, or veterinary medicine, to whom one year's advance standing may be granted) as a condition of graduation, an attendance on four full courses of lectures of at least six months each, in four separate years, no two courses commencing or ending in the same calendar year of time. And it further declared that no medical college issuing a catalogue or announcement in which are contained misrepresentations respecting its teaching, clinical or hospital facilities, its faculty or its courses of study, or false representations as to the number of students matriculated or in attendance, will be regarded as in good standing.

**Chiropodists for the Army.**—Sir John Colomb, in the House of Commons, advocates the regular appointment of chiropodists in the British Army. This is certainly not a bad idea, for the care of the feet is one of the most important factors in a campaign where much marching is to be done.

**Obituary Notes.**—Dr. Irving C. Schureman died on Sunday at his home in Toms River, N. J., of heart disease. He was fifty-nine years of age, and had practised medicine at Toms River for thirty years. He was a graduate of the Albany Medical College in 1869. He is survived by a widow and four children. —Dr. Charles W. Adams, of Kansas City, who was one of the founders of the University Medical College of that city, and was professor of gynæcology at that institution, and for five years dean of the faculty, died on August 3d from an overdose of chloral. He was graduated from the College of Physicians and Surgeons in this city in the class of 1879.—Dr. William W. Parker died at his residence in Richmond, Va., on August 3d, aged seventy-five years. He was a graduate of the Medical College of Virginia in the class of 1848. During the civil war he commanded the celebrated Parker Battery, of the Confederate service. He was captain, surgeon, and chaplain of his battery, and the man of whom Gen. Stephen D. Lee said: "He could outcut, outpray, and outfight any man in the Confederate Army."—Dr. John M. Fletcher, of Belfast, Me., died at his home in that city on August 7th, at the age of seventy-three years. He was an ex-mayor of the city and ex-treasurer of Waldo County. He was a graduate of the Medical School of Maine, Bowdoin College, in the class of 1868.—Dr. Charles Jennings, of this city, died on July 2d at Bellevue Hospital. He was addicted to the immoderate use of alcohol and various narcotic drugs, and his death occurred in a stupor caused by ether. He was found insensible on the street and taken to the hospital, where he died unrecognized and was buried in Potter's Field. Recently his relatives in a neighboring city learned of his death, and discovering where the body lay had it taken to his former home for burial. Dr. Jennings was at one time on the house staff of Charity Hospital and also of the Orthopædic Hospital in this city. He was afterward a ship's surgeon, and during the Spanish war was for a time an acting assistant surgeon in the army.—Dr. James F. Judd died of erysipelas at Philadelphia on August 5th, at the age of thirty-eight years. He was a native of England, and was graduated from the Jefferson Medical College in 1897.—Dr. H. Stangewald, of Honolulu, died at his home in Nuuanu Valley on June 1st, after an illness of about two months. He was born in Dresden in 1829, and was graduated from the University of Vienna. He had practised in Hawaii about forty years. He was called by the natives "Kauka Minukeole," which has the flattering interpretation of "the doctor who does not take a minute to cure."

# Reviews and Notices.

HAY FEVER, AND ITS SUCCESSFUL TREATMENT. By W. C. HOLLOPETER, A.M., M.D., Clinical Professor of Pediatrics in the Medico-Chirurgical College of Philadelphia; Physician to the Methodist Episcopal Hospital; Pediatrist to the Medico-Chirurgical Hospital and to St. Joseph's Hospital; Fellow of the American Academy of Medicine, etc. Second edition, revised and enlarged. Philadelphia: P. Blakiston's Son & Co. 1899.

THE first edition of this little book was reviewed in these columns only one year ago. Taking advantage of the call for a second edition, the author has added some new matter on the special treatment of each of the various types of hay fever. Some additions have also been made in the bibliography of works appearing during 1898 and the first four months of 1899. Dr. Hollopeter writes with the quiet assurance of one who describes a method that he knows by experience to be efficacious in the relief of this most distressing malady.

TRANSACTIONS OF THE LOUISIANA STATE MEDICAL SOCIETY, at its Nineteenth Annual Session, Held at New Orleans, La., May 10, 11, and 12, 1898.

IT has frequently been remarked that a paper published only in a volume of transactions is practically buried, but we have never seen any so effectually and finally entombed as the papers here. A very careful search has failed to discover either index or table of contents, and there are even no running page-heads. Any one wishing to see what papers were read at the meeting must therefore thumb all the leaves of a three-hundred-page book before his legitimate curiosity is gratified. The reviewer confesses to a fair degree of curiosity, but it balked at this; and any reader who desires to know what was accomplished at this doubtless very satisfactory meeting must wet his thumb and do the work himself.

SHALL WE DRINK WINE? A Physician's Study of the Alcohol Question. By DR. JOHN MADDEN, Professor of Physiology in the Wisconsin College of Physicians and Surgeons. Milwaukee: Press of Owen & Weihbrecht Co. 1899.

THIS is a calm, dignified, and temperate discussion of the alcohol question, which can profitably be read by the physician, the moralist, the sociologist, the prohibitionist, and the habitual consumer of alcoholic beverages. There is little in the way of diatribe to arouse a spirit of opposition in the moderate, occasional drinker, yet the writer is a declared enemy of alcohol, in the increasing consumption of which he believes lies a serious menace to civilization. The work treats of the composition of the more commonly used alcoholic beverages, the value of alcohol as a food and a stimulant, and the general and special pathology of alcoholism; then the attitude of the medical profession toward alcohol is discussed, the ground being taken that alcohol might be blotted out of the list of remedies employed in the treatment of disease, without detriment; and, finally, a chapter is devoted to the best means of combating the alcohol evil.

TEXT-BOOK OF OPHTHALMOLOGY. By DR. ERNEST FUCHS, Professor of Ophthalmology in the University of Vienna. Authorized Translation, revised from the seventh enlarged and improved German edition, by A. DUANE, M.D., Assistant Surgeon to the Ophthalmic and Aural Institute, New York. New York: D. Appleton & Co. 1899.

THIS work, upon its appearance about a decade ago, at once took high rank in ophthalmological literature, and has maintained it through the successive German editions which have been issued at intervals of but little over a year. The first English translation, which was published seven years ago, was well received by English-speaking physicians, and we venture to predict an even more cordial welcome for this second American edition. It is a distinct improvement over the first, in that, while all the excellence of the first edition as regards pathology is preserved, the sections on therapeutics are amplified and improved, thus enhancing greatly the practical utility of the work. The translator has also performed the work of editor, and has done it most creditably, his notes and additions increasing the value of the book as a guide to American ophthalmologists. The illustrations, of which there are two hundred and seventy-seven, are as a rule very good.

TRANSACTIONS OF THE NEW YORK STATE MEDICAL ASSOCIATION FOR 1898. Vol. XV. Edited for the Association by M. C. O'BRIEN, M.D. Published by the Association. Rumford Press, Concord, N. H.

THIS well-printed volume of nearly eight hundred pages opens with an address by the president, Dr. F. H. Wiggin, giving a résumé of the year. Then follow somewhere in the neighborhood of fifty able papers, reflecting the high standard of scientific achievement aimed at by the association. Reports, memoirs, lists of members, and lists of those deceased make the remainder of a very creditable showing.

PULMONARY TUBERCULOSIS: Its Modern Prophylaxis and the Treatment in Special Institutions and at Home. Alvarenga Prize Essay of the College of Physicians of Philadelphia for the year 1898, revised and enlarged. By S. A. KNOPF, M.D. (Paris and Bellevue, N. Y.), Physician to the Lung Department of the New York Throat and Nose Hospital; former Assistant Physician to Professor Dettweiler, Falkenstein Sanatorium, Germany; Vice-President of the Pennsylvania Society for the Prevention of Tuberculosis; Fellow of the American Academy of Medicine; Laureate of the Academy of Medicine of Paris, etc. With descriptions and illustrations of the most important sanatoria of Europe, the United States, and Canada. Philadelphia: P. Blakiston's Son & Co. 1899.

THE spirit which animates the author throughout the three hundred and fifty pages of this admirable work is exemplified in the motto of the introductory section, which is the oft-quoted but not always credited sentence of Pasteur: "It is in the power of man to cause all parasitic diseases to disappear from the world." Dr. Knopf believes in the curability of tuberculosis in the individual, and he appears also to cherish the hope that the disease may some day be annihilated; but a perusal of his book and a consideration of the enormous social changes therein outlined, which must take place before such a consummation can be effected, leave the reader appalled at the magnitude of the task of actually causing the disease to disappear from the world. That, however, is a question that does not immediately concern us, for it is certain that no man living will see the "white plague" wiped out, and our present task is to prevent the disease in the predisposed and to cure it in those already attacked, whose own life is directly threatened and who are also a menace to the well about them. While Dr. Knopf's book is a treatise on the prevention and cure of pulmonary tuberculosis, it is more, for it is the most complete treatise, if not the first, on the sanatorium treatment of consumption, in the English language. Indeed, we know of no work in any language which contains more detailed information on this branch of tuberculo-therapeutics than the one before us.

We cannot here review at length all the interesting points touched upon by the author, such as the use of masks to prevent the expulsion of infected particles of sputum during coughing or even speaking, the numerous and often curious modes of infection, the directions for dress and personal hygiene of tuberculous patients, the results obtained by adding tropon to the dietary, the condemnation of tuberculin treatment and of orrhotherapy in general in tuberculosis, etc. All these and many other subjects are discussed sensibly and fairly, though not necessarily impartially, for the author has positive views on many controverted points, which he does not hesitate to express and to defend with cogent reasoning. The method of treatment to which decided preference is given is the hygienic and dietetic, either in a sanatorium or under medical supervision at home. More than forty sanatoria, hospitals, and homes for consumptives are here pictured, and the therapeutic and hygienic measures employed in each are described from personal observation, the author having visited for this purpose most of the institutions in this country and Europe. Not the least interesting and suggestive chapter in the book is the one devoted to a description of an ideal sanatorium, in which Dr. Knopf has embodied his own ideas as to what is needed in an institution of this sort, in both exterior arrangement and internal regulation. After the brief and fragmentary description here given of this

most timely book, we need not recommend it to physicians and sanitarians interested in the individual and social prophylaxis of tuberculosis, for all such will find it indispensable. We regret that the book, which is well printed and well bound, should be marred by the insertion of the publishers' catalogue. It is an insult to the purchaser of a bound book to force him to buy along with it, and keep in permanent form on his shelves, some fifteen or twenty pages of advertisements.

THE HYGIENE OF THE MOUTH: A Guide to the Prevention and Control of Dental Diseases. By R. DENISON PEDLEY, F.R.C.S. Ed., L.D.S. Eng., Dental Surgeon to the Evelina Hospital for Sick Children, Southwark, London. London: J. P. Segg & Co. Philadelphia: The S. S. White Dental Manufacturing Company.

THIS small work of less than a hundred pages, printed in large type on thick paper, and containing numerous woodcuts, gives rules for keeping the mouth, and especially the teeth, in a healthy state. Especial attention is given to the care of the mouth in childhood, since much ill-health in after life can be traced back to neglected teeth. Such a work should interest physicians as well as others, but appears to be written more for the guidance of parents, managers of institutions, and the laity in general.

A CLASS-BOOK OF (ELEMENTARY) PRACTICAL PHYSIOLOGY, including Histology, Chemical and Experimental Physiology. By DE BURGH BIRCH, M.D., C.M., F.R.S.E., Professor of Physiology in the Yorkshire College of the Victoria University; Examiner in Victoria University; Additional Examiner in the Edinburgh University. Philadelphia: P. Blakiston's Son & Co. 1899.

BASED upon notes for student's use, the author presents, in divided lessons, concise instructions for practical work in laboratory and class room. The simplification of the whole subject, and especially of instrumental appliances, has been aimed at. In part, the work is illustrated, but pictures have been intentionally omitted from the section on histology, so that in reproducing objects the student may not be influenced by the published pictures he has seen. There are over two hundred and seventy pages.

PROGRESSIVE MEDICINE, VOL. II. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Science. Edited by HOBART AMORY HARE, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth: 472 pages, 56 illustrations and 3 full page-plates. Philadelphia and New York Lea Brothers & Co. June, 1899.

THIS section of the year book gives us the surgery of the abdomen, including hernia, gynæcology, diseases of the blood, diathetic and metabolic disorders; diseases of the spleen, thyroid gland, and lymphatic system; and ophthalmology. The writers for the whole set include, among others, Baker of Michigan, Belfield of Illinois, Blackader of Canada, Bloodgood of Maryland, Coley of New York, Ewart of London, Gerrish of Maine, Randolph of Baltimore, Stockton of Buffalo, and Turner of Edinburgh. Most of the reports are in an easy, flowing, conversational style. Besides Coley, already mentioned, who fathers the first subject, we have John G. Clark, of Baltimore, managing the gynæcology; Alfred Stengel, diseases of the blood; and Edward Jackson, ophthalmology. There are but few illustrations. While the material for the chapters before us has been laboriously worked over and well presented, the objection advanced seems to be valid, that for a year book one has to wait until too late in the year for the completed work to make it of the greatest value as a means of reference.

TRAITÉ DE MÉDECINE ET DE THÉRAPEUTIQUE. Par P. BROUARDEL et A. GILBERT. Tome Sixième: Maladies du cœur, des artères, de l'aorte, des veines, du système lymphatique, et du sang. Paris: Librairie J.-B. Baillière et fils. 1899.

THE contributions to this the sixth volume of this system of medicine include Drs. Merklen, Roger, Gouget, Boinet, Widal, Bezançon, and Parmentier, out of the eighty writers in the list of the completed work. The volume is quite a large one, reaching just one thousand pages. The subject of cardiac affections has been considered from its many different sides, and modern views have been freely reflected in Dr. Merklen's chapter, which covers four hundred and fifty-six pages. Diseases of the arteries, which carries us over to page 568, written by Roger and Gouget, gives an excellent résumé of all that is known on the subject. It is perhaps Dr. Parmentier's elaborate presentation of diseases of the blood which reflects more than the other chapters the many changes and advances which have taken place of late years. The work is very elaborately written, but without illustrations.

INTERNATIONAL CLINICS. A Quarterly of Clinical Lectures on Medicine, Neurology, Surgery, Gynæcology and Obstetrics, Ophthalmology, Laryngology, Pharyngology, Rhinology, Otology, and Dermatology, and Specially Prepared Articles on Treatment and Drugs By Professors and lecturers in the leading medical colleges of the United States, Germany, Austria, France, Great Britain, and Canada. Edited by JUDSON DALAND, M.D., University of Pennsylvania, Philadelphia, Instructor in Clinical Medicine and Lecturer on Physical Diagnosis in the University of Pennsylvania, Assistant Physician to the Hospital of the University of Pennsylvania, etc.; Fellow of the College of Physicians of Philadelphia. Volume I., ninth series. Octavo, pp. x., 303. Philadelphia: J. B. Lippincott Co. 1899.

THIS periodical continues to keep its usual standard. Among the contributors to the present volume are noticed Ashhurst, Baginsky, Eulenburg, Fournier, Hamilton, Kirstein, Lesser, Skene, Wassermann, and H. C. Wood. Other names equally well known on both sides of the Atlantic appear in the list. To those at a distance from centres of medical education these lectures are invaluable in keeping their possessor abreast of the times, and it is often a pleasure rather than a task to take in the information to be found in the "Clinics" in this manner.

SELECTED PAPERS ON STONE, PROSTATE, AND OTHER URINARY DISORDERS. By REGINALD HARRISON, F.R.C.S., Surgeon to St. Peter's Hospital, etc. London: J. and A. Churchill. 1899.

WE have in this book a collection of papers, some of which have appeared in print before, and are now published in book form. They form a series of interesting talks by an experienced surgeon upon the surgery of the urinary organs, and in some of them there is valuable information on points still undecided. The author thinks that "vasectomy" has a useful future in a certain number of selected cases, and has himself had good results, when the enlargement of the prostate was not too great or too much limited to the centre of the organ, and when the patients were otherwise in a fairly operable condition. The author is rightly a strong believer in the efficacy of an external urethrotomy for drainage in preventing septic processes, when a deep internal urethrotomy is done. All the papers are worth reading, some more so than others.

OCULAR THERAPEUTICS FOR PHYSICIANS AND STUDENTS. By F. W. MAX OHLEMANN, M.D., Late Assistant Physician in the Ophthalmological Clinical Institute of the Royal Prussian University of Berlin, etc. Translated and Edited by CHARLES A. OLIVER, A.M., M.D., one of the attending surgeons to the Wills Eye Hospital. Philadelphia: P. Blakiston's Son & Co. 1899.

THIS work is embodied in a volume of convenient size, comprising two hundred and seventy-four pages. The text is divided into a general and a special part. The "general" part is devoted to the consideration of massage, thermal agents, electricity, and general treatment. The "special" part is devoted to the consideration of the treatment of special diseases of the eye, taking them up in logical order. The context is largely a compilation of the published and unpublished views of European and English ophthalmic surgeons on ocular therapeutics, and reflects the views of the author to only a small extent. To the student and practitioner in ophthalmology the work is of much value, since many of the most important and useful formulæ and methods of treatment are here grouped in one volume and are easily accessible. The drug values are given in the metric system, and their equivalents in apothecary's weight and measures are added in each formula.

# Clinical Department.

## CARBOLIC-ACID POISONING.

By J. DRYSDALE BUCHANAN, M.D.,
NEW YORK.

On August 25th I was called to see a case of carbolic-acid poisoning. The patient, a woman of about thirty-five years of age, had swallowed over an ounce of ninety-five per cent. carbolic acid. Arriving on the ambulance of the Flower Hospital a short time after her swallowing of the acid, I immediately gave her a hypodermic of sulphate of sodium. Then, as no one at the place showed any disposition to help me to wash her stomach, I had her removed to the hospital. Here, with the aid of the house surgeon, Dr. J. W. Decker, I succeeded in washing the stomach with a thirty-five-per-cent. solution of alcohol, using about two quarts of the alcohol solution. The patient entirely recovered, although her face was badly burned with the acid, and the mucous membrane of the mouth seemed entirely destroyed.

I believe that this is the first time that alcohol has been used internally for the burns of carbolic acid.

## A CASE OF CRESCENT MALARIA OCCURRING IN A BOY AGED FIVE YEARS, ALWAYS RESIDENT IN NEW YORK.[1]

By HENRY HEIMAN, M.D.,
NEW YORK.

This specimen, which I exhibit to-night, which was derived from a patient whom I had the honor to present at a meeting of physicians, held at the residence of Dr. A. Jacobi on Friday, March 24, 1899, is of unusual interest, first, because it represents an unquestionable and undoubted case of crescent malaria, and second, because the patient, a boy aged five years, has always resided in New York City.

This case disproves the claim made by Osler in the New York Academy of Medicine about one year ago, that æstivo-autumnal malaria does not occur endemically north of Chesapeake Bay. Although Osler's experience has been confirmed by our New York hæmatologists, it would appear that the case I am about to describe is an exception to the rule. My patient, a boy five years old, born in the lower portion of the city, was, according to the statement of his parents, never outside of the city limits, and is at present residing on the east side uptown. The boy is his parents' third child; he was breast-fed, and his mother believes that he had an attack of malaria last October, as he had fever and convulsions. Inasmuch as the patient was not under my professional care at that time, I am unable to state whether the mother's view of the nature of the trouble was correct. His present illness dates back about four weeks, at which time he was brought to my clinic at the Mount Sinai Hospital dispensary. His temperature was 102° F. per rectum. The spleen was enlarged and was palpable up to two and one-half inches below the free border of the ribs. I made a peripheral blood examination and prepared three specimens, in one of which I found the typical crescent malarial organism. Two weeks after treatment began a second blood examination was made by me, at which time the child had no fever. Ten slides were examined, in one of which another typical crescent malarial organism was discovered. In New York City cases of the tertian type of malaria in children are not at all unfamiliar, while the crescent type in children is, as stated before, supposed to be solely brought here from southern climates. I believe this is the first clear case on record. The quinine was administered according to the following prescription:

| | |
|---|---|
| R Quininæ sulph | 2.0 |
| Acidi hydrochlor. dil | 1.5 |
| Syrup. simplicis | 30.0 |
| Aquam | ad 60.0 |

M. S. ʒi. every three hours.

I believe that the best results can be obtained by pursuing all types of malarial organisms with quinine, by administering it intermittently for a period of at least six months after the abatement of the usual symptoms. This I do on the principle that we allow the spores or segmenting bodies of the malarial organisms, which are believed to be not susceptible to the quinine treatment, to develop into mature malarial organisms, at which time they are susceptible to the action of quinine. The point of greatest interest in this case was the mode of infection. While it is a generally accepted theory that malarial infection is carried by mosquitoes or other insects, there is a strong possibility that the crescent malarial type can occur endemically in this city or vicinity. However, I am not unmindful of the fact that a great number of crescent malarial cases in this city last summer were directly imported by our soldiers.

56 West One Hundred and Twentieth Street.

[1] Read at a meeting of the pædiatric section of the New York Academy of Medicine, held on April 13, 1899.

## TREATMENT OF PULMONARY ŒDEMA OF CARDIO-NEUROTIC ORIGIN.

By D. J. HAMBURG, M.D.,
NEW YORK.

There was under my care during the months of July to October, 1898, a patient with a marked myocarditis and mitral lesion of several years' standing. This patient, a woman of about fifty years of age, was of a highly neurotic temperament, and it was due to this fact and the knowledge that she had a diseased heart, that she at times worked herself into a state of intense nervous excitement. At such times the heart soon became unequal to the strain upon it, and a profound disturbance of the circulation followed, causing a marked pulmonary œdema.

During the period of three months that the patient was under observation, she had four of these "attacks." They varied as to severity, but all were serious and any one might have terminated fatally. The patient was in a sitting posture in bed gasping for breath, and the ominous râles, terrified ashen-gray countenance, and the moist, cold body made a typical picture of fear, distress, and suffering.

Recently there came under my observation another patient with pulmonary œdema, and this case in origin, symptoms, and manner of response to treatment, was exactly the same as the one described. Both were patients with a chronic heart lesion and both were neurotics. The one marked feature of these two cases of pulmonary œdema, in contradistinction to those cases which we see as the terminal stage of acute diseases, was fright. Both patients were in imminent fear of death. On the contrary, patients with pulmonary œdema, after passing through the stages of an acute disease, often do not seem to suffer at all. They are apathetic, and it is the exception for them to realize their condition. The mental state then is seen to influence the condition so markedly that it must be considered in the treatment. It is essential to quiet the patients. For this purpose the first patient received morphine sulphate gr. $\frac{1}{8}$ every half-hour until one-half grain was given. Sometimes this would suf-

fice. If it did not, another dose or two would accomplish the purpose. The patient was also given cardiac stimulants at short intervals, and counter-irritants were applied to the chest, front and back. This treatment was uniformly successful.

In the second case an initial dose of morphine sulphate gr. $\frac{1}{4}$ was given. This relieved the patient so markedly in less than a half-hour that no more morphine was given, the stimulative treament alone being continued.

The happy issue in these cases would indicate that they represent a class in which morphine is not only indicated but is an important feature of the treatment. It neither embarrasses the respiration nor increases the congestion. It can be given fearlessly and be persevered in.

157 West One Hundred and Eighteenth Street.

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## Society Reports.

### ROCKY MOUNTAIN INTER-STATE MEDICAL ASSOCIATION.

*First Annual Meeting, Held at Salt Lake City, July 25 and 26, 1899.*

The Rocky Mountain Inter-State Medical Association, organized at Denver last year, held its first scientific meeting at Salt Lake City, July 25th and 26th. It started with a membership of one hundred, and an attendance of about sixty.

The president, Dr. Charles Pinckney Hough, of Salt Lake City, took the chair; and an address of welcome was delivered by the Hon. Heber M. Wells, governor of Utah.

**The Medico-Legal Supervision of Prostitution.**—Dr. Salathiel Ewing, of Salt Lake City, urged the dangers of syphilis and gonorrhœa, and their liability to affect the innocent. Since prostitution could not be eradicated it should be supervised, so as to lessen the ravages of these diseases. He favored licensing and rigid supervision. Funds obtained by the licensing of prostitutes could be rightly employed for the limitation of the diseases in question, and the support of reformatory institutions and hospitals. Weekly inspection should be practised; strict quarantine must be maintained, and those found diseased should receive hospital treatment. While he entertained the highest respect for the clergy, he thought that in regard to this matter they had generally been in the wrong.

Dr. H. S. Scott, of Salt Lake City, would have prostitutes confined to certain houses, and examined twice a week by specially trained examiners.

**Treatment of Chorea.**—Dr. S. D. Hopkins, of Denver, had been best satisfied with the results obtained by the administration of antipyrin in the manner first suggested by Eskridge. This was to give the drug in increasing doses, beginning with one grain for each year of the child's age, and increasing one grain each day. In the mildest cases the child was permitted to sit up a part of the day, and the antipyrin was given only in the evening. In severe cases absolute rest in bed was required and the dose of antipyrin was given three times a day. So soon as the choreic movements ceased or greatly diminished, the use of antipyrin was stopped, and Fowler's solution and iron were given until two or three weeks after the cure appeared to be complete. In giving large doses of antipyrin (gr. xx. three times a day to one child eight years old) certain precautions had to be observed. The child must be kept in bed and carefully watched. If there was heart disease or any fever, antipyrin should not be given. He had seen no bad results from its use; and in all the nineteen cases on which his paper was based rapid cures were obtained.

**Hydatid Mole.**—Dr. Solomon G. Kahn, of Leadville, reported a case of hydatidiform mole, or cystic degeneration of the chorion, from his own practice, with three other cases hitherto unpublished, from the practice of others. He had also sent letters of inquiry to four hundred physicians, from whom he received seventy-eight replies, reporting altogether twelve cases. This illustrated the rarity of the disease, and the impossibility of obtaining valuable statistics regarding it. The results of inquiries with regard to factors of causation had been quite negative.

**Hæmophilia.**—Dr. A. A. Kerr, of Salt Lake City, reported several cases of this condition. One was that of a boy, ten years of age, who was bleeding from an abrasion of the gum. A maternal uncle had died of hemorrhage following an operation. The parents were healthy, as were two of their children. Two other children had been bleeders, dying from hemorrhages at the ages of twelve days and six months respectively. The second case was that of a baby ten months old, whose family history was negative.

**The President's Address.**—Dr. Hough delivered his address at the opening of the afternoon session of the first day. In it he emphasized the need of closer association among the physicians of the inter-mountain States. They had many themes of especial interest in common, and were too far removed to attend the special society meetings held in the East. They could, however, meet each other once a year at some place in the inter-mountain region with great advantage. The orator was in favor of proper regulation of the practice of medicine, but thought that medical laws should be so modified as to permit a physician of established fitness to practise in any State without having to pass an examination which some of the examiners might have been able to pass when they first graduated. If membership in the American Medical Association was not a sufficient guarantee of fitness to practise anywhere, that association ought to be reorganized.

**Use of the Hæmatokrit.**—Dr. Judson Daland, of Philadelphia, urged the practical value of blood examinations with this instrument. He pointed out the great amount of time required to make a careful blood-count, the importance of duplicating it to obtain a reliable result, and the great probability of serious inaccuracy. The hæmatokrit did not exactly replace the blood-count, but the ease with which the volumetric estimate of the corpuscles could be made gave it greater clinical value. More time was required to keep the apparatus in order, and get it thoroughly cleaned, but with an assistant the volumetric estimate could be made in three minutes. A diluting fluid to prevent coagulation was not essential unless the tendency of the blood to coagulate was very great; but rapid manipulations were necessary to secure accurate results without it. He employed ten thousand revolutions of the tube per minute, for two minutes. This gave fifty per cent. as the volume of corpuscles in normal blood. By multiplying this volume by two we could easily obtain the percentage of corpuscles as compared with normal blood taken as one hundred per cent. For comparison with blood-counts the one hundred per cent. so obtained might be taken as representing five million corpuscles to the cubic millimetre.

**A Form of Fibroid Phthisis Caused by Quartz Dust.**—Dr. W. W. Betts, of Salt Lake City, called

attention to the terrible mortality of the lung trouble induced by the dust of the De La Mar mills, where certain gold-bearing ores were reduced to a fine powder, and the air was constantly filled with an impalpable dust. It was stated that all who had worked in these mills from seven to nine months previous to January, 1898, were now dead. The total deaths up to March 1st of the present year he believed to be one hundred and sixty-six. He reported in tabular form fourteen cases of the disease, occurring in men of from twenty to forty-three years of age, and previously healthy. One was able to work twenty-three months, and had lived two years afterward. Another had worked but three months, and died seven months later. The average time the men were able to continue working was thirteen months; and the average time they survived after leaving the mill was ten months. The trouble began with attacks of acute bronchitis, and inflammation of all the exposed mucous membranes. Later there were loss of appetite and loss of weight, rapid respiration, and general malaise. The pulse ranged from 90 to 120, and became weak and intermittent, and in the late stages the temperature rose to 102° or 104° F. Two autopsies showed great disease of the pericardium, the lung tissue excessively firm, with great increase of connective tissue, and the air-cells partly obliterated. On chemical analysis, the lung tissue was found to contain 2.8 per cent. of silica, and the bronchial glands 3.8 per cent. There was tellurium in the ore, but no arsenic. The only remedy was prophylaxis.

Dr. P. E. Jones, of Salt Lake City, thought the disease in question was the same as that which affected the employees in cutlery works and grindstone quarries, and to which grain-shovellers were especially liable. So long as life was less valuable than gold, the sacrifice would continue.

Dr. F. Clift, of St. George, Utah, said all the men who left St. George to work in that mill came back with this trouble. There were three of them still alive, but far on the way to follow their fellows. There was not the slightest doubt but that all who now worked in the mill were likewise doomed.

Dr. Mayo, who had been surgeon for the De La Mar Company for four years, had carefully investigated the subject with the aid of the company's records, and had found that only thirty-four had died who had been employed during that time. He believed a similar mortality would be discovered among the workers in other mills handling similar ores. When the disease was once contracted, it probably was necessarily fatal. Since the attention of the company had been called to the matter, extensive changes had been made in the mills. Fans, hoods, and ventilators had been put in, and respirators supplied for the men, with instructions about using them. Recently an inspector of the New York Life Insurance Company had reported that the workers in these mills were in no more danger than the workers in the flour mills of Minneapolis.

**Cases of Repeated Extra-Uterine Pregnancies.**—Dr. C. K. Fleming, of Denver, reported two cases. The first case, after marked evidence of a rupture of the sac, had presented the symptoms of sepsis, and the patient was treated three weeks for typhoid fever, before Dr. Fleming saw her. She promptly recovered after the evacuation of a pelvic abscess. After eighteen months of regular menstruation, she had the same train of symptoms. She refused operation, but slowly recovered without it. The second patient was operated on shortly after the occurrence of symptoms of tubal rupture, and a pelvic hæmatocele was found. One year later similar symptoms appeared, and on operation the right tube was found ruptured and containing a large blood clot. This patient also recovered. There was no history pointing to previous disease in either case.

**Carcinoma of the Uterus.**—Dr. W. W. Grant, of Denver, pointed out that the universal increase in the mortality from cancer made its causation and prevention of practical interest. The theory of a specific parasite seemed on the whole to be gaining ground. Certain it was that cancer occurred chiefly in parts most exposed to both traumatism and infection. On early diagnosis rests the only chance of cure. He favored frequent examinations of women near the menopause, and microscopic examinations of suspicious lesions. In women who had borne children, all lacerations of the cervix should be repaired at forty years of age.

**Treatment of Acute Conjunctivitis.**—Dr. Edward Jackson, of Denver, said that acute conjunctivitis included, beside the effects of eye-strain and local irritants, at least five specific infections, and that successful treatment depended on the careful discrimination between these different classes of cases. Eye-strain was always to be thought of and eliminated. In all forms of conjunctival infection, complete cleansing at sufficiently short intervals was of the greatest importance. Protargol was to be employed for purulent conjunctivitis, with applications of a strong solution of silver nitrate in bad cases. Mydriatics or cocaine should not be prescribed for acute conjunctivitis, because they were more likely to do harm than good. To secure the greatest cleanliness of the conjunctiva, and to limit the dangers of infection, all forms of poultice, bandage, and compress should be carefully avoided.

**The Eyes and the Brain.**—Dr. R. F. Le Mond, of Denver, spoke of the important relations between eye lesions and brain disease. He believed the pathological changes often found in the astigmatic eye were for the purpose of relieving the strain that would otherwise come upon the brain.

**Improved Forms of Artificial Eyes.**—Dr. G. Melville Black, of Denver, in a paper on ocular prothesis, called attention to the recent suggestion of Snellen, of different forms for artificial eyes. The shell heretofore generally used was designed to be worn over a shrunken eyeball, and not to fill up the orbit after an enucleation. There were also needed a concavo-convex form of artificial eye, to be worn over a small stump; and a double convex form, to occupy the orbit properly after enucleation. Artificial eyes of these latter forms not being obtainable yet in this country, he had resorted to the expedient of filling in the cavity of the ordinary shell with a preparation of wax (Gilbert's temporary stopping) used by dentists. This had proven quite satisfactory in preventing the unsightly sinking of the artificial eye, and the accumulation of discharges behind it and irritation of the conjunctiva by the formation of a vacuum beneath the shell.

**Operation for Gall Stones.**—Dr. I. B. Perkins, of Denver, reported three cases of distention, inflammation, and sepsis of the gall bladder, arising from obstruction of the ducts by gall stones, and in which a cure resulted from removal of the stones, and drainage. Gall stones were so common, and gave rise to so many and such obscure symptoms, that the subject was one of great practical importance. The greater frequency of gall stones among women (more than two to one) was probably due to constriction of the abdomen by customary styles of dress and to a more sedentary life. He had done the operation of incision, removal of the contents of the gall bladder, and drainage, with closure of the opening subsequently. He believed the operation of immediate closure of the gall bladder, and dropping it back into the abdomen, was rarely applicable to cases really requiring opera-

tion, and that it ought not to be called the "ideal" operation. Of the stitches passing through the abdominal wall to close the incision, those opposite the opening into the gall bladder were made to enter its wall, and then emerge from it again, like a Lembert suture, before crossing the incision. Two or three of these stitches at the centre of the incision were left untied, and the gaping wound was packed with gauze to insure free drainage. When drainage was no longer needed, the edges of the abdominal wound were slightly freshened and the stitches tied, without the need of anæsthesia to introduce the sutures. The inversion of the edges of the incision in the gall bladder by stitches that acted upon it as a Lembert suture secured prompt union.

Dr. John B. Roberts, of Philadelphia, was favorably impressed with Dr. Perkins' plan of closing the wound. When a gall stone, however, was impacted in the common duct it would be extremely difficult to dislodge it by any such operation. He suggested that the duct might be followed down to its entrance in the duodenum; and an opening made in the duodenum opposite this point. A probe could then be introduced through the mouth of the duct, and the obstructing stone pushed back into the gall bladder and removed. The dilatation of the duct above the point of obstruction would commonly render the dislodgment of the obstruction in this way not difficult.

**Appendicitis with Anomalous Position of the Appendix.**—Dr. A. J. Hosmer, of Salt Lake City, exhibited a boy operated on for appendicitis, in whom, through the usual incision in the right iliac region, no trace of the appendix or head of the colon could be found. A mass of exudate could, however, be felt far up and to the left. A median incision was made and the gangrenous appendix removed from the midst of this mass. In this case the pain was referred to the left side.

**Suprarenal Extract in Surgery of the Ear, Nose, and Throat.**—Dr. W. W. Bulette, of Pueblo, reported upon an experience with this agent in two hundred and one cases, one hundred and thirty-seven of nasal, forty-six of throat, and eighteen of ear disease. It produced anæmia of the tissues, reducing swelling, and preventing hemorrhage that would otherwise be very troublesome by obscuring the field of operation. It also aided in prolonging local anæsthesia, which was often cut short by the hemorrhage washing away the cocaine. With its help, operations could be done without pain or loss of blood; there were no unpleasant effects, and there was little secondary hemorrhage. Since employing it, cases presenting symptoms of cocaine poisoning had been fewer. It reduced to a minimum the patient's dread of operation.

**The Bottini Operation for Hypertrophy of the Prostate.**—Dr. Leonard Freeman, of Denver, reported eight cases of enlarged prostate operated on with the Bottini instrument, which burned grooves in the hypertrophied organ. The instrument consisted of a platinum galvano-cautery knife, arranged like the male blade of a lithotrite. Any general burning of tissue in contact with the instrument was prevented by a stream of ice-water circulating through it. The operation caused little after-pain or bleeding. Of the eight cases, five were practically cured. One patient improved at first, and still had no residual urine, but again suffered from pain and frequent urination as badly as ever, and cancer was now suspected. He believed this the best operation yet proposed for enlarged prostate. Few men submitted cheerfully to castration or vasectomy. Bottini's operation caused no external wound. It could usually be done under local anæsthesia. In the above cases general anæsthesia was used but once. The burned surfaces were practically sealed against absorption. The benefit was immediate. There were few relapses. The patient could move about within a day or two. The mortality of the operation was less than by other modes of operation. The patient would submit to this operation when he would not submit to any other.

**Disease of the Mastoid.**—Dr. C. K. Cole, of Helena, Montana, reported four cases, illustrative of sixteen that he had seen in the last twenty months. Such cases were essentially surgical. He advocated thorough opening of the mastoid and irrigation with not less than two to four quarts of hot sterilized water or antiseptic solution. The periosteal incision might sometimes be useful in young patients. In extreme cases multiple openings were advised.

Dr. H. R. Bull, of Grand Junction, had recently encountered two cases of mastoid disease following measles. He employed hydrogen dioxide as a cleansing agent in these cases.

**Some Toxic Causes of Insanity.**—Dr. Hubert Work, of Pueblo, called attention to the generation within the body of poisons capable of causing mental alienation. Loss of weight and anorexia occurred so constantly in connection with certain psychoses as to suggest at least a common cause. Some of the most distressing symptoms of dyspepsia were mental. It was certain that insanities did result from prolonged digestive disturbances. Auto-infection from the alimentary canal might alone cause many cases. He reported four illustrative cases, in which treatment directed to the source of the toxic influence brought about a cure of the mental symptoms. The first, a case of digestive disturbances, was cured in three months. The second, a case of rheumatism, was cured in eighteen months. The third was a case of chronic cystitis, which was cured in four months. The fourth, due to hepatic derangement, was cured in two months. Insanity was a symptom, and removal of its cause brought recovery. In no disease was proper medical treatment more needed at the beginning.

**Auto-Intoxication and Blood Morphology in Relation to Operations.**—Dr. P. S. Keogh, of Salt Lake City, discussed the bearing of these conditions on the preparation of a patient for an important surgical operation. The older surgeons well knew that complications followed less frequently when the patient had been prepared for operation by catharsis. Symptoms of indigestion and gastro-intestinal disease should always be carefully looked for. Examination of the urine might reveal a deficient elimination of solids. General anæsthetics increased the danger from auto-intoxication. The examination of the blood, particularly with reference to the percentage of the oxyhæmoglobin and the condition of leucocytosis, gave very important evidence regarding the patient's power of resistance.

**Cases of Infection by the Bacterium Coli.**—Dr. J. N. Hall, of Denver, stated that this organism, at first regarded as only a harmless inhabitant of the alimentary canal, was now known to be one of the most important pathogenic bacteria. Probably the name was now applied to a whole group of bacteria, presenting varying degrees of virulence, and not to a single species. He reported two fatal cases, both patients being men. The first patient, after twenty-four hours' retention of urine, presented in it great numbers of colon bacilli. Then ensued pleuritis, broncho-pneumonia, pericarditis, a purpuric eruption, pyelitis, and perinephritic inflammation. In the second patient there was a purpuric eruption, and abscesses were scattered over the body. The bladder was distended with acid, foul-smelling urine, containing sugar and loaded with bacilli, and gas was generated within the bladder. The spleen and liver were

found to be septic. There were nephritis and a large abscess behind the sternum.

**The Early Diagnosis of Tuberculosis.**—Dr. A. M. Holmes, of Denver, thought there were recognizable early evidences of this disease; and if these were heeded recovery might be brought about. Loss of appetite and weight, gastric disturbances, dyspnœa, and persistent cough should lead to repeated examinations. The importance of the early examination of the sputum, he thought, had been overrated. If the bacilli were found, the evidence would be conclusive. But they might exist, in concealed foci of infection, a long time before making their way into the sputum. He regarded subnormal morning temperature and "cog-wheel respiration" as important symptoms, but hemorrhage was not. Early in the disease the study of the blood was more important than the study of the sputum, especially the examination of stained blood-films with a differential count. There was no excuse for delay in the diagnosis of tuberculosis, for we had a certain test in the reaction produced by tuberculin. He employed at first an injection of 1 mgm. If no reaction followed this, three days later 3 mgm. were injected; and if this produced no effect, 5 mgm. were tried. The injection was made in the evening, and the reaction commonly occurred six to twelve hours later.

**Officers for the Ensuing Year.**—The following were elected: *President*, Charles K. Cole, of Helena, Mont.; *Vice-Presidents*, Leonard Freeman, of Denver, and R. H. Reed, of Wyoming; *Treasurer*, Charles G. Plummer, of Salt Lake City; *Recording Secretary*, Donald Campbell, of Butte, Mont.; *Corresponding Secretary*, S. D. Hopkins, of Denver.

Dr. Judson Daland and John B. Roberts, of Philadelphia, were elected honorary members. The place selected for the next meeting is Butte, Mont., and the time the last week of August, 1900.

## NEW YORK COUNTY MEDICAL ASSOCIATION.

*Stated Meeting, June 19, 1899.*

Frederick Holme Wiggin, M.D., President.

**Acute Bronchitis—A Symptom; Its Treatment from an Etiological Standpoint.**—Dr. Thomas F. Reilly read a paper with this title (see page 218).

**A Fœtal Specimen.**—Dr. L. W. Zwisohn presented a complete ovum—the fœtus enclosed in its membranes. He had been called to see a woman about thirty-six years of age, who thought she was pregnant about four weeks. Digital examination had revealed a patulous os, and the ovum just about to be discharged. It was apparently a fœtus at about the sixth week of gestation. The toes and fingers were just beginning to develop. The specimen had been well preserved in fifty-per-cent. alcohol.

**Non-Malignant Strictures of the Œsophagus, and Their Treatment.**—Dr. Henry Mann Silver read this paper. The author reviewed the literature for the past ten years, and reported a case of non-malignant stricture occurring in his own practice. This case was that of a child of four years, who about one year previously had drunk some Javelle water. Although medical advice had been promptly sought, the fauces and œsophagus had been severely inflamed. No attempt had been made to keep the œsophagus open before the child came to the hospital on October 5, 1898, and the quantity of food that could be swallowed had steadily diminished. A No. 11 bougie had passed down a distance of nine and three-quarters inches from the dental arch before meeting with any obstruction, and about the same result had been observed under anæsthesia. As the child received very little nourishment, surgical interference was demanded, and accordingly gastrostomy had been performed. The child stood the operation well, and the operation wound had healed by first intention. The operation had been done on October 17th, and just one month later the first effort had been made to perform retrograde dilatation. The electric head-light had been found a very valuable aid in the treatment, as had also the use of specially made endoscopes constructed somewhat after the manner of Kelly's cystoscopes. About the middle of January of the present year dilatation by way of the mouth had been first attempted, and a No. 9 bougie had been passed. It had been noticed early in April that after a rest of two weeks the instrument introduced by the mouth passed the stricture much more easily than before. The gastric fistula had been closed on April 18th, or six months after the gastrostomy. On May 7th the child had been discharged from the hospital and made an out-patient. An interesting feature of this case was the ease with which the course of the bougie could be traced from the mouth to the strictured point by the aid of the fluoroscope. Another interesting feature was the subnormal temperature in the morning, reaching at times as low as 96° F., and continuing throughout the entire course of treatment. This subnormal temperature should warn us to guard carefully against exposure and exertion in the morning. During the time of active treatment there had been no leakage, and at no time had there been any redness of the skin.

Treatment: The speaker then took up systematically the consideration of the modern treatment of such cases. He said that the point of stricture could be easily located by means of the *x*-rays and the passage of a metallic bougie by the way of the mouth. The ordinary bulbous bougie would answer nearly as well. The great difficulty in the treatment of these cases was not that the stricture was absolutely impassable, but that in most cases it was impossible to cause the tip of the instrument, however small, to engage in the opening in order to carry on the dilatation. The great question to decide was whether a temporary opening in the stomach—a gastrotomy—or one to remain open a longer time—a gastrostomy—should be made. When a powerful corrosive had been swallowed, followed by severe inflammation and evidence of rapid stricture formation, or when the regurgitation of a quantity of food at one time showed that a considerable pouch had formed, it seemed to him that a gastrostomy was advisable; but when the inflammation had been moderate, and the regurgitation of fluid was quite small and occurred almost as soon as swallowed, a gastrotomy appeared to him preferable. In the future he would fear pouching of the lower œsophagus more than a tight stricture situated in the same location. Before performing a gastrotomy, that position for the incision should be selected which would give the freest access to the cardia, and which would allow of the conversion of a gastrotomy into a gastrostomy if necessary. The old operations of Fenger and others were not to be thought of at the present day. In one of the modern operations the fistula passed in a curved direction through the abdominal parietes, and underneath the stretched cutaneous "bridge." Retrograde dilatation had been found perfectly feasible through such a fistula, but the operation was not well suited for cases in which the stomach was greatly contractured. The interior of the stomach should always be examined before deciding whether the operation should be completed as a gas-

trotomy or a gastrostomy. This procedure could be facilitated by the use of silk sutures so inserted as to give the operator control over the stomach. In practising retrograde dilatation almost invaluable assistance would be rendered by a thread in the œsophagus and stomach. It had been suggested as an easy method of introducing the thread to attach it to a shot or make a small knot in the end of it and allow the patient to swallow it slowly. Dr. Abbe had combined the method of dividing the stricture from below with the use of bougies, and then divided the stricture not with a knife but with a string. Having succeeded in cutting through the stricture thoroughly, and passing bougies of fair size by the mouth, the wounds should be closed at once. The after-treatment consisted in the passage of the largest-sized bougies possible at least once a week at first, and later at longer intervals. The patient should be encouraged to eat solid food in order to assist in keeping the œsophagus open. Among the thirty-eight recorded cases, there had been no deaths due to the immediate effects of this method of treatment. This remarkable record should lead to early surgical interference—as soon as the scales showed a steady decrease in body weight. If the gastrostomy was deferred until the patient had reached a condition of advanced inanition, the operation became a wellnigh hopeless one instead of a procedure attended with little risk and capable of saving life in a very large proportion of cases. When the operation was long postponed the patient was apt to starve with a full stomach and a full intestine.

**The Most Suitable Instruments.**—Dr. George Woolsey opened the discussion on this paper by speaking of the instruments most suitable for retrograde dilatation, and their mode of introduction. It was conceded by all, he said, that the easiest method of introducing the instrument through a strictured œsophagus was from below, because of the presence of pouches and the frequently eccentric position of the stricture. In general, it might be said that if the stricture was passable from below, one could generally succeed in forcing through a bougie of fair size. Having once succeeded in doing this, the surgeon should attach one or more strings to the bougie, and draw them out of the mouth. Considerable difficulty was experienced in some instances in entering the lower end of the œsophagus, and often for the reason that it was not in the position described in the anatomical text-books. By pulling down on the lesser curvature of the stomach and allowing the bougie to follow this curvature, it would pass into the lower end of the œsophagus. This was the best procedure for accomplishing this with which he was acquainted. When the stricture was fairly narrow, and rather long, a useful instrument was a small, tapering bougie having a thread attached to its tip. In his opinion, internal œsophagotomy, either from below or above, should be condemned. The string-saw method described in the paper was a most useful one.

**Gastrotomy and Gastrostomy, with Dilatation of the Lower Third of the Œsophagus.**—Dr. Willy Meyer was invited to discuss this part of the subject. He said that strictures of the lower third were usually very dense, and although the result in such a case with a string-saw was good at the time of the operation, it would often be found after a few days that another operation was demanded. The requirements of the operation were: (1) The original incision must be used in connection with establishing the fistula; (2) the fistula must be watertight, and (3) it must close spontaneously after removal of the tube. He advised pulling out the stomach and making the incision in it horizontal. For strictures of the lower third Dr. Abbe's method should be tried. If any difficulty was experienced in passing the larger bougies, especially from above downward, a gastric fistula should always be established. Dr. Meyer exhibited two adult patients upon whom he had operated by Kahler's method, in order to show that the fistula was thoroughly watertight.

**External Œsophagotomy for Strictures Low Down.**—Dr. Joseph D. Bryant discussed this topic. He said that the performance of external œsophagotomy in one having a short, stout neck was not to be lightly regarded by any person. By a low œsophagotomy the distance to the cardia was lessened, and the route was more direct than in the other method. The speaker described a modification of the string-saw method which he thought might be applied by way of the mouth, thus eliminating certain dangers and supplementary features by the single string method. In performing external œsophagotomy great care should be exercised in opening the œsophagus. The latter should be opened as far posteriorly as possible in order to avoid injuring the recurrent laryngeal nerve.

**Division of Low Œsophageal Strictures.**—Dr. Robert Abbe discussed this topic. He said that it was impossible to penetrate many of these tight strictures from above, and hence the great advantage of dilating and cutting them by a comparatively safe method. The one which he had devised, and which had been already alluded to this evening, had been first employed seven years ago upon a lady whose œsophagus had become strictured as a result of swallowing caustic potash. She had become greatly emaciated, and was in wretched condition at the time the treatment had been undertaken. In that case he had found that two or three small bougies could be passed through from the stomach to the mouth. To facilitate the passage of the larger ones he had passed a piece of heavy braided silk as a guide. Finding one of the bougies hugged tightly at this time, he had discovered that by pulling the silk to and fro he could rapidly enlarge the strictures so as to admit of the successive passage of several much larger bougies. He had seen this lady very recently, and she was in perfect health. The largest size of œsophageal bougie she passed upon herself once or twice a year merely as a precautionary measure. The speaker said that the very ingenious arrangement devised by Dr. Bryant seemed to him a very excellent substitute, but the possibility of using it from above did not appeal to him as of much importance. The use of cutting instruments, such as the œsophagotome, seemed to him decidedly dangerous at all times. In exploring the stomach with the finger passed through the gastrostomy wound, he had been impressed with the fact that at first the stomach appeared as a smooth dome without even a dimple to represent the œsophagus, but after pressing for a moment the sphincter muscle would yield and a dimple would be formed, indicating the position of the lower opening of the œsophagus. He had recently made an interesting application of the string-saw method in a case of laryngeal stenosis, the string being passed up through the tracheotomy wound.

**Rest of the Part Exceedingly Beneficial.**—Dr. John A. Wyeth said that early operation in all these cases, whether the stricture was the result of irritation by an escharotic or of malignant disease, was indicated, because in both classes of cases rest of the part was exceedingly important. A case was cited in which a woman, who was about five months pregnant, had swallowed a quantity of lye. He had at once performed gastrostomy, and had insisted upon complete rest of the œsophagus. She had gone on to full term, and had been delivered of a healthy child, and a few months later the inflammatory condition of the

œsophagus had subsided completely without a bougie having ever been passed.

**Œsophagoscope.**—Dr. Max Einhorn said that in many cases the œsophagoscope made it possible to see the point of stricture or the location of the bougie. It would be found useful in some cases in which the endoscope did not work well. Reference was made to two cases of benign stricture of the œsophagus, one at the upper and the other at the lower part of the œsophagus, in which dilatation had succeeded admirably. He also spoke of a class of cases that might be called spurious strictures, as careful investigation showed that there was no organic stricture, but rather a spasmodic condition. He agreed with the reader of the paper that gastrostomy should be performed early, if dilatation by means of bougies introduced through the mouth had failed.

Dr. B. Farquhar Curtis was invited to summarize the subject. He said that it was evident that there was some hope for all these cases of œsophageal stricture, even when dilatation had failed. However, all the stumbling-blocks had not yet been removed. It was not easy to cure an œsophageal stricture even by performing external œsophagotomy and gastrostomy, and using the string-saw method. This was certainly the safest method, but even it was not entirely free from danger. There was a possibility of infecting the wound, or of passing into the pleura. The beauty of the method was that by keeping the fistula open and the strings in place it could be employed again and again over a period of many weeks, the patient's strength being kept up by feeding from below. In one of his cases gastrostomy alone had been sufficient to effect a very considerable dilatation of the œsophageal stricture. He had found some difficulty in keeping the string in place and preventing it from cutting the lip, but he had finally obviated this completely by tying together the ends of the string protruding from the mouth and fistula. About once in twenty-four hours, through the efforts at swallowing this would make one complete rotation. The great trouble in most of these cases was recurrence of the stricture. These strictures should be treated on the same principles as strictures of the urethra.

## THE NEW YORK PATHOLOGICAL SOCIETY.

*Stated Meeting, May 10, 1899.*

T. Mitchell Prudden, M.D., President.

**Report of the Committee on Microscopy on the Case of Mike Kelly.**—Dr. Harlow Brooks presented the report. He stated that the committee had subjected to microscopical examination the tumors from the scalp and the larger tumors of the skin of other regions in the well-known case of Mike Kelly, of Bellevue Hospital. These growths had all shown substantially the same characteristics, viz., that of a highly cellular fibroma, somewhat resembling fibro-sarcoma, but having a blood supply which was hardly sufficient for a tumor of the latter class. In the small nodules from the small intestine the pigment had been found lying between the peritoneal and muscular coats, and not at all within the cells of the tumor growth proper. These tumors had been slightly different in some respects from those on the external surface of the body, but essentially the same in structure. They contained a good deal of involuntary muscle, apparently derived from the coats of the intestine. These growths were made up of connective tissue containing a very large number of connective-tissue cells, some of these cells being apparently proliferating. He had not found any evidence of neuroma or of connection with nerve fibres. Sections of the tumor tissue were exhibited under the microscope.

**A Case of Asexualism.**—Dr. Brooks reported this case. (See page 221.)

**Report of Five Cases of Sudden Death Following Lodgment of Foreign Bodies in the Larynx.**—Dr. Leon T. Le Wald presented specimens from these cases. They had all occurred in males in middle or advanced life, and the foreign body had been in each case a piece of meat that had lodged in the pharynx just over the entrance to the larynx.

Dr. J. H. Larkin said that about two years ago he had seen a man who, while eating soup, had swallowed a piece of meat-bone measuring about half an inch in diameter. It had lodged in the ventricle of the larynx. About three days later he had entered the hospital much cyanosed and had died one hour later. At the autopsy the bone had been discovered and around it a good deal of ulceration. The cause of death had been œdema of the glottis.

Dr. Northrup remarked that he could recall a specimen presented some years ago to the society by Dr. Herman M. Biggs. It had been taken from a man who had dropped dead instantaneously while eating, and without having any convulsions.

**Tuberculous Myocarditis.**—Dr. F. C. Wood presented a specimen of tuberculous myocarditis removed from a child of nine months, at St. Luke's Hospital. At the autopsy no miliary tuberculosis had been discovered. There had been found firm white patches in the myocardium and on the surface of the ventricle. Only twenty-five or thirty cases of this form of tuberculosis had been reported, although it was common enough in connection with miliary tuberculosis. The case would be reported in detail later.

**Two Cases of Aortic Aneurism with Rupture into the Pulmonary Artery.**—Dr. Lewis A. Conner reported these cases, and presented the specimens. Both patients had come recently into the Hudson Street Hospital, and had died shortly after admission, so that the clinical records were incomplete. The first one, a man sixty-six years of age, a porter by occupation, had been admitted on April 10th with feeble heart action and deep cyanosis, but with no subjective symptoms except weakness. He said that he had felt well up to three hours before, when he had begun to feel drowsy. He was almost pulseless, but was free from dyspnœa. Auscultation over the precordium had revealed nothing but the extreme feebleness of the heart sounds. The heart was much enlarged, and both ventricles were found at autopsy much dilated, and their walls moderately hypertrophied. The heart muscle showed slight fatty and granular degeneration. The valves were normal in appearance and seemed to be competent. The aorta from its origin to a point beyond the origin of the innominate artery was the seat of dilatation and many atheromatous areas. At a point 3 cm. above the aortic valve was a recent tear, 2 cm. long, opening into the left pulmonary artery. The lungs were much congested and somewhat œdematous.

The second case was that of a man of forty years, a Danish laborer, who had been admitted on February 10th with a history of having been well up to twelve hours previously. Since that time he had been coughing up blood-stained sputum. While walking from the ambulance to the ward the pulse became weak, and he coughed up blood and serous fluid. He died in twenty minutes. At the autopsy the heart had been found considerably enlarged, and the left ventricle much dilated, but its wall was of normal thickness. The wall of the right ventricle was greatly thickened. From the right sinus of Valsalva, immediately to the right of the orifice of the right coronary artery, was an

aneurismal pouch the size of a walnut. It was filled with old clot, and seriously obstructed the flow of blood into the pulmonary artery. The aneurism had ruptured immediately behind the pulmonary valve. There was a clot extending into the pulmonary artery and almost occluding the right branch. The left lung was evidently œdematous, and the bronchi were filled with reddish fluid. In the upper part of the left upper lobe was an area of recent tuberculous consolidation, and there were evidences of an old tuberculosis. The aorta showed throughout considerable arterial sclerosis. The symptoms in these two cases presented a remarkable contrast, which it was not easy to explain by the pathological findings. In the first case it seemed as though the force of the current of blood in passing from the aneurism into the pulmonary artery must have been diminished; in the second case, the direction of the blood stream must have been upward into the pulmonary artery. He could not believe that the clot in the pulmonary artery had been there more than a very short time before death. Another interesting feature in the second case was the recent development of tuberculosis in a man of good physique. The association of this with a serious interference with the flow of blood into the lungs was exceedingly significant. Regarding the symptoms of rupture of aneurisms into the pulmonary artery the speaker said that in nineteen reported cases there had been either a systolic bruit, a continuous murmur, or a double murmur corresponding to both systole and diastole. There had been, in addition, the usual signs and symptoms of disturbance of the general circulation.

Dr. Mary Putnam-Jacobi suggested that the absence of the dyspnœa in one of the cases indicated that with the extreme cyanosis there had been more or less insensibility, and hence the lack of appreciation of the distress.

Dr. Northrup said, regarding the narrowing of the pulmonary artery and its relation to the development of tuberculosis, that he could recall six cases of congenital malformation in children, and one adult, in which there had been tuberculosis. It was well to remember that certain German surgeons claimed to treat tuberculosis of joints successfully by producing local cyanosis. He did not think the opinion was now so generally held as formerly that tuberculosis was associated with a small pulmonary artery.

Dr. Wood said that the surgeons attempted to produce local congestion in joint disease, and not a diminished blood supply, hoping thereby to control the tuberculous process.

**A Case of Canalized Thrombus of the Iliac Artery.**—Dr. George P. Biggs presented this specimen. It had been removed from a woman, thirty-seven years of age, who had died as a result of mitral stenosis. The only history obtained was that she had suffered from chronic valvular disease of the heart. The left common iliac artery was smaller than normal and very firm, as though filled with an organized thrombus. Transverse section of this thrombus showed ten longitudinal canals, each one-half to one millimetre in diameter, by means of which the circulation had been partially restored. The canals were chiefly in the periphery of the clot, and were found, on microscopical examination, to have an endothelial lining. The thrombus began 2 cm. from the aorta, and was 4.5 cm. in length, covering the opening of the internal iliac, and extending into the external iliac artery. No attempt had been made to follow the course of the collateral circulation, but it had been noted that the iliac vessels of the opposite side were unusually large.

**A Pin in the Vermiform Appendix.**—Dr. H. Brooks presented this specimen, which had been taken from a child of five years. The illness had begun six weeks before death with convulsions, followed by pain in the right ear, stiffness of the neck, dilatation of the pupils, vomiting, restlessness, and slight fever. When admitted to the New York Hospital there had also been noted internal strabismus of the right eye. The patient had developed delirium, giving place to stupor several days before death. The temperature had been between 99° and 100° F. during the last two weeks of life, and the highest recorded was 101° F. There had been no abdominal symptoms. The mother stated that eighteen months before death the child had swallowed a pin, which had never been found in the fæces. At the autopsy the dura mater had been tense, and the convolutions flattened. The dura was adherent to the right parietal lobe, and beneath the adhesions was a large single abscess, measuring 6.5 cm. vertically, 6.5 cm. antero-postriorly, and 4 cm. transversely. The contents of the abscess consisted of 200 c.c. of thick, yellowish, offensive-smelling pus. The abscess occupied all the right parietal lobe except the ascending parietal convolution, and the parietal portion of the convolution of the longitudinal fissure. There was destruction also of the posterior portion of the temporo-sphenoidal lobe. A fairly firm wall to the abscess had suggested that it might have existed for some time. Rupture into the subdural space was prevented only by the adhesions to the dura. The cerebral sinuses and both ears appeared normal. The vermiform appendix hung free in the peritoneal cavity, and measured 8 by 0.75 cm. There were adhesions of the omentum to the distal third of the appendix opposite its mesenteric attachment. Slight traction on the omentum had caused a partial breaking of the adhesions, and had exposed an opening, 2 mm. in diameter, in the anterior wall of the appendix, 2.5 cm. from the tip. Through this opening had projected the head of an ordinary pin, 2.5 cm. in length, covered with rough concretions. The point of the pin, which was toward the cæcum, was also embedded in the anterior wall of the appendix, nearly causing a second perforation.

Dr. Brooks said that he had reported some months ago a case of pin in the appendix. In that instance the head of the pin had perforated and formed a small localized abscess. There had been no symptoms referable to the appendix. He had learned that a series of thirty-three cases of this kind had been collected at the Johns Hopkins Hospital; that in the greater number of them the head of the pin had been found in the distal end of the appendix, and often there had been few direct symptoms referable to the appendix during life.

**Fish Bone in the Œsophagus.**—Dr. W. P. Northrup exhibited a sharp triangular piece of fish bone, having a sharp spur coming off from its base. He had removed it with the aid of a laryngeal forceps after having first located it with his finger.

**A Case of Meningitis.**—Dr. F. C. Wood reported a case of meningitis in which the upper surface of the hemispheres had been covered with a thick layer of pus. The patient had been in the hospital for some weeks with a pneumonia of the left lower lobe. It was supposed that resolution had taken place, but the symptoms had suddenly become worse; then meningeal symptoms had supervened, and death had occurred shortly afterward. At the autopsy there had been a well-marked œdema and congestion of the left lower lobe, but no consolidation. The spleen had contained infarcts. In the heart was a small clot situated underneath one of the valves and attached to the myocardium. Cultures made from the blood during life had proved negative, but the pneumococcus had been obtained in smears made from the contents of the abscess.

**Biliary Cirrhosis.**—The second specimen presented by Dr. Wood had been taken from a well-nour-

ished man who had been admitted in coma, with a subnormal temperature, and without any definite history. At the autopsy extreme jaundice had been noted, but no ascites. A number of small hemorrhages were found underneath the pericardium, and the stomach and duodenum contained a great deal of blood. The gall bladder was represented by a small mass of fibrous tissue without a lumen. In the common duct was a small oval transparent stone composed entirely of cholesterin. The surface of the left lobe of the liver was covered with small nodules. The case was evidently one of biliary cirrhosis. Microscopical examination of the liver had shown a thickening of the bile ducts and necrotic areas apparently the result of an old infection. There was also a diffused intralobular cirrhosis. Some of the cells of the liver had been well preserved. The spleen was small.

Dr. Brooks said that the first case recalled one that he had seen at the Harlem Hospital. There had been complete consolidation of the lower lobe of the lung at the time of admission. After about two weeks he had developed a meningitis, apparently of the cerebro-spinal type, and had died. The autopsy had shown a resolving pneumonia on the left side and a thick greenish exudate over the convexity of the brain, extending down over the cord. Smears from the lung had exhibited only the diplococcus of Weichselbaum. He had not been able by cultures to find the pneumococcus in the lung, but it had been present in the trachea and bronchi. In the cerebral exudate the pneumococci and Weichselbaum diplococci had been demonstrated. It was thought that the source of the trouble had been an infection of a bronchus with the Weichselbaum diplococcus, and that eventually it had been a case of mixed infection.

**Malignant Endocarditis — Infarcts in Lung, Spleen, and Kidneys.**—Dr. L. A. Conner referred to a case of malignant endocarditis which had resulted in death at the New York Hospital not long ago, with a very obscure history. A very large thrombus had been found filling up the whole tricuspid orifice. There had been not only many infarcts in the lungs, but one in the spleen and one in the left kidney as well. There had been nothing abnormal in the left side of the heart, and consequently he had been surprised at these findings.

Dr. Northrup remarked that in his experience the lesion had several times been in the right heart, and yet infarcts had been present in the spleen, lungs, and kidneys. It was his impression that this occurred frequently in primary ulcerative endocarditis.

**Osteosarcoma of Knee Simulating Tuberculous Joint Disease.**—Dr. Reginald H. Sayre presented a tumor removed from a girl of thirteen years. According to the history she had fallen last November, and struck the knee several times within a month. During the previous summer she had complained a little of pain in the knee. When first seen by him in the latter part of February, there had been some swelling of the upper part of the knee not unlike malignant disease. He had treated the case tentatively for a short time, thinking it possible that the disease was tuberculosis. Within a few weeks the bone had increased rapidly in size, and on exploratory operation a large bleeding tumor had been found. He had then amputated at the hip joint. Microscopical examination had shown the tumor to be a large spindle-cell sarcoma. The child had improved rapidly after the amputation, and had been discharged within two weeks.

In this connection Dr. Sayre exhibited a skiagraph of a round-cell sarcoma of the tibia that he had presented to this society about one year ago; also a skiagraph of a case in which there had been doubt as to whether the diseased condition of the fibula had been syphilitic or malignant. The skiagraph had proved disappointing as a means of differentiating between syphilitic and malignant disease of bone.

Dr. James Ewing remarked that skiagraphy should be of service in differentiating between round-cell and spindle-cell sarcoma of bone, for in the former the shaft of the bone was usually destroyed very early.

## Therapeutic Hints.

**Gastralgia.**—

℞ Chloral ..... gr. iij.
Sodii hyposulphat. ..... gr. vi.
Aquæ menth. pip. ..... ʒ i.
M. S. At dose. Repeat as required by frequency of attacks, guarding against over-use of chloral.

—*Riforma Medica.*

**Rheumatism.**—Apply locally:

℞ Phenacetin ..... ʒ i.+gr. xv.
Lanolin. ..... ʒ v.
Ol. oliv. ..... q.s.
M. ft. ung.

Or:

℞ Phenacetin ..... ʒ i.+gr. xv.
Spt. vini rectif.,
Aq. calid ..... āā ʒ iij.
M. S. Soak compresses in above and apply.

—*Rev. de Cienc. Med. de Barcelona.*

**Improved Lotio Alba for acne, etc.**

℞ Potass. sulphidi,
Zinci sulphatis ..... āā ʒ i.
Aquæ destillat.,
Aquæ camphoræ ..... āā ʒ i.
Aquæ rosæ ..... ʒ ij.
M. S. Shake and apply.

—Sherwell.

**Scabies.**—

℞ Sulphur. loti ..... ʒ i.
S Apply in the dry state to the whole surface twice a day and sprinkle a teaspoonful between the sheets at night.

—Sherwell.

**In Congestion of the Female Genital Organs.**—

℞ Magnesii sulph ..... 45
Ferri sulph.,
Manganes. sulph. ..... āā 10
Acidi sulphur. dil. ..... 4
Aquæ destill ..... ad 200
M. S. One tablespoonful in a wineglassful of water before meals.

**To Stimulate Diaphoresis.**—

℞ Camphoræ pulv ..... 0.02–0.1
Pulv. opii ..... 0.02–0.03
Potass. acetatis ..... 0.02–0.3
Sacch. alb. ..... 10.0
M. ft. pulv. S. One powder in a cup of tea at bedtime

—Graefe.

**Atonia Intestinalis.**—

℞ Sodii benzoatis,
Pulv. rad. rhei ..... āā 5.0
Pulv. nucis vom ..... 0.02
M. S. One powder two or three times a day.

—Huchard.

**Children's Emetic.**—

℞ Pulv. ipecacuan ..... gr. viiss.
Antimonii et potassii lactatis ..... gr. ⅙
Oxymel scillæ ..... ʒ iiss.
Aq. destill ..... q.s. ad ʒ i.
M. S. One teaspoonful every ten minutes.

—Baginsky.

**Tincture of Iodine in Diarrhœa of Children.**—Dr. Gosch (*Riforma Medica*) recommends the tincture of iodine in acute infectious gastro-enteritis in children, in doses of from two to four drops in sugar-water

every eight hours, for three days in succession. He claims it works promptly; the fever and diarrhœa cease, and the sensorium again becomes free. In adults in doses of six drops, three or four times a day, the result is not so rapid, but just as certain. He employs the following mixture:

℞ Tinct. iodi ..... 0.5
Syr. simpl. ..... 15.0
Aq. destill. ..... ad 150.0
M. S. One to two tablespoonfuls in the course of twenty-four hours.

**In Dry Pleurisy.—**

℞ Tinct. aconiti ..... ♏ x.
Spir. æth. nitrosi ..... ʒ ij.
Liq. potass. citratis. ..... ʒ iij.
Syr. tolutani ..... q.s. ad ʒ iv.
M. S. Two teaspoonfuls every hour.

**In Pleurisy with Effusion.—**

℞ Ammon. chloridi,
Ammon. carbonatis ..... āā ʒ i.
Tinct. cubebæ ..... ʒ iiss.
Syr. tolutani ..... q s. ad ʒ ij.
M. S. Teaspoonful in water every three or four hours.

—G. F. Butler.

**Diuretic for Children.—**

℞ Potassium acetate,
Potassium nitrate .. ..... āā gr. xv.
Oxymel of squill,
Comp. syr. sarsaparilla. ..... āā ʒ iiss.
Infusion of juniper berries. ..... ʒ ss.–iiiss.
M. S. To be taken during the day.

—Comby.

**London Cough Mixture.—**

℞ Ac. benzoici. ..... gr. xij.
Ol. anisi. ..... ♏ ij.
Spir. ammon. aromat. ..... ʒ iss.
Spir. æther. nitrosi,
Vini ipecacuan ..... āā ʒ iij.
Tinct. capsici ..... ♏ xx.
Glycerini ..... ʒ iv.
Infus. senegæ (conc.) ..... ʒ iij.
M. Allow to stand until clear and decant. S. Teaspoonful every three hours.

**Trigeminal Neuralgia.—**

℞ Extr. cannabis indicæ ..... gr. viiss.
Acidi salicylici ..... gr. lxxvi.
M. ft. pulv. No. x. S. Three powders daily

—Hirschkron.

**Coryza.—**

℞ Bismuth. subnit ..... ʒ i.
Pulv. camphoræ ..... gr. vi.
Pulv. acid. boric ..... gr. iij.
Morphin. hydrochlor. ..... gr. ss.
Cocainæ hydrochlor ..... gr. ¼
Pulv. benzoini. ..... gr. xv.
M. S. Snuff.

℞ Extr. hyoscyami ..... gr. x.
Potass. iodidi. ..... ʒ i.
Potass. bicarb ..... ʒ iij.
Extr. glycyrrh ..... ʒ i.
Aquæ anisi. ..... ʒ iiiss.
M. S. Dessertspoonful every four hours.

**Locomotor Ataxia.—**

℞ Ferri lactatis. ..... 2.55
Extr. cinchonæ ..... 4.0–5.0
Extr. nucis vomicæ. ..... 0.3–1.0
Extr. gentianæ. ..... q.s.
M. ft. pil. No. xl. S. One or two pills three times a day, after meals.

—Erb.

**Pediculi Pubis.—**

℞ Flor. delphinii. ..... 3 parts.
Aceti. ..... 100 "

Two washings of the hairy region with the above solution suffice to remove all pediculi and their eggs.—Benvenuti.

**Burns.**— In third degree of burning, pepsin sprinkled over the raw surface assists in process of granulation and healing.—Waterman, *Therap. Monatsh.*

# Correspondence.

## OUR LONDON LETTER.

(From our Special Correspondent.)

CROONIAN LECTURES ON INSOMNIA AND HYPNOTICS—OBSTETRICAL SOCIETY—REPORT OF ROYAL COMMISSION ON THE DRINK QUESTION—COLLEGE OF SURGEONS—HASLOW HOSPITAL APPOINTMENT—CANCER SOCIETY.

London, July 21, 1899.

When it was announced that the Croonian Lectures would be delivered by Dr. Bradbury, I anticipated that the learned Cambridge professor would take the College of Physicians through some abstruse problems in physiology and chemistry. He has done so, choosing for his subject some points connected with sleep, sleeplessness, and hypnotics. He was known to have displayed great interest in the subject, and his researches are now before the profession. With regard to the nature and mode of action of hypnotics and the extraordinary results obtained by substitution of elements or radicals it must be confessed that the subject is hardly adapted for lectures, even before so learned an audience as the College of Physicians, but these audiences are seldom large and never so rude as to display symptoms of boredom, though now and then a fellow may be detected taking forty winks. The lectures have been published *in extenso* in the journals, and in due time will no doubt be issued in book form. They are certainly more adapted for quiet study in the library than for oral delivery. They are full of important facts and opinions on the action of hypnotics, and will repay all readers who master them. The latest discoveries as to the ultimate structure of nerve centres and elements are expounded in reference to theories of sleep, and brought to the consideration of the treatment of insomnia and the use of hypnotics in the light of clinical experience.

What, then, is this modern affliction—insomnia? Dr. Bradbury defines it "as a loss of the normal amount of sleep," that is, the amount normal to the individual, for, as is well known, people exhibit the most remarkable differences in this respect. Dr. Bradbury classifies the causes of insomnia as (1) irritative, (2) toxic, (3) psychical, (4) those arising from changed habits. Obviously under each of these may be ranged causes which may easily be removed when detected and others which are irremovable. Whenever possible the old rule to remove the cause is to be adopted, and the cases are excessively numerous when hypnotics are not called for and should therefore be shunned. Thus, among irritative causes, indigestion, teething, eye-strain, and other disorders are amenable to appropriate treatment, and only need to be diagnosed. But pain, even when the cause is known, is in another category. Again, psychical causes present similar differences. Overwork and irregular hours can be corrected. But grief, shock, and worry are too often beyond our advice or help. Coming now to special therapeutics, Dr. Bradbury's experience will furnish many suggestions to the perplexed practitioner. Passing by some of the most obvious, I may mention that a mild hypnotic will be sometimes required to interrupt the habit of sleeplessness. He recommends sulphonal or bromides. The latter remedy is also of special value in cases at the menopause. A bath or wet pack is mentioned as often useful in insomnia from overwork, especially if literary work. So a glass of grog, in those unaccustomed to it, Dr. Bradbury has found to succeed; but it seems a risky thing to advise, for are not these the very cases that often take to alcohol or drugs?

In pneumonia sleep usually comes at the crisis, but when it does not Dr. Bradbury has seen a hypnotic, such as paraldehyde or chloralamide, turn the scale in the patient's favor. These two are also useful in asthma. In bronchitis these and chloral are safer than opiates. The insomnia of heart disease may be benefited by digitalis, strophanthus, strychnine, and other cardiac tonics. Paraldehyde and chloralamide are most useful, but in some cases morphine may be required. When pain is the one cause of insomnia Dr. Bradbury pronounces morphine to be the best remedy, though he admits some of the synthetic analgesics have their value.

After the discussion on the fœtal pelvis of which I gave you an account, the Obstetrical Society turned to the subject of persistent mento-posterior position of face, introduced by Dr. Lewers, who related a case in which he had delivered a child alive by the axis-traction forceps. The progress of the labor had been for some time completely arrested, and ordinary forceps slipped as soon as the least traction was made. On using the axis-traction forceps the head came lower, and the chin rotated forward and was delivered in a very few minutes. There was a slight rent in the perineum, and the child had for some weeks a facial paralysis, but that disappeared.

Surgeon-General Harvey and Dr. H. Spencer took exception to the term "persistent," as the chin actually rotated when the axis-traction forceps was applied. Dr. Spencer also thought the axis-traction instrument rather dangerous in such cases, and ordinary forceps would give as firm a grip of the head if the handles were tied. He thought Luke Robinson's lever, which he showed to the society, better, as it would convert a mento-posterior into an occipito-anterior position. Dr. Lewers explained that by "persistent" he meant only that the chin had remained so long behind that the question of delivering the patient became urgent. Of course interference was not needed at an earlier stage.

Dr. H. Savory then read notes of a case of puerperal eclampsia accompanied by hæmoglobinuria and obstinate constipation. After nine days of loss of consciousness it was suddenly restored when a large fecal accumulation was mechanically removed. Dr. Savory had collected sixty-six recorded cases to show that copræmia was often present, and recoveries had sometimes followed purgative treatment. In his case not only were the bowels loaded, but the liquor amnii was full of meconium and of the consistence of thick jelly. Such conditions might be factors in the production or accumulation of an eclamptic toxin. The hæmoglobinuria might be due to excessive uterine efforts, just as excessive muscular exercise may produce it. A case was named of a lad who passed two pints of hæmoglobinuric urine after a run of ten miles.

Ten bulky blue books on the drink traffic are enough to form a library on the subject, and yet these ten volumes have resulted from the Royal Commission. The last is all report and extends to three hundred and eighty pages. The preceding tomes recorded the evidence brought before the commission. After all the noise of the conflict it is satisfactory to find a certain amount of agreement, although two reports are contained in the volume, one by the majority, the other by the minority. The need of restricting the number of licensed houses is admitted, and there are other recommendations for restraining the trade in intoxicants. It is proposed to make drunkenness a crime and habitual drunkenness a reason for granting a wife a separation order.

The fellows of the College of Surgeons may consider themselves specimens not only of obstinate conservatism, but of utter apathy as to the state of the college. I told you how they voted. Let me add that for the annual meeting of fellows there was again no quorum, so the president had to announce there was no meeting, although the council would have liked to hear the views of the fellows as to the proposed new charter. After the failure to get a meeting in January, 1898, the council reduced the two meetings a year to one, and the president suggested that after this third failure to get a quorum the council might think one meeting a year unnecessary. These apathetic fellows who cannot muster a quorum of thirty are the men who think members have no right to a vote, and leave the council to do as it pleases. It is high time for the members to enforce their will on the council by opposing the charter.

At the meeting of the council on the 13th, Sir William MacCormac was re-elected president. Mr. Howse and Mr. Tweedy were appointed vice-presidents. There is an undercurrent of dissatisfaction at the appointment of a deputy-inspector-general, over the heads of three full inspectors, to Haslow Hospital, our principal naval hospital. Mr. Goschen has been questioned in the House, and took the entire responsibility on himself, declaring he appointed the best man he could find. But he made no statement of his reasons for departing from the usual course, and it is said, by those who are the best judges of the special qualifications of those involved, that his selection is quite wrong, the men passed over having seen much service at home and abroad, while the lucky junior has passed most of his time in office work. You may remember the story of a bishop who was charged with nepotism for appointing his son-in-law to a living, and who coolly declared he was required to appoint a man who could do the duty, and that he knew this man personally and was sure he could, while as to others he had to trust to reports. I hope the first lord of the admiralty does not consider himself the best judge of medical qualifications, and that he has not, as is being whispered, been influenced by somebody outside the naval service. He did not state in the House that he had consulted the chief of the naval medical service.

The newly formed Cancer Society is displaying some energy. Dr. Snow gave an inaugural address which he entitled "The Cancer Fog," and compared it to Darkest Africa. Further he said, all the articles in lay journals on cancer and ninety-nine per cent. of those in the medical ones are vitiated by a radical fallacy—which is rather a strong statement and seems to touch the capacity of medical editors. The next move of the society was to request the government to appoint a royal commission. But the government has refused the request.

## Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending August 5, 1899:

| | Cases. | Deaths. |
|---|---|---|
| Tuberculosis | 150 | 122 |
| Typhoid fever | 43 | 15 |
| Scarlet fever | 54 | 5 |
| Measles | 156 | 8 |
| Diphtheria | 155 | 19 |
| Laryngeal diphtheria (croup) | 1 | 4 |
| Cerebro-spinal meningitis | 0 | 11 |
| Chicken-pox | 8 | 0 |
| Smallpox | 0 | 0 |

**Duration of Isolation of School-Children for Contagious Diseases in Russia.**—The length of time during which the Medical Council of the Russian empire

excludes children who have been exposed to or who have suffered from an infectious disease is as follows: Scarlatina: After exposure, and without development of symptoms, an isolation of twelve to fourteen days is required. A child that has been ill may be allowed to return to school six weeks after the appearance of eruption, provided there is after that time no trace of desquamation. Measles: Fifteen days after exposure, or, in case the disease has been present, four weeks from the beginning of the eruption, if there is no trace of desquamation. Rubella: Sixteen days, or after two weeks from the beginning of the eruption. Varicella: Seventeen days, or after the fall of the crusts. Pertussis: Fifteen to twenty days, or after six weeks from the beginning of the cough, if kinks have ceased and there is no expectoration. Mumps: Twenty-two days, or after three weeks from the beginning of the parotid swelling. Diphtheria: Seventeen days, or three weeks after recovery, and after the disappearance of hyperæmia of the pharynx, larynx, and nose; if bacteriological examination is possible, only after the disappearance of the bacilli. Variola: Fourteen days, or after the fall of the crusts. All convalescent patients should receive two or three warm baths at 35° C. —*Medical Age*, March 25th.

**The Dum-Dum Bullet.**—Thursday, June 22d, says the London *Spectator*, was an exciting day at the Peace Conference, for a division was taken on the use of the Dum-dum bullet. In spite of the explanation of Sir John Ardagh, who showed that the effect of the bullet was not as represented, and that Tübingen experiments were entirely misleading, as they were not made with the Dum-dum bullet but with one totally different in construction, the whole of the non-Anglo-Saxon delegates condemned the British bullet and left Sir John Ardagh and his American colleague in a minority of two. Colonel Crozier, who firmly supported the British contention, proposed a very sensible general amendment, but this also was rejected. We need not say that Colonel Crozier, in acting with the British delegate, was simply obeying the considerations of justice and common sense, and was in no way backing up the British case because it was the British case.

**Alcohol and Insanity.**—At the present day, when an indulgence in alcohol poison is exerting its sad but dreadful effects on humanity, when our lunacy statistics show that the increase of insanity is really due to an increase in this vice, it behooves one to consider briefly the question. The recent publication of the London asylums committee's annual report shows an actual increase in lunacy in the asylums governed over and controlled by the county council of seven hundred as compared with last year. In one large asylum the medical superintendent states that out of nine hundred and fifty-eight inmates received two hundred and seventeen of these admissions were due to "intemperance in drink." One-fourth of the insanity then is attributed to a vice which is, so to speak, self-inflicted. These statistics also compare well with those issued by the lunacy commissioners, and on taking an average for the last five years, drink as a cause averages 20.9 per cent. of the admissions. When we take into consideration the fact that there is no disease whose germs are handed down to posterity to a greater extent than this, we shudder to think what the condition of the descendants of these alcoholic degenerates must be. It is a law of vital physiology that, as "like begets like," so do drunken parents often transfer their brutalizing habits to their unhappy offspring, who if they do not actually follow in the wake of their parents, exhibit some form of moral and mental obliquity or a nervous disorder clearly traceable to a deterioration of physical structure—in all probability seated in the brain—caused by a long and persistent indulgence in the use of intoxicating liquors. What Burton said years ago remains true at the present day, that "if a drunken man gets a child, it will never likely have a good brain." One of the leading physicians of America showed by his statistics that out of three hundred idiots whose history could be traced one hundred and forty-five were the children of drunken parents.—Forbes Winslow.

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ending August 5, 1899:

Smallpox—United States.

| | | Cases. | Deaths. |
|---|---|---|---|
| Florida, Jacksonville | July 23d to 30th | 4 | |
| Kentucky, Louisville | July 20th to 27th | 1 | |
| Louisiana, New Orleans | July 15th to 22d | 1 | |
| Ohio, Cleveland | July 22d to 29th | 7 | |
| Dayton | July 22d to 29th | 3 | |
| Pennsylvania, Philadelphia | July 22d to 29th | 1 | 1 |
| Pittsburg | July 22d to 29th | 1 | |
| Virginia, Portsmouth | July 22d to 29th | 4 | |
| Washington, Seattle | July 15th to 22d | 1 | |
| Tacoma | July 15th to 29th | 2 | |

Smallpox—Foreign.

| | | | |
|---|---|---|---|
| Brazil, Bahia | July 1st to 15th | 1 | |
| China, Hong Kong | July 7th to 24th | 3 | |
| Greece, Athens | July 7th to 15th | 16 | 5 |
| India, Bombay | June 27th to July 4th | .. | 8 |
| Madras | June 24th to 30th | .. | 1 |
| Mexico, Chihuahua | July 15th to 29th | .. | 2 |
| Russia, Moscow | July 1st to 8th | 5 | 3 |
| Odessa | July 1st to 8th | 6 | |
| St Petersburg | July 1st to 8th | 7 | 2 |
| Turkey, Beirut | June 27th to July 1st | 1 | |
| Smyrna | June 28th to July 16th | .. | 5 |

Yellow Fever—United States.

| | | | |
|---|---|---|---|
| Virginia, Soldiers' Home, Hampton | July 21st to August 1st | 40 | 8 |

Yellow Fever—Foreign.

| | | | |
|---|---|---|---|
| Brazil, Bahia | July 1st to 15th | 28 | 14 |
| Colombia, Panama | July 16th to 23d | 14 | 8 |
| Cuba, Manzanillo | July 1st to 8th | .. | 1 |
| Matanzas | July 27th | 1 | |
| Santiago | July 1st to 8th | .. | 7 |
| Mexico, Progreso | July 26th | 2 | |
| Vera Cruz | July 20th to 27th | .. | 20 |

Cholera.

| | | | |
|---|---|---|---|
| India, Calcutta | June 17th to 24th | .. | [illegible] |

Plague.

| | | | |
|---|---|---|---|
| China, Hong Kong | June 10th to 24th | 257 | 255 |
| India, Bombay | June 28th to July 4th | .. | 43 |
| Calcutta | June 17th to 24th | .. | 7 |
| Japan, Tamsui | May 24th to 31st | 90 | 60 |

## Books Received.

*While the* Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

The Study of the Hand. By Dr. E. Blake. Second edition. 8vo, 135 pages. Illustrated. G. P. Putnam's Sons, New York.

Transactions of the Southern Surgical and Gynecological Association. Vol. XI. Eleventh Session. 8vo, 516 pages Illustrated.

Traité de Médecine et Thérapeutique. By various authors. Vol. VI. 8vo, 1,000 pages. Illustrated. Librairie J.-B. Baillière et Fils, Paris.

Traité de Chirurgie, Clinique et Opératoire. By various authors. Vol. VII. 8vo, 972 pages. Illustrated. Librairie J.-B. Baillière et Fils, Paris.

Transactions of the New York Medical Association. 1898. Vol. XV. Edited by Dr. M. C. O'Brien. 8vo, 784 pages. Illustrated.

Transactions of the Louisiana State Medical Society. 1898. 8vo, 330 pages. Illustrated.

Handy Book of Medical Progress. By Dr. Charles W. Allen and Dr. Jacob Sobel. 8vo, 184 pages. William Wood & Company, New York.

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 56, No. 8. Whole No. 1502. | New York, August 19, 1899. | $5.00 Per Annum. Single Copies, 10c.

## Original Articles.

### A TYPE OF TROPICAL FEVER.

By L. L. von WEDEKIND, M.D.,

UNITED STATES NAVY.

A VERY common type of tropical fever, which prevails at this place and over the islands generally (in the unacclimated), is known throughout tropical Spanish countries as calentura. It is of frequent occurrence, and will, without care on his part, attack the new arrival within a very short time. There are few if any prodromal symptoms. The onset is sudden—it may or may not be preceded by a slight sensation of chilliness, then a temperature of from 102° to 103° F. is noted. This continues, gradually increasing, until 104° or 105° F. is reached. There are general myalgic pains, cephalalgia, anorexia, and a very marked asthenia associated with gastric disturbance. With no treatment the case will convalesce within seven days. Quinine has no effect (that is, no specific effect). Large doses will, of course, reduce the temperature, but a low fever will continue for a number of days before it breaks. The cold bath reduces the temperature markedly, but temporarily.

During the dry season, in tropical countries, I have noticed this fever in every port I have visited. At first I used quinine in heroic doses, with no very gratifying results, being imbued with the "malarial infection idea" to the exclusion of all else. After a large but not very successful experience with this trouble, I met, in 1893, Dr. Stubert, formerly associated with the Nicaragua Canal expedition, but then in private practice in Managua, Nicaragua. To him I unfolded my tale of woe. He expressed no surprise, and suggested my abandoning the quinine entirely, and using in its stead aconite. The "malarial infection idea" died a hard death. To my entire satisfaction, I was sure of the cause of the fever; the results of my treatment, though in all cases eventually successful, bothered me considerably. At last I concluded that the quinine was of a very poor grade, in fact nearly useless. This knowledge satisfied me; and I used aconite as a substitute, poor indeed but necessary. The results were sufficiently pronounced to satisfy even me that in this one instance I was wrong.

Since that experience, whenever in tropical countries in the dry season, I use aconite in these cases with the most excellent results.

At this hospital, when the patient is admitted, he is given divided and frequent doses of calomel, until two or three grains have been taken. This is followed in the evening by a brisk saline purge. After the calomel he gets four drops of the tincture of aconite every two hours for three, four, or possibly five doses; the amount depending on the evidence of the drug's action. Within five hours, as a rule, the bowels are thoroughly cleared; the intense headache is somewhat relieved, and gentle perspiration is going on. The myalgia is marked, and I usually relieve it with an opiate at night. The next day, in the great majority of cases, the temperature is normal and so remains. A cold bath (or as cold as the water becomes here) is now given; the patient remains in bed for three or four days, as the asthenia is marked, and is then ready for duty. Some of the cases are a little obstinate, the temperature not remaining at normal, but running up as high as 101° F., and then falling to normal about forty-eight hours after admission, though the uncomfortableness is relieved by the aconite as by no other remedy.

Generally throughout the world the malarial fever of the tropics is dreaded, and very justly so; but malarial fever in the tropics in the dry season, though it does exist, is not the type of fever I have just described (though I have noticed that it is usually thought to be so). The calentura, the most common of tropical fevers (in the dry season), is, I feel convinced, non-malarial, and is due, I think, to exposure to the direct rays of the sun. What action then takes place I shall not presume to say; the result I have given you.

Among the present residents of Manila are many strangers, the families of officers, etc., all unacclimated. The female contingent do not expose themselves to the sun (complexion), remaining under cover until the cool of the evening. Many of the "convincible" men use white umbrellas or very large, light, and cool helmets when it is necessary to expose themselves to the sun; these do not suffer from the fever.

Many cases develop aboard ship in men who have not been on shore in many months, and when the ships are anchored at least a mile from shore.

All water used for drinking-purposes ashore is boiled, or the water is distilled aboard ship and sent ashore. The rains are commencing, and with them I look for the dreaded malaria.

With the use of a white umbrella, a large, light helmet, loose white clothes, and non-exposure to the sun, there will be no calentura. Exposure to the sun may be necessary, but the protection as above suggested in almost all cases will prevent the fever. The residents of the far East, in their greeting for the first time, invariably caution the newcomer: "Keep out of the sun; if you don't you will have the fever." Manila in the dry season is a healthy place. Now that the city is clean, we can almost suggest it as a health resort. Patients with malarial poisoning arriving here develop the fever, and the enervation resulting from a long residence here without change renders convalescence in these cases exceedingly slow.

My search for the plasmodium has in all cases been negative.

UNITED STATES NAVAL HOSPITAL,
CAVITE, PHILIPPINE ISLANDS, May 29, 1899.

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**Thrombosis of the Sigmoid Sinus.**—Dr. Gorham Bacon (*New York Medical Journal*, July 8, 1899) drew attention to the following points: (1) The impropriety of giving antipyretics in all cases of suppurative otitis media; (2) the value of a bacteriological examination of the secretions from the external auditory canal in all cases of suppurative otitis media; (3) the importance of operating at the earliest stage possible after the diagnosis of thrombosis has been made; (4) the use of the decinormal saline solution during the operation for sinus thrombosis or immediately following it.

# ON THE RÔLE OF PRIMARY AND SECONDARY OSTEOPLASTIC SURGERY, IN THE TREATMENT OF COMPLICATED OR COMPOUND FRACTURES OF THE EXTREMITIES.[1]

BY THOMAS H. MANLEY, M.D.,

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MODERN advances in the sciences have rendered necessary for accuracy an entire recasting of our methods of dealing with various disorganizations of the bones, of whole limbs, or their members, produced by the effects of violent force.

Very much more circumspection and deliberation are demanded of the surgeon before he proceeds to sacrifice a limb or any part of it, by amputation, than in former times; improved mechanical expedients, with a widened knowledge of the regenerative properties of bone tissues, have enabled us to hold out hopes to spare and to restore, in varying degrees, many a limb which in the near past was irrevocably condemned to severance from the body; and more, in trying cases when the extent of mutilation of the soft parts has been considerable, when perchance articulations have been opened, or there has been such extensive shattering of the bone that all our energies are concentrated on saving the member regardless of the degree of resulting distortion or deformity, by resorting to subsequent osteoplastic procedures we may at present very frequently succeed in restoring symmetry, joint action, and muscular movement.

**Conditions Essential for Success in Primary Osteoplastic Procedures after Serious Fractures of the Extremities.**—First, the condition of the patient manifestly is our most serious concern. Is our patient in the state of grave physical shock? I say physical shock because one may underestimate the degree of great collapse which follows various serious crushes of the body, when the senses are unclouded and the unfortunate patient is sanguine of an early recovery, and besides entertains no serious thoughts of approaching death, as this comes only when the surgeon intimates that the traumatism is extremely grave, and that no time should be lost in adjusting his temporal affairs and preparing for death

Let it be remembered that the mental attitude of the patient weighs for nothing in reaching a prognosis with this class.

Second: Has the patient been greatly exsanguinated? Great loss of blood is always a very grave element in all extensive mutilating injuries. Our patient is blanched and cold; the pulse is thready, traumatous, and irregular, and the patient is thirsty; the muscles of the face twitch and the eyes are sunken. We will do well to direct all our energies toward reviving the waning powers of life before anything like a critical examination of the mangled parts is undertaken.

Third: Is there evidence of coexisting internal hemorrhage, or serious visceral injury? In many mangling wounds of the limbs from machinery or railroad accidents, the nervous system suffers violent shock, the whole body severe concussion, and simultaneous visceral complications are not very infrequent. We will certainly not minutely examine into the character of an injured limb, while there are signs which point to the grave implication of an organ vital to life.

From the foregoing it is therefore apparent that under all circumstances our first attention must be directed to the individual; he must be made comfortable and composed, and, if ground for hope remains, artificial heat must be utilized and he should be freely stimulated. Full reaction should be established before a thought is entertained of ulterior treatment of the limb.

**On the Period when it is the Safest and Most Expedient to Institute a Critical Examination of the Parts, with a View of Deciding on the Line of Treatment to be Adopted.**—It has long been my conviction that very much harm has often been inflicted by the premature rough handling of limbs before the effects of shock have passed off. In serious cases our primary efforts should be directed toward, first, securing effective and permanent hæmostasis; second, thoroughly cleansing and covering the parts; and third, placing the limb in a comfortable position. The word comfortable is here emphasized because at this time theories must give way to facts. The limb is in the proper position when a sense of ease is experienced. This follows when the pressure on the nerve trunks is relieved and every impediment to the free movement of the blood current is removed.

To force into full ether coma one suffering from a badly mangled limb, and then make violent and repeated movements of torsion or extension, is greatly to imperil his chances, and is calculated surely to circumvent Nature's efforts at restitution. But when the injury is not one of great magnitude and the patient's general condition is good, we may be allowed more latitude of action, and more lengthy manipulation may be permitted, although there is no doubt that, in a general way, the practice is a bad one of making the first examination very long, or commencing any operative procedures of a protracted character at this time. We have done quite enough, then, at the first dressing when we have controlled hemorrhage, embalmed the limb, and comfortably adjusted it.

How long should we wait? If there be no secondary hemorrhage, no fresh exacerbation of pain, and no signs of asphyxiation or gangrene in the limb, we may delay for forty-eight hours or more with advantage before we remove the primary dressings. Now, at this stage we can see where we are, we can accomplish what was impossible at the primary dressing, we can determine the extent of osseous vitality, we can form some estimate of what the future possibilities are for the limb. The time has now arrived when we may determine our course of action, though there is no good ground for haste yet, in the adoption of definite therapeutic measures. As processes of repair can commence only on the subsidence of acute inflammatory engorgement, the prospect of effective osteogenesis by this course is enhanced. And, furthermore, our patient, now fully restored from the immediate depressing effects of violence, is better able to support with success further operative measures.

**Secondary Osteoplasty after Reparative Processes Are Complete.**—This constitutes a new, large, and growing field for progressing surgery, the scientific foundation of which was laid by the celebrated Ollier, and its practical utilization has been consummated by aggressive investigators in Europe and America. By judicious and skilful osteoplasty it is astonishing what may be accomplished in the way of correcting deformity and improving and restoring function in damaged limbs; in restoring animation in parts palsied by nerve inclusion or nerve pressure. Alone or combined with tenotomy or arthrotomy under proper conditions, its use in enhancing the working value of the limb cannot be overestimated. By the intelligent employment of osteoplasty we may often not only prevent an amputation, but transform a wasted, twisted, ankylosed limb into a useful member, as it has several times been my good fortune to be able to demonstrate.

**Conditions which Lead up to the Necessity of Secondary Osteoplasty.**—It might be supposed at

[1] Read at Richmond, Va., June 2, 1899, before the International Association of Railway Surgeons

first sight that if a bad fracture or fracture-dislocation was properly adjusted and treated immediately after injury, there would be no occasion for any sort of consecutive operations; that the time for interference or precise action was while the tissues were disorganized, the sooner after the accident the better. But such reasoning is fallacious, as every experienced surgeon will know. Many times the question we have to solve is not, Can we save the limb with a good prospect of recovery?—but, Can we by any means within our reach preserve it in any shape? In very many fractures of various descriptions and under various circumstances, no sort of fixed mechanical adjustment is possible; as, for example, when a fracture is multiple, there are internal injuries or the vascular channels have suffered serious harm, and asphyxia of the limb is pending.

**Open and Closed Fractures; or the Complicated Simple and Compound Fractures.**—My own investigations and experiments on induced fractures in the limbs of frogs, as well as clinical observations on mutilated limbs, have convinced me that incomplete vascular stasis of the distal end of a mangled limb is entirely compatible with its ulterior vitality, provided only that the damage to the great trunks has not been too great. But how can we calculate the vascular damage, or what shall be our guiding principle of action if we are assured of its existence in this class of cases? There are no means by which an estimate of vascular damage can be primarily determined, and often it is several days before the full vascular tide has begun to move. Our guiding principle, then, must be not to strangle or paralyze the already crippled circulation. No sort or description of splint or constricting bandage should be adjusted until the circulation has been fully rehabilitated.

It therefore follows that inasmuch as accurate mechanical adjustment is not possible or expedient, here faulty, defective, distorted limbs or non-union may follow. We may also have hyperostosis or osseous fusion of continuous symmetrical shafts, and other accidents.

This, then, would constitute the second class; *i.e.*, those cases of compound fractures in which it is obvious enough in the primary dressing that osteoplasty is called for; but for various local and constitutional circumstances beyond our control it is deemed advisable and sometimes imperative that we delay until the work of union is advanced or completed.

Complicated simple fractures or fracture-dislocations are not infrequently followed by such a degree of deformity or loss of function as seriously to interfere with the future of the limb. This is notably the case in various types of Pott's or Colles' fracture, of fracture of the humerus, its shaft or proximal or distal ends, intracapsular fracture at the hip joint, fractures of the patella, etc. In many of the cases belonging to the above class osteoplastic surgery may be frequently utilized as a secondary or consecutive procedure; rarely immediately after injury, except in sundering of the patella. The tendency of most fractured bones is to resume their normal position after replacement, provided muscular tension can be effectively overcome when satisfactory results follow; but in various situations, especially when joints are involved and the apophyses are broken off, complete replacement and support at the primary adjustment may be impossible, or if effective then the fragments may later move out of position and require operative treatment.

**On the Question of Converting a Simple into a Compound Fracture, for Purposes of Diagnosis or Treatment. Is it ever Justifiable?**—It had long been taught that compound fractures require about twice as long a period of time to unite as simple fractures; and besides, that this type of fracture was always a much more serious affair than in those breaks of bone in which the integument remained whole. Until Macewen demonstrated the safe and simple osteoplastic method of speedily correcting deformed and distorted bone shafts, surgeons were about as chary of cutting into healthy bone as they formerly had been about opening the cavity of the peritoneum. They had a horror of making a simple a compound fracture; and when a considerable deformity followed a severe simple or compound fracture, they were usually content to leave it undisturbed, or if the deformity was considerable with the joint locked, they amputated the limb.

No one should ever lightly undertake an osteotomy after fracture, but when the condition is such as will inevitably be succeeded by marked deformity of the limb with serious impediment in function, we should never hesitate to open freely down on the seat of osseous disorganization and deal with the case as existing conditions require—provided, always, that the most rigorous asepsis is enjoined and we have a proper appreciation of the difficult task before us.

It is certainly a mistake to assume that all compound fractures are more protracted in uniting than all so-called simple fractures. Many simple fractures near articulations may be treated without splinting or compression of the vessels, united by primary union. Heretofore, when an avenue for infection was maintained by what was known as "drainage," and when the fragments were kept in the vise-like grip of rigid, unyielding adjustments, and thereby the vascular system was nearly palsied, surely enough tardy or imperfect union was the rule.

Compound-fracture wounds were formerly quite invariably drained. Prophylactic drainage had indeed been regarded as a surgical dogma in open fractures, as in open wounds of nearly every description, whether they involved cavities or not. But we have now been convinced that indiscriminate drainage is a bad practice, and that in an aseptic or a recent wound in healthy tissues "drainage" is worse than useless.

It therefore follows that in recent compound fractures not attended with extensive laceration or contusion of the soft parts, and an absence of shattering of bone, the overlying tissues may be closed in with or without suture, and prompt primary union of the fleshy and the bone tissues may follow.

Incision through the overlying tissues for purposes of diagnosis in fractures is certainly not justifiable except in those involving the skull.

By the use of the *x*-rays and other expedients, a therapeutic diagnosis is practicable in all fractures. Free incision, therefore, in many fractures is permissible for purposes of treatment—osteoplasty; never for diagnosis only, except in skull fractures.

**The Scope of Secondary Osteoplasty in Defective Joints or Deformed Limbs after Fracture.**—Secondary osteoplasty judiciously utilized will often yield remarkable results, and may be regarded in traumatic surgery as one of its most salutary achievements. It deals with bones after their fragments have united, when the nerves are caught or compressed; in a hyperostosis, when the shafts are greatly deflected—in fact, when the limb is crooked and deformed; when a joint has been involved and its motions are either greatly impeded or entirely lost. It is an invaluable resource in the pseudarthroses. Among the joints its great value is at the hip, the shoulder, or, above all, at the elbow. Stimpson has utilized it with advantage after union and deformity at the ankle in Pott's fractures. Secondary osteoplasty, however, may be employed with great latitude on the bone shafts of the extremities; with the greatest advantage on the leg. The sooner after union and the younger the patient the better. It is almost marvellous what we may accomplish by os-

teoplasty in the bones of growing children, as was recently demonstrated by Heuter.[1] In a fracture of the humerus in a patient five years old, attended with considerable loss of bone and fluid in the joint, he turned to the skeleton of the thorax of the child and resected a section of the fifth rib, embedded it in the hiatus in the arm, and closed the wounds. Union was rapid and complete. In nine months the full use of the arm was restored and the rib regenerated. This indeed would seem the climax of homologous osteoplasty, and suggests what is expected of the surgeon in our times in the management of serious fractures.

It is not recommended that recourse be had to this means in cases of moderate deformity of a limb with but slight impediment in function. But there is quite a large margin of cases of stiff or useless joints with bowed bone-shafts or useless limbs following union, in which osteoplasty will sometimes accomplish extraordinary results. By it the muscles are liberated, and with the free division of the adhesions in the soft parts pressure on the nerves and blood trunks is removed, and the wasted, painful, paralyzed, and useless member recovers its lost vitality. There has been practically a resurrection, the dead or useless has again come to life.

In medico-legal cases in the future, when serious fracture cases are to be considered, or when the future working value of a limb is to be estimated, the question as to whether the full resources of osteoplasty have been exhausted must be answered before it will be possible to make any definite calculation as to what the extent of permanent injury is.

**Osteoclasis, and Osteotomy with Osteoclasis, in Angular Deformity of the Thigh with Shortening following More or Less Imperfect Union after Fracture.**—Every surgeon or practitioner having much experience in the treatment of fractures of the femur will occasionally meet with cases of marked angular deformity resulting, after union, with considerable shortening of the limb.

It is important to note here that it is not so much non-union which is at fault as imperfect or mal-union. In some of these cases there may be ground for suspecting unskilful treatment, but in the majority of cases the fault is with the patient, and is fundamentally constitutional. We know that fractured bones sometimes play strange freaks, at one time non-union lingering indefinitely; but the limb is massaged or some internal remedy given, when all at once we note that consolidation has set in.

Reches recently notes how in a few cases of tardy union he administered thyroid extract with the most remarkable effect, while in several others it was quite useless. Again, in some cases after a month or more we release the limb from the splints, and find the limb in excellent outline with little or no shortening. There seems to be good union. We allow the patient to go about on crutches, later with a cane, and finally lose sight of him. But he turns up with a deflected, distorted limb, shortened and crippled. At first sight the aspect of such a case has a most disquieting effect. The patient has had his limb again "measured," and tells us perchance that we left him a hopeless cripple. The prospects of having to defend one's self in civil action is not the most agreeable contemplation after such a mishap. In this class the patient reports only late, after the hardening process is advanced—say from six months to a year; then probably nothing less than a formidable operation will hold out any prospects of overcoming the deformity. But happily most of these cases are in rickety subjects, or those in whom the callus softens and yields after the surgeon has discharged the patient, when weight is put on the limb. However, the bowing may occur before the patient has left the bed. In all these cases, immediately after discovery of the deformity we should insist on osteo-resection with or without osteotomy.

In my experience the deflection of the femur has occurred in children most frequently. It occurs most commonly in fractures near the middle of the femoral shaft. The convexity of the deflection is outward in nearly all cases. It is interesting to note that in the great majority there is little if any overriding of the fragments, as we know from the fact that after we refracture or press the shaft back into line there is generally no shortening.

When these cases are seen early, there is no class of deformities treated with more gratifying effect, with more security and certainty of results. In all, there must be complete osteoclasis or refracture as soon as discovered, when the deflection is completely overcome. An adjustment should then be applied, but should be frequently removed in order frequently to bathe, massage the limb, and freely move the joints. In some cases refracture of the femur is easy without dividing the bone, even more than a year after the original injury.

Such a case came under my care some years ago. The patient, a woman aged forty years, was injured by a defective hinging. She had a complete fracture in the middle third of the left femur with but very little shortening. The limb was adjusted in gypsum, and after a week she was taken home. About a year after, when the action was tried for damages, her physician came to me and told me there was four and one-half inches of shortening, and that walking was impossible. She had then won her suit with a liberal verdict. Six months after this I was sent for to deal with the deformity. Now, at more than eighteen months after fracture, the femur was readily refractured and pressed into place. In three months union had completed without any shortening. She at present has perfect use of the limb without the slightest trace of any defect in locomotion. It is now three years since the deformity was rectified.

Osteotomy, as a preliminary step to osteoclasis, is indispensable when the uniting bond of osseous tissue has undergone hardening and does not yield to the application of moderate force. Macewen has shown us that osteotomy for rickety thighs or legs in children is a procedure quite devoid of danger, and is the most valuable adjustment for the correction of deformed limbs ever placed at the command of surgeons.

We should not be slow to take advantage of it in those distortions following union of the diaphyses, when it becomes necessary to cleave or partly divide the bone, though it should be borne in mind that in those cases of aggravated deflection we have to deal with an excessive callus formation besides highly vascular parts; and, moreover, that in the femur of the adult osteotomy is always a procedure of considerable gravity. It is wiser, however, when ossification is advanced, to resort to it rather than risk great violence by force, and thereby inflict serious damage to the large blood trunks, the nerves, and soft parts. In its performance on the adult its greatest danger may be obviated by effective economy of blood and the most rigorous asepsis.

[1] Wiener klinische Rundschau, March 12, 1899.

**Urinary Antiseptic.**—Methylene blue has proved of service in my hands on several occasions. Taken in two- or three-grain doses three times a day it exerts a markedly antiseptic effect, coloring the urine a greenish blue. Its disagreeable tendency to cause intermission of the pulse must not be forgotten in prescribing it, and I have one case to record in which it gave rise to profuse diarrhœa which ceased only upon withdrawal of the medicine.—A. R. Elliott.

## ANGIONEUROTIC ŒDEMA: WITH A REPORT OF FOUR CASES.

By HERMAN B. BARUCH, B.S., M.D.,
NEW YORK.

This peculiar affection has for many years been carefully studied by competent observers, but as yet very little is known of its etiology and pathology. The disease has been described under very numerous titles, some of which follow: Angioneurotic œdema, giant urticaria, urticaria tuberosa gigantica, localized transient œdema, œdema glottidis neurotica, fugitive cutaneous œdema, acute non-inflammatory swelling, vasomotor œdema, acute circumscribed œdema, acute essential œdema, acute periodical swelling, ephemeral congestive cutaneous tumors, acute circumscribed cutaneous œdema, creeping œdema.

A glance at these various titles will show most of the prominent symptoms of the disease. It was first described and studied by Quincke and his pupil Dinkelacker.

Quincke regards a suddenly increased permeability of the capillaries as the essential etiological factor. Collins' very careful and thorough article gives an excellent description of its course and symptoms and contains much valuable statistical information. Osler, Matas, Jamieson, Graham, and Rupert Norton have also made most valuable contributions to this subject.

No age seems to be free; it attacks both sexes, and its etiology is very varied. Heredity is here given a most prominent rôle by Osler. He reports the history of a family embracing five generations of which twenty-two members had been affected. In the four cases observed by me, no family history of anything resembling this affection could be elicited by the most careful inquiry.

It seems to present a remarkable periodicity in its onset. In Matas' case the attacks came on with unfailing regularity between eleven and twelve o'clock A.M. Gervaert reports the case of a boy three years old, with pertussis, who had regularly recurring tumors (evanescent) of the neck, in the afternoon of three successive days. The attacks in one of my cases occurred regularly every morning on washing the face and hands with cold water.

This brings us to the discussion of the exciting causes. Very frequently it is absolutely impossible to assign any reason for the sudden onset of an attack. It usually comes on in the early morning hours when vitality is at its lowest ebb.

Mental and physical overwork, gastric and intestinal irritation, are the chief predisposing causes. Often exposure to cold will cause the lesions to appear at once. The ingestion of strawberries, apples, oysters, lobsters, crabs and other crustaceæ, poisonous articles of food, toxic products as tobacco, alcohol, and certain drugs, will in a susceptible individual produce the lesions of giant urticaria. One attack predisposes to another. They often follow in a continuous series, cease altogether for some months, and then reappear.

The symptoms are very varied, and, with the exception of the characteristic skin lesions, very inconstant. These are non-inflammatory in character, rounded or oval in outline, and elevated above the level of the surrounding skin surface. They vary in size from one-quarter of an inch to four or five inches in diameter, and frequently will involve an entire extremity. Often a lesion appearing on an extremity will gradually extend, maintaining the same width, until it "creeps" off the end of the extremity and disappears.

They are often not colored, but frequently are iris-hued and sometimes contain numerous small hemorrhages which remain after the swelling disappears. This takes from a few minutes to several days or even two weeks. The face and extremities are the favorite seats; the hands being most commonly involved. The penis and scrotum in males and the labia majora in females are next most frequently involved. The lips and cheeks often swell to enormous proportions. There is one form in which the tongue is chiefly involved. This seems to be often the sequel to the ingestion of strawberries. There is no doubt that the various mucous surfaces are subject to the same sudden œdema, and this causes the numerous gastric and intestinal symptoms. Frequently an attack will be ushered in by severe colicky pains in the epigastrium. These last for some time, then as suddenly disappear. The wheals appear on the general body surface. The patient often vomits and purges, and then is perfectly well again. Often mental depression and incapacity for work are marked. One of my patients, a prominent lawyer, was absolutely unable to work during the attack. There were great inability to concentrate the attention and lack of interest, together with depression bordering on melancholia. There was always great dread that the attack would end fatally.

After the lesions disappear the skin returns to its normal condition, no trace of the swelling remaining. This is also true of the mucous membrane of the stomach and intestine. The pulse is increased in frequency during the attack; the temperature sometimes rises to from 100° to 101° F. There is a marked sense of tingling and burning in the lesions, but very seldom itching. The tumors are hard and unyielding and do not pit on pressure. When the swelling is diffuse the tension is not so great.

Mettler reports a case in which œdema of the pharynx and larynx was most marked. These cases are very dangerous, as asphyxia may occur during an attack. Sometimes bleeding occurs from the mucous surfaces, as from the bronchi and into the conjunctivæ, with hæmatemesis and melæna. Hæmoglobinuria has been reported but is very rare. Of Collins' seventy-two collected cases thirty-four per cent. exhibited gastro-intestinal symptoms, twenty-two per cent. had throat symptoms. During the attack patients often have an insatiable thirst. The intestinal colic is often so severe that even large doses of morphine give little relief. The urine is voided in large quantity after the attack, which often leaves the patient completely exhausted and in a state of extreme nervous tension and anxiety.

Often the patients present stigmata of hysteria, such as areas of anæsthesia, etc., and have other manifestations, as hystero-epilepsy, neurasthenia, and various reflex symptoms from the nose, uterus, ear, stomach, etc. Hence it would seem that these cases are really hysterical explosions in which the pent-up nervous energy is expended not in muscular contractions, convulsive movements, and loud cries, but upon the vasodilators, causing an increased capillary area and permeability of the vessel walls, thus rendering possible the sudden formation of these tumors and œdema so characteristic of giant urticaria. Just as the wildly excited hysterical patient returns suddenly to the normal, leaving no trace of her former condition, so does the disturbed circulation return to the normal with the sudden disappearance of all symptoms due to the disease, leaving the skin and the vessels just as they were before the attack. The analogy is certainly very striking.

Complete though infrequent autopsies show no trace of lesion in brain or spinal cord, peripheral nerves, or circulatory system. This is one more fact in evidence of the truth of Stoke's dictum that "there is no single nervous symptom which may not and does not occur independently of an appreciable lesion of the brain, nerves, or spinal cord."

The treatment has so far been very unsatisfactory. Pilocarpine, which has given such brilliant results in

urticaria, has some control over this form, but will not prevent recurring attacks. The most that can be done for such patients is to put them in the best possible physical condition, and do what we can to maintain this status. Gastric and intestinal derangements should be carefully corrected. In this as in most other intestinal conditions, calomel has proven to be the nearest approach to an intestinal antiseptic. Of course, when there is a direct relation of the attacks, as there not infrequently is, to the ingestion of certain articles of food as shellfish, strawberries, etc., and indulgence in alcohol and tobacco, abstention from these will give freedom from the attacks.

The tonics, as iron, quinine, strychnine, arsenic, etc., should be used when indicated. Galvanism, faradism, and static electricity, as well as judiciously applied hydrotheraphy, have a wide field of usefulness here. All attempts at heroic methods should be carefully avoided.

The prognosis as to recovery and freedom from attacks is bad. The attacks may not occur for months or years, and the patient regards himself as cured, but suddenly they recur. The prognosis as to recovery from rhe individual attacks is excellent, although some cases of death from œdema glottidis and pulmonary œdema have been reported.

The following are reports of four cases which have come under my own observation.

Case I.—Mr. S——, aged fifty-nine years, has always been well. There is no family history of such attack or of any neurotic taint. He has a very florid complexion; he has taken a cold plunge every morning for many years. He does not use alcohol or tobacco; there is no history of syphilis or gonorrhœa; he is very excitable, and flies into a violent rage on the slightest irritation, although stern and calm in demeanor on ordinary occasions. His pulse is full, and the arteries are soft and yielding. There are no gastric symptoms; the bowels move from two to three times a day. Three years ago he noticed after coming from a surf bath that his hands and feet were warm and "tingled"; they felt stiff but did not swell. This was repeated on several occasions, and he stopped the surf baths and noticed nothing more until this spring. He had in the mean time continued his morning cold plunge. I saw him one morning about six months ago. Immediately after coming from his cold plunge he noticed that his hands began to swell until they became three times their normal proportions; the joints were tense and immovable, and the wrists were also involved. They were of a dull red color, very tense but not glossy, and did not pit on pressure. There was an intolerable sense of burning and tingling. The feet were also swollen, but not to the same extent. The inner sides of the thighs were œdematous. The scrotum and penis also assumed larger proportions, being very tense and swollen. The pulse was 100, the temperature 98.6° F. The urine was found of clear reddish color; specific gravity, 1.025, strongly acid; it contained neither albumin nor sugar. The microscope showed numerous uric-acid crystals. The blood was examined for plasmodia, but the result was negative. These symptoms disappeared in the course of two hours, the skin regaining its normal condition. Although there seemed to be a direct relation between the cold plunge and the appearance of the skin lesions, it was determined to prove this beyond a doubt by repeating the bath next morning. This was done with a recurrence of the same symptoms. Pilocarpine gr. $\frac{1}{10}$ did not seem to hasten the disappearance of the lesions. The patient was advised to discontinue his morning plunge, was given strychnine gr. $\frac{1}{30}$ t.i.d., and forbidden meats and sweets. An alkaline mineral water ℥ viii. every two hours, was ordered, with the view of correcting the urinary conditions. The next morning the patient did not bathe, but washed his hands with cold water. The hands immediately began to swell. The rest of the body remained normal. He was then advised to dip the hands in cold water frequently during the day to see if an attack would be precipitated, but this test proved negative. Bearing this seeming periodicity in mind quinine was administered, so that he was thoroughly cinchonized at the time when his bath was due. This was repeated for three mornings, when a cold plunge was again followed by a complete attack. This showed conclusively that notwithstanding the periodicity of the attacks quinine had no control over their recurrence. The diet and general *régime* were continued for several weeks, a warm bath replaced the cold plunge, and the patient had no recurrence. The urine was again examined and found neutral in reaction, specific gravity 1.010, no uric acid, no albumin, no sugar. The cold plunge was resumed and was followed by no unpleasant effects. During the summer he bathed frequently in the surf, and at this writing has had no recurrence.

Case II.—J. M——, a prominent lawyer, aged sixty-eight years. Family history is negative. For the last eight years he has noticed that at intervals his tongue swells so that it fills the mouth entirely. Speech is impossible; breathing is extremely difficult, and the throat is tense and painful. These attacks always come on in the early morning hours and often arouse him from sound sleep. The tongue remains swollen from two to three hours, and when improvement commences the swelling disappears in the course of fifteen to twenty minutes. These attacks are always accompanied by great mental and physical depression and fear of impending death, he remains depressed for several days. At first the attacks were separated by intervals of two to three months, but are now becoming more frequent, occurring every seven or fourteen days. They are unaffected by treatment. The urine is negative. There are no gastric or intestinal symptoms. After careful search, no especial cause could be found for the individual outbreaks. There were no cutaneous lesions.

Case III.—Dr. S. V. H——, aged twenty-eight years. His family history is negative, previous history negative. While in the last year of his medical course he was under great additional mental strain caused by the severe illness of his brother, and his general condition was very much depreciated. He had been constipated for three days, and awoke one morning at three A.M., and found his penis and scrotum considerably swollen and the seat of intense burning and tingling. He applied cold compresses, but in spite of this the organs continued to swell until, as he expressed it, he was afraid they would burst. This continued for two hours, when the swelling gradually subsided, leaving the parts perfectly normal. That afternoon there appeared, midway between the elbow and wrist, a ring about two inches wide and raised about an inch and a half above the surrounding tissue. The skin was tense, did not pit on pressure, and was of a dull reddish hue. This ring gradually advanced down the arm to the hand, involving each of the fingers to the tip, and disappeared. A brisk cathartic was followed by several large offensive movements, and the symptoms have never recurred.

Case IV.—J. S—— , aged thirty-five years. The family history is neurotic; there has been no case of the same kind. Previous history: Five years ago he had the first attack; since then he has had an attack each year.

Present history: He had been constipated for several days, and one night noticed that the arms and legs tingled and itched. Small white spots about one-quarter of an inch in diameter appeared on the general body surface. These were surrounded by a red areola

about one-half inch wide, and were elevated above the surface of the skin. They increased in area until, as the night progressed, they assumed the proportions of six to eight inches in diameter. Nausea commenced early and was progressive. Intense abdominal cramps appeared which were not relieved by large doses of paregoric. The next morning there was an intolerable sense of heat and tingling in the hands and feet, which were enormously swollen and œdematous, but did not pit on pressure. The penis and scrotum were also swollen and distended. The tongue was not involved. The voice was clear, and deglutition was not difficult. The eyes and lips were puffed and prominent. The patient fainted twice during the second night, and twice during the succeeding day. A large dose, gr. x., of calomel followed by a saline purge produced frequent and very offensive stools. This purgation was followed by a rapid disappearance of all the symptoms.

It would seem that these last two cases were distinctly traceable to intestinal auto-intoxication, and it would in my opinion be the first indication, in the individual attacks, to cleanse the intestinal canal thoroughly.

Hotel Majestic

## THE USE OF QUININE IN MALARIAL HÆMOGLOBINURIA.

By S. L. J. STEGGALL, M.D.,

Port Limon, Costa Rica

While the effect of quinine in the treatment of malarial hæmoglobinuria is under discussion, the report of a few cases may not be void of interest. On the coast here we have many cases, although they bear a very small proportion to the enormous number of intermittent and remittent fevers.

The cases I shall quote are three, in which hæmoglobinuria came on while the patient was under treatment with quinine, and under further treatment the hemorrhage was stopped and the patient relieved. In these three cases the patients had been for years suffering from malaria, and had been in the habit of taking heavy doses of quinine, which, to a great extent, had lost its effect, hence the very large doses of quinine which were exhibited. Cases I. and II. I have treated at intervals for the last five years.

Case I.—Remittent fever with hæmoglobinuria. D. H. J ——, aged forty years, American, from Matina Lagoon. Past history: Has in the last four years had five severe attacks of malaria with hæmoglobinuria.

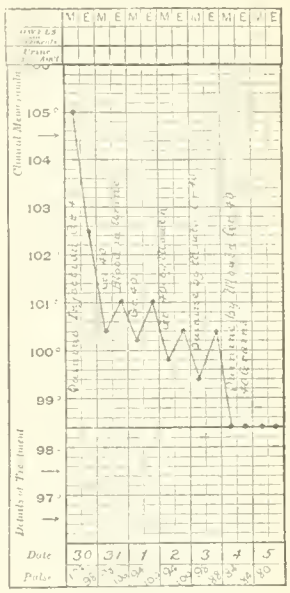
Present attack: Patient has marked malarial cachexia, has had fever, and been in bed for four days.

January 30th: A.M., T. 105°, P. 104. The patient feels very weak and bad. Is unable to retain anything on his stomach. Urine clear. ℞ Calomelanos gr. x., given in 1 gr. tablets; podophyllin gr. i., given in ¼ gr. pills. ℞ Hypodermic injection into each buttock of ℥ iss. of a twenty-five-per-cent. solution of acid hydrobromate of quinine (gr. xlv. in all). Also two injections of ℞ digitalin gr. $\frac{1}{100}$, strychnine gr. $\frac{1}{50}$; mustard plaster applied to pit of stomach. P.M., T. 102.6°, P. 98. Urine clear. Bowels acted well after two enemata of soap and water.

January 31st: A.M., T. 100.5°, P. 98. Quinine injection, gr. xl. Digitalin and strychnine injection. Patient kept down milk and soda water. Bowels open. P.M., T. 101°, P. 106. Slight chill with hæmoglobinuria.

February 1st: A.M., T. 100.2°, P. 94. Slight darkness of urine due to hæmoglobinuria (spectroscopic test used). Quinine injection, gr. lx. Injection of ergotinin, gr. $\frac{1}{100}$, twice. P.M., T. 101°, P. 100. Urine clear, no albumin.

February 2d: A.M., T. 99.8°. ℞ Quininæ gr. xl. P.M., T. 100.2°. Urine clear, no albumin.




Case I.

February 3d: A.M., T. 99.4°. P.M., T. 100.4°. ℞ Quininæ acid. hydrobrom. gr. xl. (by mouth).

February 4th: A.M., T. normal. ℞ Quininæ acid. hydrobrom. gr. xl. per diem. ℞ Ferri pyrophosphatis gr. v., liquor arsenicalis ♏ iv., digitalini gr. $\frac{1}{200}$, strychninæ gr. $\frac{1}{100}$, aquam ad ℥ i. M. Sig. Four times a day. There was no relapse; no further rise of fever.

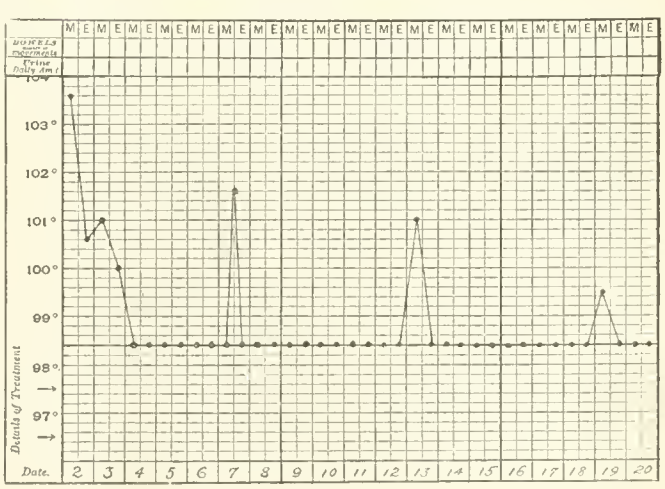
Temperature chart by Mr. George Charles Coles, M.R.C.S.

Case II.—E. T——, aged ten years, white, American, from Matina Lagoon. Hæmoglobinuria with periodic attacks.

June 1st: Chill; attack of hæmoglobinuria.

June 2d: Arrived in Limon 2 P.M. T. 103.5°. Bowels open. Patient vomiting and unconscious, jaundiced. Urine black and thick. ℞ Antikamnia gr. iv. Calomel gr. iv., statim. ℞ Acid hydrobromate of quinine gr. xxx., to be given before 8 P.M. in enemata and suppositories. Hot applications to loins. Tincture iodine (fort.) applied to liver and spleen. Eight P.M., T. 100.5°. Patient still unconscious. Valentine's meat juice (peptonized) given by rectum.

June 3d: 8 A.M., T. 101°. Patient regained consciousness. ℞ Antikamnia gr. iv., with whiskey and water. Suppositories of quinine continued. Saline purge given. Acid hydrobromate of quinine gr. xv., given by mouth. Applications to loins, etc., continued. Eight P.M., urine clearer. T. 100°.




Case II.

June 4th, 5th, 6th: Patient continued to improve. Temperature normal. Urine clear.

June 7th: Relapse. T. 101.5° F. Same treatment. Urine black; blood in urine for thirty-six hours.

June 8th, 9th, 10th, 11th, 12th: Patient gaining strength; no fever. ℞ Quininæ sulph. gr. xx., given

per day from 7th to 12th. ℞ Ferri et pot. tart. gr. iiss., aquam ad ℥ ss. Sig. Every four hours.

June 13th: Chill, fever; T. 110°. Hæmoglobinuria in forenoon, disappearance of fever and blood by evening. ℞ Quinine, gr. xxv., given daily until the evening of June 18th.

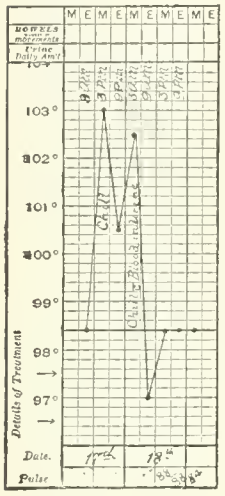
June 19th: Gr. xl. given. Temperature normal from June 13th to 19th.

June 19th: Slight rise of fever. No hæmoglobinuria.

Temperature chart by Mr. George Charles Coles, M.R.C.S.

Case III.—H. C. B——, white, American, aged thirty-two years. Hæmoglobinuria with intermittent fever.

Past history: Prolonged residence on coast of different parts of Central America, resulting in chronic malaria with well-marked malarial cachexia and greatly enlarged spleen and liver; last malarial attack July 1st to 3d.



Case III.

Present history: Intermittent fever with chill at 3 A.M. and 3 P.M. every day.

July 17: 9 A.M., temperature normal. Three P.M., chill, T. 103°. Quinine gr. xl., taken by patient in 2-gr. pills. Nine P.M., T. 100.6. Patient has taken no other medicine.

July 18th: 3 A.M., chill with T. 102.5°; P. 114; attack of hæmoglobinuria. ℞ Antikamnia gr. xv. Sig. stat. cum whiskey and water. ℞ Calomelanos gr. x., pulv. jalapæ gr. viii., pulv. rhei gr. viii. M. Mitte in iii. wafers. Sig. One every hour. Hot fomentations to loins; regions of liver and spleen blistered. Meat juice given. Nine A.M., T. 97°. ℞ Quinine gr. i. in wafer. Mitte iii. Sig. One at 10 A.M., 11 A.M., 12 M. ℞ Ferri et pot. tart. gr. v. ,liq. arsenicalis ♏ iv., aquam ad ℥ i. Sig. Every three hours. Three P.M., no chill; T. normal; P. 88. Urine less dark. Nine P.M., urine clearer. T. normal; P. 88.

July 19th: 9 A.M., T. normal, P. 84. Urine clear, no blood, no albumin. ℞ Quin. acid. hydrobrom. gr. x. Ft. pulv. Mitte tales iv. Sig. One at 10 A.M., 11 A.M., 12 M., 1 P.M. (this salt given on account of irritability of the stomach). Three P.M.: Patient's temperature normal, pulse normal. No return of fever. Further treatment: Quinine gr. xxx. per diem; iron and arsenic tonic; occasional dose of podophyllin. No relapse in six months.

Temperature chart by Mr. George Charles Coles, M.R.C.S.

Not to enter at too great a length on these cases, I will just mention in brief the treatment I adopt, more or less modified, in all cases of malarial hæmoglobinuria. During a chill, if the patient has a high temperature and hæmoglobinuria, I have the patient put into blankets with hot-water bottles, and give antikamnia with caffeine and brandy. Generally in fifteen or thirty minutes, or even less, the patient begins to sweat; his pain is less, and he is every way more comfortable.

Purgative: I give a purgative, generally calomel, sometimes assisted by podophyllin and always followed by phosphate of soda. I give quinine as soon as possible, and if the patient cannot retain it on his stomach I give it by hypodermic injection, using all antiseptic precautions. The solution I generally use is a twenty-five-per-cent. solution of acid hydrobromate of quinine. At the same time as this treatment is carried on I have hot applications applied to the loins, and mustard plasters or blisters, or tincture of iodine (fort.), applied to the liver and spleen, which latter is always tender and enlarged.

Iron and arsenic: As soon as the patient's stomach is in better condition I give iron combined with arsenic, and when he is convalescent I add iodide of ammonium, and order inunctions of red iodide of mercury ointment to the enlarged spleen and liver.

Diuretics: After the hæmoglobinuria has disappeared, if there is any albuminuria at all, I give saline diuretics to flush out the kidneys.

The conclusions I draw from my experience are: (1) Quinine causes irritability of the kidneys and may cause hæmoglobinuria. (2) Malarial attacks in chronic cases with malarial cachexia may cause hæmoglobinuria. (3) In these cases quinine has lost much of its specific effect, and large doses must be exhibited. Should there be a periodicity, we must give the quinine before the time of attack. (4) The action of quinine must be assisted by such drugs as iron and arsenic, and, more important even than quinine, the liver must be acted on well, and the effect kept up. I have never been able to cure an attack of hæmoglobinuria without getting the liver active; the bilious vomiting in these cases sufficiently indicates the necessity of this.

## CONCEALED MENSTRUATION.

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The subject of normal menstruation is a very large one. Nearly all of the older and most modern textbooks discuss it somewhat in the following manner. During the maturation and discharge of a Graafian follicle a stimulus is sent, once in twenty-eight days, to the uterine mucosa, which results in the expulsion, during a number of days, of effused blood, epithelial cells, granular débris, and mucus. Menstruation is thus made to be absolutely dependent upon ovulation and can be interrupted only by pregnancy and lactation. Unfortunately for this simple explanation, which makes ovulation the initial act in the generative cycle, it is known that ovulation, independently of menstruation, antedates birth, extends into extreme senility, and frequently (particularly during lactation) occurs irrespective of the monthly flow (L. Tait, Byford, Kirkes' "Physiology," etc.).

It would seem that the relationship could be immediately and absolutely determined by removing the ovaries. As a matter of fact, in the majority of women, after double oöphorectomy menstruation does come to a sudden and complete stop. But how shall we explain that small proportion of cases (one per cent., Sänger; twelve per cent., Glaenecke) in which the menstrual flow persists? In this country and on the continent operators above suspicion—Tuttle, Lee, Bantock, and others—have reported such instances. Mundé, Sänger, and others would have us believe that the diseased uterus was left. Coe and the German school tell us that a recurring pelvic congestion readily accounts for the persistent menstruation; and still others (including Howard Kelly) inform us that these operations were incomplete, resulting in the inadvertent presence of ovarian tissue.

Lawson Tait for many years maintained a theory of his own. He claimed that "the influence of the Fallopian tubes in being at least the starting-point of the phenomena of menstruation is shown (*a*) by the almost constant symptom of precedent pain in case of occlusion of the tubes; and (*b*) by the appearance of the

menstrual discharge in the clamp cicatrix before its appearance from the uterus." One of the strongest opponents of this theory is Pozzi, who says that "removal of the Fallopian tubes does not seem to influence menstruation, providing that the ovaries be healthy."

In recent literature we find a number of instances apparently sustaining Tait's theory. Thus H. Thomson adds two cases to three already on record. In the first of these cases a tubo-abdominal fistula, resulting from a pyosalpinx, was observed to discharge menstrual blood at each monthly period. In the second case, eight months after laparotomy for ectopic gestation, a similar discharge from the fistulous tract was noted with each menstrual uterine flow. The fistula could be followed down to the left horn of the uterus. In both cases the bloody fistulous discharge began and ceased at a time corresponding to that of the uterine discharge. This writer calls attention to the observations of Martin and Leopold, during autopsies on women who died while menstruating, according to which the tubal mucous membrane showed appearances analogous to those of the uterine mucosa but to a lesser degree. It has, however, been noted by other observers that in autopsies on menstruating females the tubes often contain no blood even when the uterine cavity may show swelling of the mucosa and be filled with considerable blood (Fuld). Bond has very recently reported his observations on five Fallopian tubes removed during menstruation, in all of which bloody mucus was present. From one of these experiences he concludes that tubal menstruation precedes that of the uterus. Finally, Schroeder and Fritsch regard hæmatosalpinx as due to vicarious tubal menstruation. A closure due to inflammatory causes of both ends of the Fallopian tube, I think, would more readily account for this pathological condition on the theory of physiological tubal menstruation.

From the foregoing it must be conceded that normal menstruation at times may involve the mucous membranes of both tubes and uterus. Even A. P. Dudley's repeated observation that, after laparotomy done during menstruation, free blood is regularly found in Douglas' cul-de-sac—and which he explains by hemorrhages from the surface of the ovaries—may be equally explained on the theory that tubal menstrual blood has escaped through the fimbriated extremities into the peritoneal cavity.

I shall now narrate briefly the history of my case.

On May 30, 1898, Dr. Emil Kober brought to my office Mrs. M. H——, aged thirty-nine years, married thirteen and one-half years. She had given birth to two children, but had no history of miscarriages. During the last pregnancy—which occurred ten years previously—she had a severe fall, as a result of which the child died and ten or twelve days later had to be extracted with forceps.

The menses made their appearance at the age of sixteen years, and recurred at four-weekly intervals up to five months ago, since which time they have completely disappeared. Formerly her menstruation was free from pain, but for a number of years she suffered from dysmenorrhœa.

At present she complains of the following symptom: Once every four weeks she thinks she is going to be unwell. She suffers pelvic cramps of such intensity as to confine her to bed for three days, but, in spite of her suffering, she fails to see a trace of menstrual blood. After the third day she feels perfectly well and suffers no pain during the intervals. As the time for the next period approaches she becomes drowsy. This cycle of events has been recurring with mathematical precision for a period of five months. She shudders at the prospect of the next attack, and will submit to anything which promises to ward it off. She dates the first deviation from her normal health to the accident of ten years ago, when, from the violence of the fall, she lost consciousness for almost an hour. As before stated, although labor pains immediately set in, she had to be delivered artificially ten days later. Excepting a varicose ulcer of the leg her previous history is good. Her mother died of heart disease at the age of forty-eight years. Within the past year she has lost very much in weight—some forty-four pounds. Her bowels move regularly. Her appetite and sleep are good. She passes water too often.

On examination I found the uterus anteflexed and pushed forward by a cystic tumor of considerable size in Douglas' cul-de-sac. Because of abdominal rigidity and tenderness it was not possible definitely to map out the parts, but the indication for operation was clear, and I referred the patient to the Post-Graduate Hospital.

On June 4th, under ether anæsthesia, a large bulging cystic tumor was felt behind the uterus. The posterior vaginal vault was incised and the cyst punctured, when a large quantity—possible six or eight ounces—of dark, tarry, unclotted blood escaped. A careful examination by Dr. A. P. Dudley (who happened to be present) and myself revealed extensive adhesions and a second tumor high up on the right side. For these reasons we agreed upon the advisability of packing the vaginal wound with iodoformized gauze and attacking the tumors from above. With the patient in the Trendelenburg position I made a large abdominal incision and proceeded to separate the right-sided tumor from its numerous adhesions. During this manipulation the thin-walled and distended sac burst at one point, allowing about a half-pint of the same tarry liquid to escape into the peritoneal cavity. Hastily lowering the patient, both tumors were separated from their adhesions and removed. The peritoneal cavity was washed out with a pitcherful of sterilized water, and the abdominal wound entirely closed.

For a number of days after the operation there was no rise of temperature. Then the patient developed fever, which was traced to an acute nephritis with left-sided pleuro-pneumonia. After about two weeks the symptoms improved, and at the end of four weeks she was discharged cured. She has remained well down to the present time, eight months later.

The tumors, artificially distended with cotton and considerably smaller than they were previous to rupture, measure respectively 2 × 3 and 2 × 2 inches. Both specimens consist of ovarian sacs in which the parenchyma is entirely absent. Each one communicates by an artificial opening with the corresponding Fallopian tube. The openings at the fimbriated extremities are completely obliterated. The tubes are not particularly increased in size, but at their outer ends seem to be flattened and agglutinated to the walls of the ovarian sacs

My original explanation of the specimens was the following: For some unknown reason, in a woman at the change of life, tubal menstruation had persisted, and the tubes being shut off, for pathological reasons, from the uterine and peritoneal cavities, had discharged themselves, after agglutination and perforation, into the substance of the ovaries.

Unfortunately for this theory, a hæmato-salpinx implies the presence of a tumor, usually sausage-shaped, consisting of a hyperdistended, blood-filled, Fallopian tube. In the cases described by Fritsch and Stephan Fuld (who has made the most careful study of the subject) such a tumor was invariably present. This led me to adopt the view of Dr. A. P. Dudley, who saw the specimens in their fresh state, that we were dealing with a case of primary menstruation into the ovaries. Why the seat of the hemorrhage should have

been in the ovaries is not so easy to explain. Still it is known that occasionally, at the time of the menopause, vicarious menstruation may occur ("American System of Gynæcology"); and, on this theory, I can imagine that such bleeding may take place into the ovaries as well as from the nose, rectum, or other portions of the body.

One more condition deserves a moment's attention. It is well known that an ovarian blood-tumor may result from the twisting of the pedicle of a previously existing ovarian cyst. Such a torsion of the tumor pedicle usually results in interstitial hemorrhages leading to a sudden increase in the size of the organ and destruction of the parenchyma Every operator of experience has met these cases Last year I presented such a blood-filled tumor before the Medical Society of the Deutsche Poliklinik. This condition, however, is apt to be unilateral; torsion of the pedicle is present, thick clots are mixed with the sanguineous liquid. In our case the tumors were bilateral, there was no twisting of the pedicles, and the blood was distinctly free from clots. Besides, there was the history of five recurring menstrual cycles at regular, four-weekly intervals. For these reasons I am led to believe that this was a rare case of concealed (vicarious?) menstruation.

In conclusion, though distantly connected with the subject under consideration, it may be of interest to note that Fuld has collected sixty-five cases of hæmatosalpinx (associated with atresiæ of the genital tract) in which there were no less than forty-eight deaths. With such a startling mortality the propriety of surgical intervention, in cases in which retained menstrual blood hyperdistends the tubes or ovaries, will readily be conceded.

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## CUTANEOUS ELECTROLYSIS.

By FRED J. LEVISEUR, M.D.,

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Cutaneous electrolysis has not become the property of the general practitioner for two reasons: First, because the indications for the use of electrolysis are not yet very clearly understood, and secondly, the instrumentarium is not simple enough. These operations when performed with instruments attached to the positive pole of a galvanic battery have little practical value; but when the fine needle is connected with the negative pole they should become much more popular with physicians.

When a needle connected with the negative pole is thrust into the skin and the current closed, caustic alkali is quickly developed around the needle; interrupt the current and this development ceases. This caustic effect varies according to the closeness of contact with the different layers and according to their structure. The area of cauterized tissue may be said to represent a cone with its base at the point of the needle and its apex at the epidermis. Changing the position of the needle causes a larger quantity of tissue to be destroyed from one single point of epidermal opening. This explains why so little scarring follows the operation, and also why infection from the outside is so rare afterward. It is easily controlled as regards its local effects, and gives more favorable cosmetical results; these advantages make it superior to other agents used for purposes for which electrolysis is indicated.

The instrumentarium consists of a galvanic battery, a rheostat, a milliamperemeter, a pair of cords, a sponge electrode, a needle-holder, and a needle. The details of the construction of the needle-holder are important only in one respect: that is, the possibility of carrying the needle at an angle so that it can be handled like a pen. A sewing-needle of the very finest size should be used with the holder. Some years ago the speaker devised a sponge electrode for connection with the positive pole, by which the patient could close and interrupt the current by merely opening or closing the hand, and made it possible for the patient to modify the strength somewhat.

For the removal of superfluous hairs a good forceps is required, preferably one which is square and not pointed at the end.

Electrolytic operations are quite painful because of the electrolytic action itself; therefore, to avoid much pain, the patient should be instructed not to touch the sponge until the needle has been introduced: in this way the patient will avoid an unexpected shock or sudden pain, and will be enabled, to a certain degree, to control the intensity of the latter by either compressing or releasing the sponge. Nearly all the salves or lotions recommended to make electrolytic operations painless are more or less unreliable. Freezing the field of operation with methyl-chloride spray (kelene) is the only thing to be considered.

When subjecting the normal skin or solid tumors to the action of electrolysis, after a few applications it will be found that there is formed a certain anæsthetic area. The small point around the end of the inserted needle becomes white. A good plan is to insert the needle in a number of hair follicles situated in the area rendered anæsthetic by the freezing, and leave it in each follicle about five seconds. After the skin has returned to its normal condition, all these follicles will be sufficiently blunted as regards sensitiveness to permit the introduction again of the needle with very little pain. Wheals the size of a pea or larger should not occur, as they are a sure sign that the superficial layer of the epidermis has borne the brunt of the action and the deeper parts of the hair follicle have escaped destruction. Foaming is, in the great majority of cases, a favorable sign as regards success. One should never leave a destroyed hair in place; the slightest traction of the forceps should be sufficient to remove the same.

The percentage of returning hairs varies according to the precision and care with which the operation is performed. Patients with well-developed panniculus adiposus are especially well adapted for the operation, and only a minimum of the hairs will return. Thin persons with an inelastic skin are not good subjects. To treat and cure a case of general hirsuties requires many sittings and greatly taxes the patience of the physician and the patient. The removal of hairs growing on pigmented moles requires a longer application and a stronger current than for hairs growing on the normal soil. The mole should be destroyed simultaneously.

Excellent results follow, as a rule, the electrolytic treatment of nævi pigmentosi associated with hypertrophy of all cutaneous structures. The nævus verrucosus is quite easily removed by transfixing it at its base until it has become blanched. The nævus papillomatosus is destroyed piecemeal in a number of sittings. The smooth nævi require a little more care.

Electrolysis is a superior remedy for the removal of so-called soft warts, verrucæ carneæ. The sooner they are removed the better for the patient, and electrolysis is a most effective remedy and one that should be used energetically and promptly. Hard warts are first thoroughly moistened with a two-per-cent. solution of salt before the needle is carried down through their base. In about five to ten minutes the wart blanches, then becomes mummified, and drops off after one or two weeks. I have repeatedly and successfully destroyed xanthoma near the eyelid with the electrolytic current.

Nothing less than complete destruction of the xanthomatous deposit will be followed by good results, consequently, white scars are unavoidable. Methyl chloride cannot be applied near the eye, but a minute quantity of pure carbolic acid will produce a sufficient anæsthetization to make the operation bearable.

Following in the lead of Hardaway, of St. Louis, and Brocq, of Paris, I have treated four cases of true keloid by electrolysis. Two of the cases were in dispensary patients who disappeared from observation shortly after treatment was commenced. The other two were in private patients and were watched carefully. In one of these cases the keloid measured three inches in length and one and one-quarter inches at its broadest point, it projected about one-quarter of an inch. Fifty sittings, in half-weekly to weekly intervals, had little effect, and treatment was abandoned. The other case was that of a young man whose keloid had been thoroughly excised but promptly returned. I succeeded in flattening the tumor considerably, it was only a moderate success.

A case of dermatitis papillaris capillitii, or acne keloid, began to spread when treated with the thermocautery, but I was able to stop its progress and produce improvement after six sittings and finally effected a cure.

Regarding the electrolytic treatment of angiomata, the indications should be very accurately defined. Two varieties are distinguished, the angioma plexiforme (simple angioma, telangiectasis) and angioma cavernosum. On the border line between the two the nævus vasculosus or vascularis ("port-wine mark") finds a place. The seat of predilection for plexiform angioma is the forehead and more particularly the region of the orbita (embryonic fissures). If the spots are entirely on the level with the surrounding skin and occupy the upper and lower eyelids, they should be left alone; also when they occupy the seat of the eyebrows. The vascular moles, which are somewhat elevated above the skin, can be more easily removed by electrolysis. The best results are obtained when the spots are small and stationary: treatment begun then prevents the spreading of the moles in later years. The cavernous angiomata are oftener seen in adults, grow slowly, and are frequently found near mucous membranes. For deep-seated ones, the knife should be used. For angiomata cavernosa situated on the body, a surgical operation is certainly preferable to electrolysis; but, if the knife cannot be used, then this procedure offers the best remedial agent at our disposal.

Angioma serpiginosum of Hutchinson and angiokeratoma are reported to have been treated successfully by electrolysis. In the treatment of lupus erythematosus, one of the most difficult problems of dermatological therapeutics, electrolysis has found a permanent place. The best time to interfere is at the very first appearance of the cutaneous lesion, even the small doubtful spots being removed at once before the disease has clearly manifested itself.

In cutaneous affections of more or less malignancy electrolysis cannot compete with the knife. It should not stand in the way of surgical intervention. This refers especially to epithelioma.

In closing I would emphasize the fact that electrolysis performed with a needle attached to the negative pole is not simple cauterization. It may be compared to a most accurate and equally distributed injection of a caustic solution into the tissues.

**Mercurial Poisoning.**—Subcutaneous injection of physiological salt solution and energetic massage.—*Riforma Medica*, No. 38, 1899.

## FACIAL ERUPTIONS DUE TO INTRANASAL DISEASE.[1]

BY CARL SEILER, M.D.

SCRANTON, PA.

In a recent number of the MEDICAL RECORD a paper appeared on facial eruption, upon which I commented by suggesting that nerve reflex was not the only cause of this unsightly and distressing affliction so common in adolescents, especially young women.

When we look into the anatomy of the parts and their physiological relation to each other, and weigh one effect or cause against another, we shall find that pressure upon the capillary circulation within the nose, as well as pressure upon the cavernous tissue of the turbinates, has much to do with the disturbances of the capillary circulation of the skin of the face and nose.

For instance, we are all aware of the fact that chronic alcoholism will produce hyperæmia of, and consequently pressure in, the internal nasal structures, and a result is the so-called "rum nose"; we also know perfectly well that sexual excess or suppression of sexual desire in adolescents will have its influence upon the circulation of the capillaries of the face so as frequently to produce acne punctata. This latter is, according to Fox, Bulkley, Hebra, and other eminent dermatologists, caused by a hyperæmia of the sebaceous glands, resulting in an increased amount of sebaceous secretion and, the outlet of the gland itself being obstructed by dust or other foreign matter, a distention of the lining wall of the gland is caused, which then, by the retrograde metamorphosis of the sebaceous material into fatty and finally caseous substance, produces comedones. Auspitz frequently observed acne punctata follow variola and diseases of infancy. Thin mentions cases of the hemorrhagic form of the disease; while Hebra makes a number of subdivisions, which, however, are purely topographical and in no way conflict with the generally accepted division, namely, acne punctata and acne rosacea.

The so-called blackheads, to use the popular term, are nothing more than the accumulation of dust and dirt in the external openings of the excretory ducts of these glands, which, having been distended to an abnormal size, become visible to the naked eye. It is, however, also well known that nervous influences, whether central or peripheral or reflex, will produce an increase of circulation in, and dilatation of, the capillaries of the skin of the face, as pointed out before; as in the blush of shame. Close observers of physiological and pathological phenomena also concur in their opinion that ingestion of hot and stimulating foods or drinks, such as hot soups, coffee, hot Scotch, etc., will temporarily produce an increase of temperature in the capillary circulation of the skin and particularly the skin of the upper portion of the body. Hence comes the common notion of the laity that a hot whiskey punch makes one feel warmer after a cold ride, while, on the contrary, all close clinical observers know that alcohol will reduce body temperature. Consequently, any increase of the flow of blood in the capillaries of the integument of the face, when kept up by internal or external pressure or by reflex irritation of the vasomotor nervous system, must necessarily interfere more or less with the normal actions of the various glands of the skin, racemose or otherwise, and by so doing their function, which is that of anointing the skin and keeping it in a normal condition, is interfered with.

There is no organ, no matter how minute, no matter how large, whether visible to the naked eye or only through the microscope, that has not its particular function, which, when interfered with by any cause

[1] Read before the Scranton Clinical and Pathological Society, June 2, 1899.

whatsoever, will not produce a disturbance in the general organism, either within its immediate neighborhood or remotely through the channels of the nervous, vasomotor, or lacteal systems, in a greater or less degree. Take, for instance, the painful symptoms caused by the migration of trichinæ in the tissues.

Now if such microscopic worms are capable of producing general pain and discomfort, as well as inflammation of adjacent parts, why is it not rational to suppose that a turgescence of the erectile tissue of the lower or middle turbinated bones, pressing upon the capillaries of the septal mucous membrane of the nose, may not produce disturbances of the circulation of the skin of the face?

There are two or rather three different commonly recognized facial eruptions, leaving out the topographical distinctions: Acne punctata, the most common of all, the causation of which has already been indicated, acne rosacea, and lichen ruber, or, what is still more uncommon, and according to Hebra and v. During occurs only among Germans or those of German descent, lichen planus.

My observations for a number of years, ever since the introduction of cocaine as a local anæsthetic into nasal surgery and its unfortunate application by the laity for the temporary relief of nasal obstruction, show that these facial eruptions have become so common as to attract the attention of rhinologists. My own experience in a large number of cases has shown that the pressure of the cotton plugs, and the contraction produced by the cocaine of the capillaries of the nasal mucous membrane, will excite a corresponding hyperæmia of the capillaries of the facial integument.

Many of these points I previously brought out in a paper read before the County Medical Society of Philadelphia, in the fall of 1887, and I can add in this paper only such new facts as have presented themselves to my observation since: particularly that acne rosacea is more commonly observed in connection with the atrophic form of nasal catarrh and is not nearly so frequent in the hypertrophic variety of the disease as acne punctata.

Still the subject is one deserving the closest attention of every practitioner, and I therefore have taken the privilege of bringing it to the attention of all of you.

As to treatment, my above remarks will indicate the means to be adopted for the relief of the sufferer, but the physician should not forget that every case is to be examined in detail and then treated according to the indications revealed by a careful investigation as to the near or remote causes of the trouble.

In the first place, the patient should be advised not to use hot water in washing the face, but to use cold water and castile soap in the process. Next, all local or remote causes, whether reflex through the nervous system or caused by merely local pressure upon the vascular system, should be removed. Unctuous applications should never be employed, as they have a tendency still further to obstruct the outlets of the sebaceous glands.

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**Effects of Foreign Bodies in the Bronchi.**—Dr. R. Sevestre (*British Medical Journal*, January 21st) concludes an article on this subject as follows: "The effects of foreign bodies in the bronchi I have divided into two stages. In the first stage the most noticeable feature is the collapse of the lung, in the second stage the inflammatory changes predominate. Of these, the most important are changes in the bronchial tubes, their dilatation with walls thickened and full of secretion, the consolidation of the lung, and it may be its final disintegration, and the changes in the pleura, in some cases the formation of an abscess."

## PERSONAL OBSERVATION ON AN UNUSUAL CASE OF LABOR.[1]

By P. T. O'CONNOR, M.D.,

WATERBURY, CONN.

On October 28, 1898, at 5 P.M., I saw for the first time Mrs. S——, a well-developed young woman, aged twenty-five years. She complained of having had severe irregular abdominal pains since early in the morning, and wanted to know if she was about to be confined. According to her own reckoning she did not expect her confinement would take place until some time between November 10 and 15, 1898. After inquiring into her previous history, character of the pains, etc., I informed her that she had all the presumptive signs and symptoms of an approaching labor, and that an examination would be necessary in order to make a positive diagnosis.

The woman was placed in position, and after the usual preparation I attempted with the index finger of my right hand to make a vaginal examination, but, to my surprise, was unable to do so. After making several unsuccessful efforts to find the vagina, I began to doubt whether I had a case of labor to deal with. The results of external palpation, together with the contour of the abdomen, were quite indicative of a case of pregnancy. With the stethoscope over the lower abdomen the fœtal heart could be heard. The woman was placed crosswise, the hips were brought forward well over the edge of the bed, and after separating the labia I noticed a distinct membrane which almost completely occluded the vagina. In the centre of this membrane there was an aperture about one-quarter of an inch in diameter, large enough to admit the tip of my little finger, which was forced through and withdrawn. The ring finger was then forced through and withdrawn, and finally the index finger was introduced.

With the index finger in the vagina, it was quite easy to make out a distinct membrane which was quite lax, about one-sixteenth of an inch in thickness, and at the vaginal portion there was a well-defined circumscribed ring. I then determined to note the condition of the cervix, which was sufficiently dilated to admit the index finger. A vertex presentation was then made out, occiput anterior and to the left.

I informed the woman that her labor had already begun, and also explained the abnormal condition of her case. A consultation was suggested, and Dr. F. E. Castle was called in. He saw the patient at 6 and at 9 P.M. The membrane, or hymen, was ruptured by manual dilatation with the fingers. At first we thought it would be necessary to incise the ring, in or at the posterior portion of the vagina, in order to accomplish the delivery of the child. But on reconsidering the matter, it appeared to us that the expulsive forces acting from above would have a tendency to force the presenting head in the direction of the least resistance, and that the incision might serve as a starting-point for a laceration into the rectum. Therefore we decided to take a more conservative view of the case, and trust to nature until it seemed inevitable to make the necessary incision.

We waited until 2 A.M., by which time the advancing head was well down on the pelvic floor. The fibrous ring offered considerable resistance to complete stretching of the perineum. The pains were diminishing in force, and it seemed necessary, in the interests of both mother and child, to hasten delivery. We applied the forceps, imitating nature as best we could. After a prolonged effort, it was possible with two fingers of the right hand introduced into the rec-

[1] Read before the Waterbury Medical Society, December 12, 1898.

tum to catch the chin; with three fingers of the left hand on the occiput the head was held firmly while the instrument was being removed. We exercised every precaution to preserve the perineum during the delivery of the head, and assumed that we were successful in our efforts. But after the child was born we discovered that the ring had ruptured and with it the perineum and vagina. After waiting the usual length of time for the placenta to come away, the Credé method was applied to the fundus of the uterus, and with gentle traction on the cord it was impossible to expel the placenta. The cord was followed upward into the lower uterine segment. Above the latter there was a constriction, and through the stricture the cord continued. It was then apparent that we had a case of adherent placenta and "hour-glass contraction" to deal with.

Following the technique of asepsis, the hands and forearms were prepared. The right hand was introduced into the vagina to the point of constriction. Then, by pressing the uterus downward, the index and middle fingers with the whole hand forced through the constriction, the adherent placenta was removed. The lacerations were immediately sutured, and union by primary intention was the result. No irrigation whatever was used, knowing that we were aseptic in our work; therefore the application of antiseptics was not indicated. The woman made an uneventful recovery. The temperature and pulse remained normal during the confinement. It is interesting to note that a living child, male, weight twelve pounds, was successfully delivered after considerable manipulation.

There are two points in this connection which we wish to emphasize, viz., the rarity for conception to take place under the existing conditions already described, and the value of asepsis in general practice. It has been thoroughly demonstrated that in our large hospitals, with trained assistants in every department, with modernly equipped operating-rooms, where glass, marble, and concrete enter almost entirely into the construction, where dust can be reduced to a minimum, and cleanliness is a virtue advanced beyond its usual position and ranking next to godliness, asepticism is possible.

In private practice simplification is the important factor. It was the difficulty of application of the Listerian method that prevented its adoption by the general practitioner. The aseptic method consists of three stages — cleanliness before, during, and after manipulation. Once mastered, the technique soon becomes a matter of routine, and we see no reason why it should not be adopted in ordinary general practice. By referring to the past we see that no sooner was one theory exploded and, like the autumn leaves, fallen into disuse, than new ones were brought to the unguarded interval, and the wild onset was resumed. The foundation of antiseptic midwifery was laid by Semmelweis in Vienna in 1847. Pasteur in 1860 and the next few succeeding years settled the whole question by his masterly review of the field and his own remarkable series of experiments. Following this came Lister's appreciation of the results of these experiments and their application to surgery. Later on bacteriology became an established science, and soon began to cast the rays of its powerful search-light in certain direction and to illumine the valleys of darkness. This, in turn, paved the way for asepticism, which has revolutionized modern surgery.

The work of man will always be open to adverse criticism. Perfection never has been and never can be attained. The advocates of asepsis do not claim for it that by its principles and practice the ideal has been accomplished. They do, however, assert that in certain departments, at least, a direct approach has been made toward perfection, or, in other words, the foundation of the ideal has been laid. The temple may never be completed. But on this foundation will rest the triumphs of future progress.

## Progress of Medical Science.

**Pathogenic Bacteria after Death.** — Ay the investigations of Klein (*Centralblatt für Bakteriologie*, May 31, 1899) it is shown that it is possible to find for a period of twenty-eight days after death cultures of bacillus prodigiosus in the peritoneum of animals buried in the earth or sand; these animals having died from this organism experimentally introduced. After six weeks the cultures were negative. Staphylococcus pyogenes aureus had the same resistance. The vibrio of cholera still gave cultures after nineteen days, but not after twenty-eight. The bacillus typhosus and the bacillus of diphtheria lived from fifteen to twenty days. That of the plague was still alive after seventeen to twenty-one days, but never lived longer than three weeks. It was possible to stain the tubercle bacillus from the organs after three weeks, but no positive cultures could be obtained after that time by inoculation. Hence Koch's bacillus is short-lived after interment.

**Differential Stain for Tubercle Bacillus.**—In the *Centralblatt für Bakteriologie*, May 31, 1899, Marzinowsky describes a method, designated new, of differentiating the bacilli of tubercle, human and of birds, leprosy, and of the smegma. He uses the carbol fuchsin (two parts of water to one part of stain) and Loeffler's alkaline methylene blue. The smear is placed in the fuchsin for three or four minutes and then in the methylene blue for from two to three minutes, after washing between stains. Human tubercle is stained by this process only after a long immersion in the fuchsin; bird tubercle stains quite readily; the bacillus of leprosy takes up the red stain easily, and is readily decolorized by alcohol or after ten minutes by the methylene blue. The smegma bacillus stains blue after ten to fifteen minutes.

**Meat Poisoning due to Proteus Vulgaris.**—Glucksmann (*Centralblatt für Bakteriologie*, May 20, 1899) reports a case of poisoning from ham. The clinical picture was that of severe gastro-enteritis followed by fatal collapse. The autopsy showed the lesions of gastro-enteritis, and a bacteriological examination of the cadaver, made too late after death for exact conclusions, showed the presence of colon bacillus in the blood, and pyogenes aureus, proteus, and colon bacillus in the intestines. The bacteriological examination of the meat, however, showed the presence of a long bacillus having the growth, characters, and staining reactions of proteus vulgaris. Experimental inoculation in mice and guinea-pigs with this organism resulted in similar lesions, and death with isolation of the organism in some of the cases. It seems certain that the process of smoking the meat causes the sterilization of the superficial layers only, and that underneath there is left an excellent culture-ground for bacteria to develop. These cases are daily assuming an increasing medico-legal importance.

**Chemotactic Action of Toxins on Leucocytes.**—Bohland (*Centralblatt fur innere Medicin*, April 29, 1899) has studied the actions of the toxins of typhoid and of colon organisms on leucocytosis. It has been demonstrated that there is a diminution of leucocytes in typhoid. This hypoleucocytosis usually lasts as long as the fever. Bohland and Steinhaus made the

following observations on rabbits. The toxins were injected after a twelve hours' fast, the norm of blood counts having been established. The blood was counted ten, twenty, thirty, and sixty minutes after the injection of the toxins. In eight of the ten experiments there was found for the typhoid toxin a diminution in the leucocytes after ten to fifteen minutes, which diminution reached its maximum after twenty to thirty minutes. In one of the other experiments there was no hypoleucocytosis by reason of the small amounts of toxin used, and in the other a decrease was noted after a temporary increase. Hence the toxins of typhoid have negative chemotactic properties. In eleven similar experiments made with the colon bacillus there was a hyperleucocytosis varying from twelve to seventy-four per cent. Hence there is a positive chemotaxis in the toxin of this organism. Nine experiments made with the blood serum of typhoid-fever cases showed a marked negative chemotactic action. This method is suggested as a differential means for identifying these two organisms.

**Paralysis Agitans.**—The drugs which are in use for paralysis agitans, and from which some benefit in dissipating symptoms and fulfilling indications may be expected, are hyoscyamus and duboisine, Indian hemp, opium, hæmatogenous agents such as arsenic and iron, and occasionally gelsemium and veratrum viride. Of these, the most important by far are the first mentioned. Given hypodermatically, which is the preferable way when possible, or by the mouth, they promptly mitigate the severity of the tremor, and have a pronounced tendency to relax muscular rigidity. They are both powerful toxic agents, and must, therefore, be given with care.—*New York Medical Journal*, July 8, 1899.

**The Aural Complications of Measles.**—From a study of the literature and from personal experience, Heymann (*Deutsches Archiv fur klinische Medicin*, Bd. 63, Hft. 3 and 4) is led to conclude that disease of the ear is a regular complication of measles, that under unfavorable conditions and incompetent treatment may, and often does, constitute a serious menace to the development or even the life of the patient. As, in the majority of instances, the unpleasant results can be averted by intelligent treatment, it is important to pay especial attention to the auditory apparatus in all cases of measles.

**The Effect of Baths, Massage, and Exercise on the Blood-Pressure.**—As the result of an experimental inquiry, Edgecombe and Bain (*Lancet*, June 10, 1899) conclude that cold baths allay the arterial pressures, maximum and mean, and lower the venous pressure. After reaction the arterial pressure falls and the venous pressure rises. Percussion, added to cold, increases the rise in arterial pressure. Warm baths of plain water lower the arterial pressures, and both absolutely and relatively lower the venous pressure. Turkish baths lower the arterial and venous pressures to a greater extent, though the fall in venous pressure is proportionately not so great as that in arterial pressure. Saline baths at warm temperatures lower the arterial pressures to a greater extent than plain water baths at the same temperatures. The venous pressure, though absolutely lowered, is relatively raised. When the amount of saline material is considerable, a further lowering of arterial pressure takes place, while the venous pressure becomes absolutely raised. Dry massage lowers the arterial pressures, and relatively or absolutely raises the venous pressure, provided the abdomen be not massaged too vigorously. When this is done, a rise in all pressures occurs. Warm temperature, plus massage, has a more powerful effect in the same direction than dry massage alone. The effect of exercise on the blood-pressure depends upon the severity of exertion. In all forms an initial rise in arterial pressure occurs. If the exercise is mild, a fall occurs during its continuance; if severe, the rise is maintained. After exercise, moderate or severe, a fall takes place. The venous pressure is raised during all forms of exercise, and remains raised during the subsequent arterial fall. The return to normal after exercise takes place more or less rapidly according to the gentleness or severity of the exercise and the temperature of the atmosphere.

**Partial Transverse Section of the Spinal Cord.**—Schäfer has been carrying on some interesting and important investigations on the functions of the spinal tracts, which he presents in a preliminary note (*Journal of Physiology*, vol. 24, 1899.) Most of the investigations were carried on on the monkey, a few on the cat. His physiological results following hemisection of the cord agree mainly with those of Mott made in 1892. He found that in the first few days there was complete motor paralysis of all parts supplied with nerves below the section. The limb or limbs on the paralyzed side were swollen and warm (vasomotor paralysis and lessened outflow of lymph) and the skin dry (diminution of sweat). The knee-jerk was exaggerated. Sensation was not lost on the same side as the lesion, but at times appeared dulled. After a few days, unmistakable signs appeared of feeling and localizing even a slight touch, and this long before the motor paralysis had passed away. He states that he has seen no sign of paralysis either motor or sensory on the side opposite to the hemisection in any case in which the section had been strictly confined to the one-half of the cord. Sometimes the adjacent posterior column of the other half is injured, and in that event there is impairment of sensation for a time on both sides below the lesion. The motor paralysis, at first complete, becomes incomplete and finally is difficult to determine. But purely voluntary movements are not recovered or but very imperfectly, although all the ordinary associated movements of the limbs are recovered. After three or four weeks it is difficult to detect any sort of paralysis, but the limb which has been paralyzed is thinner than the other. If the hemisection is made above the level of the eighth cervical nerves, the pupil on the same side is relatively contracted and so remains. The dilator fibres and the pilomotor fibres in the cervical sympathetic do not degenerate but remain excitable. The pupil reacts to light and shade in spite of its being persistently smaller than the other. Excitation of the motor cortex of the opposite cerebral hemisphere produces as a rule no movements in the limbs which have been paralyzed, even if the associated movements have long returned. Lesions of the cerebellar tracts, either of the dorsal alone or with the ventral tract, did not produce any obvious symptoms. Sensation and motion seem unimpaired and the pupil is unaffected. Even when some of the fibres of the pyramidal tract are involved in the lesion, no obvious symptoms are noticeable. The histological results in the light of modern methods of interpretation of degenerative processes are of great interest. He shows that after hemisection the cells of Clarke's vesicular column below the lesion undergo chromatolysis, and eventually (two or three months) almost completely atrophy. The atrophy of these cells is equally complete if the lesion is confined to the dorsal and ventral cerebellar tracts. The atrophy of Clarke's column is less complete if the section is confined to the dorsal cerebellar tract; probably also if it is confined to the ventral cerebellar tract, though the author was not able to prove this experimentally. No other cell groups below the lesion show atrophic changes. It is therefore to be inferred

that Clarke's column gives origin not only to the dorsal cerebellar tract (tract of Flechsig) as shown by Mott, but also to the ventral cerebellar tract (column of Gowers). Clarke's column has also an important relationship to the fibres of the pyramidal tract. After lesions involving these fibres degenerated fibres are seen in large numbers passing from the pyramidal tract toward Clarke's column. No degenerated fibres are traceable from the pyramidal tract into the anterior horns or into any part of the gray matter other than the base of the posterior horns and Clarke's columns. In a further communication to the society (*Journal of Physiology*, vol 24, 1899), Schafer states that the descending antero-lateral tract (tract of Lowenthal) passes its fibres into the anterior horns, and apparently, for the most part, they end by arborizations about these cells.

**The Surgery of the Lungs.**—From a study of two cases of pulmonary gangrene, two of pulmonary abscess, one of pulmonary cavity, one of bronchiectasis, and one of subdiaphragmatic abscess treated by surgical measures, Sapiejko (*Revue de Chirurgie*, July 10, 1899) concludes that incision of the pleura, of the lung, and even of the diaphragm, in cases of subdiaphragmatic abscess, may lead to a favorable issue if pleural adhesions exist; and these are present in the majority of cases in which suppurative processes occur in the lungs. It is of the highest importance to determine the exact situation of the pleural adhesions, through which the way toward the focus of disease is shortest and least dangerous. This may be done by introducing through a small incision in the skin a dull, hollow, fine-shaped needle, connected with a glass tube bent twice on itself and filled with sterilized physiological salt solution. In the absence of adhesions the negative pressure in the pleural cavity will cause the fluid in the tube to move toward the chest, and in their presence the fluid will recede. In the former event the formation of adhesions can be superinduced by injecting concentrated solutions of silver nitrate, formalin, potassic hydrate, etc. The lung may be incised with an ordinary bistoury, and the resulting hemorrhage is usually controlled by packing.

**Tuberculosis in Childhood.**—As the result of a study of seventy-five fatal cases of tuberculosis in children, together with a consideration of the conclusions reached by Northrup from a previous study of one hundred and twenty-five cases of similar character, Bovaird (*New York Medical Journal*, July 1, 1899) finds that the primary lesion of tuberculosis in children is regularly in the bronchial lymph-nodes or the lungs. The early manifestations of tuberculosis in children are extremely indefinite and uncertain. Tuberculous infection of the bronchial lymph-nodes cannot, as a rule, be diagnosticated. Latent tuberculosis is often roused and disseminated by the invasion of another disease (infection), such as measles, diphtheria, etc., the presence of tuberculosis not having been previously suspected. The common type of tuberculosis in children is the acute miliary form, which may develop in well-nourished infants. Tuberculosis in children is most often confounded with chronic broncho-pneumonia or enterocolitis. The early manifestations of the disease are progressive emaciation, fever, and the presence of râles throughout the lungs, but these are insufficient for purposes of discrimination. The terminal lesions include: (*a*) Extension of the tuberculous process in the bronchial lymph-nodes and the lungs, resulting in the formation of abscesses, cavities, etc.; (*b*) diffusion of the tuberculous infection, constituting acute miliary tuberculosis, the principal viscera being affected in the following order: spleen, liver, brain, kidney, heart. The involvement of the brain is most important, the meningitis being regularly fatal. (*c*) When bone is involved and there is prolonged suppuration, waxy degeneration of the viscera may take place.

**Crossed Aphasia.**—Bramwell (*Lancet*, June 3, 1899) designates as crossed aphasia the condition in which an attack of right-sided hemiplegia in a left-handed person is attended with inability to express thought in language; and he reports an illustrative case. In this connection he points out (1) that the vast majority of mankind use one hand more than the other; (2) that the great majority are right-handed; (3) that the ancestors of the great majority of persons have for generations been right-handed; (4) that heredity, congenital organic aptitude, and actual acquirement, all tend to make the majority of persons right-handed; (5) that in right-handed persons the left hemisphere, and in left-handed persons the right hemisphere, is the real, or driving, side of the brain; (6) that with rare exceptions the leading or driving speech-centres are situated in the hemisphere of the brain, that is, so far as the movements of the hands are concerned, the leading or driving side; (7) that acute and complete destruction of Broca's convolution, when it occurs in a right-handed person, will, and does in a vast number of persons, produce motor vocal aphasia, while the same lesion, when it occurs in the left-handed person, will not, and does not in most cases, produce motor vocal aphasia. Conversely, acute and complete destruction of the motor vocal speech-centre in the right hemisphere of the brain, when it occurs in a left-handed person, will, and does in most cases, produce motor vocal aphasia, while the same lesion, when it occurs in a right-handed person, will not, and does not in the vast majority of cases, produce motor vocal aphasia. The exceptions to these statements constitute crossed aphasia. In the vast majority of cases of this kind the speech-defect is merely temporary and evanescent. Occasionally, though rarely, the aphasic symptoms are of long duration, *i.e.*, are persistent or permanent. Cases of the latter kind almost always occur in left-handed persons.

In the restoration of speech in the cases under consideration a distinction must be drawn between those in which Broca's centre is suddenly destroyed, and those in which the destruction is accomplished slowly and gradually. In the latter cases it is suggested that the opposite motor vocal speech centre was from the first, *i.e.*, immediately after the occurrence of the lesion, and without any process of training or substitution, sufficiently educated and active to take up and independently carry on the speech function, when the normally leading or driving speech-centre of the other hemisphere was destroyed. In cases in which the destruction is produced slowly and gradually, *i.e.*, by neoplasm, the most reasonable explanation seems to be that, *pari passu* with the destruction of the leading or driving motor vocal speech-centre, the corresponding and hitherto non-leading motor vocal centre becomes educated and trained so that even if the destruction is complete this centre is able to carry on independently the function of the leading speech-centre when that is destroyed.

**A New Micrococcus in Endocarditis.**—MacCallum and Hastings (*Centralblatt fur Bakteriologie u. Parasitenkunde*, March 28, 1899) describe a new micrococcus, which they name micrococcus symogène, isolated from the blood during life and from septic infarctions of the aortic valves after death in a case of acute endocarditis in a man aged thirty-seven years. The morphology is that of a micrococcus, resembling when grown on nutrient gelatin the pneumococcus. It stains by Gram's method, liquefies gelatin, and pep-

tonizes milk, after having rendered it acid and coagulated it. The organism is pathogenic for rabbits, dogs, and white mice. The lesions in the dog, following experimental infection, were strikingly similar to those found in man. Venous injection of the coccus set up a septic endocarditis with aortic involvement from which the organism was recovered. In man, as in the dog, the organism was found throughout most of the organs of the body.

**Methylene Blue in Insanity.**—The action of methylene blue in various psychoses is reported upon by P. Bodoni, of Genoa, in the *Klinisch-therapeutische Wochenschrift*, 1899, No. 21, May. He has found that intramuscular injections of from 0.8 to 0.1 gm. (gr. i. to iss.) produced markedly quieting effects in many forms of psychical excitement. He gives the clinical histories of cases of mania of various types, melancholia, dementia, paranoia, and hystero-epilepsy. Most of the cases were influenced by it, and he claims that it should take an important place, ranging with the more usually employed hypnotics, chloral, amylene hydrate, sulphonal, bromoform, and others.

**Etiology of Leukæmia.**—M. Löwit, of Innspruck, presents a somewhat startling series of conclusions with reference to the causation of leukæmia (*Centralblatt fur Bakteriologie u. Parasitenkunde*, vol. 25, No. 819, 1899, p. 273). He concludes that: (1) In myelæmia, there is to be found in the peripheral circulation an animal, or sporozoon, which he designates "hæmamœba leukæmia." This can reproduce itself by sporulation. In the blood-forming organs these spores are to be found having the characters of permanent spores. (2) In lymphæmia, on the contrary, parasites are rare. There is to be found in the blood-forming organs, however, an "hæmamœba magna," which the author proposes to call "hæmamœba leukæmia vivax." It is intracellular and probably intranuclear. (3) In some cases of leukæmia both types of parasite are found. (4) In infantile pseudo-leukæmic anæmia and in the adult three parasites may be found in the blood. (5) In susceptible animals the artificial infection and transmission from one animal to another is possible. In such infected animals a process is set up similar in many respects to that seen in man. The animals gradually lose strength and usually die after a few months. The amœba may be found in their blood, and more readily in the organs, which may have become hypertrophied. (6) Leukæmia may be inoculated from one animal to another. (7) The culture of the amœba in artificial media has not yet resulted in success.

**The Toxicity of the Urine in Pregnancy.**—Drs. Labadie-Lagrave, E. Boix, and J. Noe (*Archives Générales de Médecine*, May, 1899) publish the results of a series of urotoxic experiments on the blood of pregnant women. The method of experimentation followed was that of Bouchard. Their general results are that about a month or six weeks after pregnancy the toxic coefficient of the urine is about normal (0.46), and from that time to the third month it steadily becomes less, when it reaches 0.20 and maintains that percentage until confinement, in from a month to six weeks after the confinement the toxicity again rises to the normal. If the toxicity during the later months of pregnancy should rise to the normal figures, eclamptic attacks ought to be expected.

**Elimination from the Skin.**—Wakelin Barratt (*Journal of Physiology*, vol. 24, 1899) presents the results of an extended research on the influence of varnishing the skin and determining the effect on the transmission of water and carbon dioxide. Flexible collodion was used as a varnishing medium. He shows that when the skin is varnished the elimination of water is diminished but not abolished, the diminution amounting to about seventy-eight per cent. of the normal amount. The behavior of the skin in dry inflammation was shown to be similar, the diminution in this condition in the experiments made amounting to fifty-six per cent. In both cases the diminution was due to mechanical blocking up of the sweat ducts.

**The Bacteriology of Gangrene.**—A number of organisms have been isolated from gangrene, and the present communication of D. Rath, of the Strasburg University (*Centralblatt fur Bakteriologie*, 25, 1899), is of interest in that it records, so the author states, for the first time, the finding of bacillus lactis aerogenes in the gangrenous tissues.

**Spinal Muscular Atrophy.**—Siemerling (*Archiv fur Psychiatrie*, vol. 30, 1898-99, No. 1) contributes a complete history with report of microscopical findings of a case of this interesting and rare form of muscular atrophy. The history is of a young man twenty years of age, with no special family hereditary influences. Up to the age of five years he developed normally. At this time there commenced an atrophy of the small muscles of the lower extremities, and two years later the hands commenced to be involved. The atrophy progressed until at the age of thirteen he was unable to walk. He later developed hypochondriasis. At the time of examination his intelligence was fair; there was some immobility of the pupils to light, no changes in the fundus, and extreme atrophy of the muscles of all four extremities. Knee jerks were absent. The right leg was in contracture at the knee joint. There was no club foot. He had complete paralysis in the lower extremities, less in the upper. There were fibrillary twitchings of the intercostal muscles, and loss of electrical contractility for both galvanic and faradic currents. Psychically there was marked hypochondriacal depression with delusions. The patient died in collapse. The microscopical analysis showed degeneration of the posterior and lateral columns, especially in the dorsal and lumbar regions. There was atrophy of the anterior horn cells, Clarke's columns, and the anterior roots. The posterior roots were intact in their extramedullary portion and in some parts of their intramedullary course. There was simple degeneration of the sensory and mixed nerves with atrophy of the musculature. The résumé of the microscopical findings was as follows: Disease of posterior columns, most marked in the lower dorsal regions. In the upper dorsal and cervical regions almost total degeneration of the central part of Goll's column. In the columns of Burdach the degeneration became markedly less as the upper cervical region was reached. There was degeneration of the lateral columns posteriorly and partly of the antero-lateral columns, the lesions being most marked in the lower dorsal and lumbar regions and decreasing upward. The cerebral ganglion cells showed no alterations. The muscles of the lower extremities were in a condition of extreme degeneration, the gastrocnemius showing advanced fatty changes. All of the peripheral nerves examined, namely the brachial, radial, median, ulnar, sciatic, crural, peroneal, and saphenous nerves were markedly degenerated. The author further gives a critical digest of the various theories accounting for the disease, and basing his opinion on this one case believes that the disease is one of intramedullary origin, the posterior roots being affected after their entrance into the spinal cord. He does not exclude, however, a peripheral origin for the disease.

MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 51 Fifth Avenue.

New York, August 19, 1899.

## MALARIA AND THE POSSIBILITY OF ITS EXTIRPATION.

MALARIA is admitted on all hands to be the most widespread disease that attacks mankind; it is also probably the most fatal to life. In tropical and subtropical countries there is certainly no malady that claims so large a number of victims. For example, in Italy the statement was recently made upon unimpeachable authority, that "malaria" keeps nearly five million acres of ground from cultivation; it affects sixty-three provinces, and every year poisons about two million inhabitants, causing the death of fifteen thousand human beings. In Africa, in Asia, in South America—indeed in every part of the globe situated in the tropics, the effect of its ravages is almost beyond computation. However, these facts are too well known to need further discussion, and the thought that naturally arises in the mind of every intelligent person is, How is it then that science has not succeeded in devising means to check or stamp out a disease so inimical to the human race? The answer, which covers nearly the whole ground, is the simple one that until recently the cause of malaria has been obscure. Many theories have been set forth in explanation, the majority of which were more or less visionary and rested on no firm foundation, while the one that appears now to be most worthy of belief required further proof before being generally accepted.

Of course it has long been a matter of common knowledge—at least in the greater number of cases—that in those swampy districts in which malaria had formerly prevailed, and where an efficient system of drainage had been undertaken, malaria was quickly and effectually banished; but why this should be was only surmised. The fact, too, that malaria is produced by certain minute parasites in the blood has been for some considerable time well known to scientific men; whence they came, however, and their mode of entrance remained a mystery. To the Frenchman, Laveran, the credit is usually given of first publishing the theory that the mosquito is responsible for the introduction of this parasite into the human system. Dr. Patrick Manson followed this line of research and made public his opinions on the subject, which Major Ronald Ross has so far confirmed by experiments in India extending over a lengthy period. Such eminent authorities as Bignami, Grassi, and Bastianelli have declared themselves convinced that these views are in the main correct, and that in the bite of some species of the mosquito the solution of the malaria problem must be looked for. So much has already been written in regard to Manson's theory, and concerning the painstaking and acute investigations of Ross tending to prove the same, that it would be superfluous to touch further on that part of the question. Suffice it, then, to say that most distinguished scientific men are of one mind as to the mosquito being at any rate an important if not the chief factor in the dissemination of malaria. Major Ross, regarding this point as practically proven, suggests, in a lecture delivered by him to the students of the Liverpool School of Tropical Medicine, a method of extirpating malaria. He is of the opinion that this object will be attained if the mosquitoes which produce the disease can be exterminated. The fact must ever be borne in mind that no claim is made that every mosquito is capable of conveying the malarial infection. This would preclude all possibility of extirpating them. According to Grassi there are three species, all belonging to the genus Anopheles, which are in this way a menace to the health of man, while in India Ross demonstrated that one species of the same genus was able to convey the malarial germs. This species makes its home in and around isolated natural pools and puddles, which are used by them as breeding-places. Again, it is not proposed to attempt to obliterate the adult parasite-bearing mosquito, another impossible task. The end in view would probably be gained by finding out where they breed and by destroying the larvæ. The larvæ of the dangerous mosquito can be distinguished by the fact that they float flat on the surface of the water, and the adults themselves are remarkable in that, unlike the members of the commoner species, their wings are spotted. An infallible sign in the detection of their breeding-place is, says Ross, their invariable habit of congregating in large numbers in its near locality. When the breeding-place is discovered, the plan of campaign suggested by Ross is a wholesale "slaughter of the innocents" before they have reached the winged stage in their development, and the method proposed is to empty or drain the pieces of water which serve as their nurseries. Provided that the breeding pool is located correctly, this proceeding, although at first sight appearing to present almost insurmountable difficulties, will when regarded more closely be seen to be eminently feasible. The pieces of water selected by the dangerous mosquito as a breeding-place are always so circumscribed in area that they can be emptied or drained easily. Small collections of water are chosen for the reason that they contain no minnows (which look upon the embryo mosquito as a dainty tid-bit and devour it with gusto).

With the view of substantiating the efficacy of this mode of checking malaria, arrangements have been made for an expedition to start from Liverpool to Sierra Leone in August. The expedition will consist of Major Ross, Dr. Annett, and an experienced dipterologist, and will spend five weeks in Africa, and

will return next year and on future occasions. The extermination of malaria is a matter of almost as great import to Americans as to the British, for the fact should not be forgotten that not only is it prevalent in various sections of this country, but that both Cuba and the Philippine Islands are hotbeds of the disease. Therefore, there can be no doubt that the experiments of Ross and his *confrères* will be followed with intense interest here, and the United States will join with the European nations in wishing them every success in their efforts for the common good.

## INCISION INTO THE KIDNEY FOR ALBUMINURIA.

THERE are some forms of albuminuria in which the presence of the albumin depends entirely upon the congestion of the kidney, without at first any irreparable structural alteration in the gland substance of the organ. We see such forms sometimes in scarlet fever and in some other conditions, and an analogous form after severe contusions of the lumbar regions, with or without intracapsular rupture of the kidney. This albuminuria after injury does not depend entirely upon the blood which is present in the urine, but to a great extent upon an actual transfer of blood constituents such as occurs in cases in which the renal congestion is due to some systemic cause, as scarlet fever.

There are records of many cases of lumbar injury followed by hæmaturia and albuminuria in which a lumbar incision has been made and the capsule of the kidney opened with a view to relieve evident tension, the cause of which was either pus or the extravasated blood following the injury, and there are recorded some cases of albuminuria following infectious diseases in which lumbar incision has been made in order to reach pus which was supposed to be in or around the kidney. In some of these cases no pus has been found, but the kidney has felt tense and enlarged, and incision through its capsule and into its substance has been followed by free discharge of blood and urine, with relief of all symptoms and disappearance of the albumin. Mr. Reginald Harrison, in a paper published in the Transactions of the Medical Society of London, in 1897, and more recently (1899) printed in a collection of essays upon cognate subjects, has given us an interesting discussion of some instructive cases bearing upon this question. He describes three cases upon which he has operated, the first scarlatinal nephritis, the second nephritis due to continued exposure to cold and damp, and the third nephritis due apparently to influenza. In all these cases the lumbar incision was made under the impression that pus would be found, and not specifically to relieve tension by incising the kidney. In none of the cases was pus found, and in each case the albuminuria promptly ceased, and the urine became normal. Mr. Harrison was much impressed by this latter circumstance, and in his paper speaks encouragingly of the possibility of applying this method to the relief of appropriate cases of albuminuria, and he emphasizes the harmful effects of circulatory tension in the kidney as well as in other organs. We know that the kidney is a complex and very vascular organ which is quickly influenced by circulatory conditions—the quantity, quality, and tension of the blood stream—and we also know that acute congestion, if at all intense, is a common cause of albuminuria, whether the kidney is healthy or already the seat of inflammatory disease. Our means of relieving this congestion by drugs and external modes of treatment, such as cupping, are at best uncertain, and are slow when we consider that a patient may die in a few hours with suppression of urine from congestion which we are trying to relieve, and if we can have a safe and certain method so simple in the hands of the surgeon as lumbar incision, there can be no valid objection to its employment. What we have to do in this connection is to establish general rules for the selection of cases, and we will find that there are not many cases of albuminuria in which we could unhesitatingly recommend lumbar incision. Of course in the large class of patients with nephritis associated with cardiac, pulmonary, or hepatic disease, there is no prospect of benefit from such a procedure as this operation. The cases in which we should like to see this method attempted are such as are seen in scarlet fever when there is a distinct tendency toward suppression, or even when the case is one simply with slowly increasing signs of nephritis, cases in which there is a sudden complete or almost complete suppression from exposure in individuals who have not previously shown evidences of nephritis, and in some of the subacute forms of Bright's disease when the exacerbations to which these are subject occur.

The technique of the operation is simple, and involves a short incision through the capsule and into the substance of the kidney, then treatment by packing so as to allow free discharge of blood and urine. It is probably not necessary to make the incision on both sides, since incision on one side soon relieves one kidney, and the other is then benefited by having its work done for it, and probably in part also by the intimate nervous connection which exists between the two organs.

## THE DISMANTLING OF BUILDINGS IN THE YELLOW-FEVER SEASON.

MANY instances have occurred in which yellow fever has appeared to have originated from or rather to have owed its recrudescence to the dismantling in summer of old buildings that have been infected with the disease. This has recently been the case at Vera Cruz, where the present severe epidemic of yellow fever has been concomitant with the demolition or repairing of ancient structures. According to *Public Health Reports* of June 30th the surgeon-general of the Marine-Hospital service is so much impressed with the danger of this procedure that he has addressed a letter to the president of the State board of health of Louisiana, calling attention to the outbreak of yellow fever in Franklin, La., last year, which probably originated in the dismantling of an old house that had been infected the year previous, and also to the case in Ha-

vana harbor, where the dismantling of an old barge was followed by yellow fever in the crew of a vessel near by.

These views receive further confirmation from the report of the United States consul at Vera Cruz with regard to the epidemic in that town referred to above. An extract from the report reads as follows: "Early in the spring of last year the city council passed a resolution to have owners of property comply with an ordinance then existing, to repair and fix up buildings in the city. Most of the owners preferred, previous to doing so, to make such general repairs and alterations as were needed; hence they commenced to take out partitions, break down entire walls, remove roofs, etc., and coral rock, brick, stone, plaster, roofings, and débris were everywhere piled up in the streets in front of the houses being repaired. Since then there has not been in this city a street where one or more buildings were not undergoing a general repairing. It was then that yellow fever made its appearance, and as the work progressed the fever increased until it is now an epidemic."

The evidence, therefore, favoring the belief that the custom of interfering with buildings in which yellow fever has formerly been present is dangerous to the health of the community at large would seem to be fairly conclusive, and should commend itself to the notice of health officers in this country.

## DYSENTERY IN JAPAN.

This malady is peculiarly prevalent and fatal in Japan. In fact, of all the infectious diseases dysentery claims the largest number of victims as well as providing the longest death roll. In the *Jimmin* are some impressive statistics bearing out this truth. During the five years ended in 1897 the total number of persons attacked by eight infectious diseases in Japan was 938,216, and out of that aggregate no less than 552,109, or fifty-eight per cent., were dysentery patients. Further, the deaths from these eight diseases numbered 269,086, and of these 137,880, or fifty-one per cent., resulted from dysentery, so that every year 110,420 are attacked by and 27,578 succumb to dysentery. Tokio is the most unfortunate city in Japan as regards this malady. In the five-year period referred to above, the total number of persons who suffered from the eight diseases are 17,107. Of these 6,921 were attacked by dysentery. The total number of deaths was 5,298, the deaths due to dysentery being 2,148. Thus dysentery was the cause of illness in forty-per cent. of the cases, as well as the cause of the deaths in the same percentage. Tokio is far and away the most backward city in the Japanese empire as regards hygienic arrangements. The *Jimmin* gives figures of the expenditure made by some of the principal centres of population in Japan for 1896, by which is shown that Tokio spends less for purposes of sanitation than many towns much inferior in wealth and population. Japan has showed herself so progressive and so ready to adopt the methods of western civilization that it may be predicted that she will not suffer herself to lag behind the cities of Europe and America in matters pertaining to sanitation.

## News of the Week.

**Report of the Marine-Hospital Service Commission on the Etiology of Yellow Fever.**—Under date of November 8, 1897, Passed Assistant Surgeon (now Surgeon) Eugene Wasdin and Passed Assistant Surgeon H. D. Geddings were detailed, by authority of the Secretary of the Treasury and the President, as a commission to investigate in Havana the nature of yellow fever. The report embodies the work of the commission in fairly testing the claim of Professor Sanarelli, of Bologna, Italy, that the bacillus icteroides is the cause of yellow fever, and the conclusion is drawn that this famous scientist has isolated the true cause of the terrible scourge. This conclusion is based upon a careful bacteriological study, in the well-equipped laboratory of the Marine-Hospital Service in Havana, of twenty-two cases of disease diagnosed as yellow fever by the native physicians in attendance. Of these cases all were seen during the progress of the disease, and in fourteen of them the commission concurred in the diagnosis. Each case was the subject of careful bacteriological study before and, if practicable, after death. Of the fourteen cases diagnosed as yellow fever, the commission isolated the bacillus icteroides from thirteen, and in the case in which this organism escaped the observation of the commission it was isolated by an independent observer for whom tube cultures had been taken at an autopsy conducted by the commission. The commission, having preserved a number of cultures made at the isolation hospital in the city of New Orleans from cases seen during the epidemic of 1897, also isolated therefrom the bacillus icteroides in the proportion of 83.33 per cent. of the cases examined, the cultures having been made at autopsy. Thus the identity of the bacillus icteroides of our Southern States with that found in Cuba, and that sent the commission by Professor Sanarelli which was obtained in South America, was established. As a control of these examinations the commission made use of a number of patients suffering from diseases other than yellow fever, from which the blood, extracted in the same manner and treated in the same way, failed to yield any organism at all comparable to Sanarelli's. These diseases were representative of those usual to the city of Havana, and were seen during the same period of time in which the cases of yellow fever were under observation. The following are the conclusions arrived at by the commissioners as a result of these investigations and of numerous experiments on animals: (1) That the microorganism discovered by Professor Giuseppe Sanarelli, of the University of Bologna, Italy, and by him named "bacillus icteroides," is the cause of yellow fever. (2) That yellow fever is naturally infectious to certain animals, the degree varying with the species; that in some rodents local infection is very quickly followed by blood infection; and that, while in dogs and

rabbits there is no evidence of this subsequent invasion of the blood, monkeys react to the infection the same as man. (3) That infection takes place by way of the respiratory tract, the primary colonization in this tract giving rise to the earlier manifestations of the disease. (4) That in many cases of the disease, probably a majority, the primary infection, or colonization in the lungs, is followed by a "secondary infection," or a secondary colonization of this organism in the blood of the patient; this secondary infection may be complicated by the co-instantaneous passage of other organisms into the blood, or this complication may arise during the last hours of life. (5) That there is no evidence to support the theory advanced by Professor Sanarelli that this disease is primarily a septicæmia, inasmuch as cases do occur in which the bacillus icteroides cannot be found in the blood or organs in which it might be deposited therefrom. (6) That there exists no causal relationship between the bacillus "X" of Sternberg and this highly infectious disease; and that the bacillus "X" is frequently found in the intestinal contents of normal animals and of man, as well as in the urine and the bronchial secretion. (7) That, so far as the commission is aware, the bacillus icteroides has never been found in any body other than one infected with yellow fever; and that whatever may be the cultural similarities between this and other micro-organisms, it is characterized by a specificity which is distinctive. (8) That the bacillus icteroides is very susceptible to the influences injurious to bacterial life; and that its ready control by the processes of disinfection, chemical and mechanical, is assured. (9) That the bacillus icteroides produces *in vitro*, as well as *in vita*, a toxin of the most marked potency; and that, from our present knowledge, there exists a reasonable possibility of the ultimate production of an anti-serum more potent than that of Professor Sanarelli.

**The Plague in Portugal.**—The bubonic plague has appeared at Oporto, capital of the province of Douro, on the River Douro, one hundred and seventy-five miles northeast of Lisbon. Up to August 15th, there had been twenty-six cases and eleven deaths from the disease. The *Medical Press and Circular* of August 2d said that the disease had probably broken out in Oporto. For several weeks there had been a number of suspicious deaths in that city, a prominent symptom of the illness being swellings in the groins and axillæ. The outlook is not encouraging, for the wretched sanitary state of Oporto is notorious. Preventive medicine in Portugal is in a most elementary condition, and the ignorance and superstition of the population render special precautionary measures wellnigh hopeless. A despatch, dated August 14th, from Lisbon to *The Sun*, says that it has been officially declared that the bubonic plague exists there as well, but "the announcement is received with some scepticism."

**Compulsory Vaccination in Massachusetts.**—A case of smallpox was discovered last week at Everett, Mass., and because of the danger the board of health ordered that every one of the twenty-three thousand inhabitants be vaccinated. Printed notices were sent to every householder in the city to that effect, and stating that free vaccination would be performed at the city hall. The infected district was quarantined. There seems to have been no effective opposition by the antis to the order, if there are any such in the town.

**The Plague in the East.**—The epidemic at Poona in the Bombay Presidency, India, is daily becoming more virulent. Even the natives have become panic stricken and are fleeing to the country in all directions, and the streets are deserted. The number of deaths from plague in the Bombay Presidency during the second week in August was 3,450. In China the plague has appeared at Niu-Chwang, in the province of Leao-Tong, near the Gulf of Pe-Chi-Li, far to the north of where it has previously raged, and much nearer Peking. In Hong Kong there were twenty-three deaths from the plague during the week ending August 13th, and twenty-five new cases were reported.

**Health Conditions in Chicago.**—According to the health department, a very satisfactory feature of the public-health situation is the low relative rate of infant mortality. At this season of the year the deaths of children under one year of age usually average more than one-third the total deaths. During the week ending July 15th, the total deaths were five hundred and fifty-nine, of which number two hundred and sixteen, or thirty-eight per cent., were of children under one year of age. In the week ending July 22d, the proportion was thirty-six per cent.; July 29th, thirty-one per cent.; August 5th, twenty-nine per cent.; August 12th, twenty-three per cent.

**Reorganization of the Red Cross.**—A new constitution of the American Red Cross Society, recently drafted, provides for a division of the United States into districts, each of which will come under the jurisdiction of the officers of the district branch, which will in turn be governed by the national body, the headquarters of which will be in Washington. As soon as the organization is perfected work will at once be undertaken to establish local societies in all parts of the country. The work of the society in Cuba, that of establishing homes for the orphans of those killed in the revolution, is practically completed, and the orphans are now, for the most part, maintained by the municipalities in which they are situated. There will be but few other changes, and those of minor importance, in the new constitution.

**An International Tuberculosis Congress.**—The National (British) Association for the Prevention of Consumption suggests that another international congress for the study of tuberculosis be held in London in May, 1901.

**Drs. Senn and Brower,** of Chicago, have recently been in Hawaii. On July 22d, a luau in Hawaiian style was given in their honor by Drs. Day and Wood. In addition to the local medical men several of the surgeons of the hospital ship *Relief*, then in the harbor, were present.

**The Medical Association of Hawaii.**—The annual meeting of this association was held in Honolulu on the evenings of May 30 and 31 and June 1, 1899. At the first session the president's address was delivered by Dr. Wood, after which the election of officers was held with the following result: *President*, Dr. C. B. Cooper; *Vice-President*, Dr. F. R. Day, *Secretary*, Dr. C. L. Garvin; Drs. R. P. Myers and C. B. Wood, members of the executive committee to serve with the above-named officers. Dr. Marshall Wood, surgeon U. S. A., was elected an honorary member of the association. Reports of committees were read, and the session was then adjourned. On May 31st Drs. Posey, Hoffman, and Yuel were elected to membership. Dr. Humphris read a paper on tuberculosis, which was discussed generally. On motion of Dr. Meyers, a committee of three was appointed to take Dr. Humphris' paper and formulate a report, using the same as a basis, to be published in pamphlet form in English, Hawaiian, Chinese, and Portuguese. This report will dwell on the treatment and prevention of the disease. Dr. Marshall Wood then presented some pathological specimens of typhoid fever, and discussed the treatment and prophylaxis of the disease. At the final session Dr. Hoffman reported some surgical cases, and Dr. W. E. Taylor related a case of gastrotomy performed for the removal of a number of pieces of broken glass and crockery which had been swallowed by a woman. In a discussion on the fevers of Hawaii it was stated that typhoid fever had appeared there only within the past two or three years. The annual banquet took place after adjournment, at the Pacific Club. It was decided to hold a meeting of the association on the first Saturday of each month, beginning in July.

**The Yellow-Fever Epidemic in Mexico.**—A report from the Texas State board of health on August 14th states that the yellow fever in Cordoba and Orizaba, Mexico, is increasing in intensity and virulence. The inspector of the Marine Hospital reports that the disease has appeared at Tuxpan, and that there were twenty deaths there up to the end of July. In Vera Cruz the disease is reported to be declining, and at Tampico, it is declared, no cases of the disease exist.

**A Study of Prostitution.**—The following are the names of those who have been delegated to investigate the conditions of prostitution in their respective countries, and to report at the International Congress on Syphilis, to be held at Brussels, September 4th and following days: Argentine Republic, Dr. Baldomero-Sommer, of Buenos Ayres; Austria, Dr. Finger, Vienna, Belgium, Drs. Bayet and J. Verhoogen, Brussels; Bosnia, Dr. Gluck, Savajovo; Chili, Dr. Valdes-Morel, Santiago; Denmark, Dr. Ehlers, Copenhagen; England, Drs. George Ogilvie and Drysdale, London; France, Drs. Ozenne and Julien, Paris; Germany, Drs. Blaschko, Berlin, and Neisser, Breslau; Hungary, Dr. Rona, Budapest; Holland, Dr. Selhorst, The Hague; Italy, Drs. Tommasoli, Palermo, and Bertavelli, Milan; Norway, Dr. Axel-Holst, Christiania; Roumania, Dr. Petrini de Garatz, Bucharest; Russia, Dr. Petersen, St. Petersburg; Sweden, Dr. Welander, Stockholm; Switzerland, Drs. Jadassohn and Schmid, of Berne; Turkey, Drs. Von During and Zotos, Constantinople; United States, Dr. Isadore Dyer, New Orleans.

**The "Occidental Medical Times"** and *The Pacific Record of Medicine and Surgery* have been consolidated under the title of the first-named journal. The editors of the combined journal will be Dr. Louis A. Kengla, of the *Times*, and Dr. James H. Parkinson, of the *Record*. The publication office will be removed from Sacramento to San Francisco.

**The Mercedes Hospital in Havana.**—An innovation in the management of hospitals in Havana was inaugurated on July 7th. On that day a children's ward was opened in the Mercedes Hospital. This was the first time that children in the hospitals of that city were placed in a ward by themselves. Formerly male children were placed in the male ward, and thus brought into contact with some of the worst classes of the human race. It was the same with girls in hospitals where women patients were received. But now, thanks to the energy and skill of Dr. Furbush, chief of the department of hospitals and charities, the sick children have their own ward, their own nurses, and their own doctors. The ward has beds for thirty children. Another new feature of the hospital is the woman's ward. Formerly Mercedes Hospital treated men only. But with the starting of the children's ward one for females was also added.

**The Juggernaut of New York.**—During the first six months of the present year fifty persons were killed in this city by the street cars, twenty-eight during the first quarter and twenty-two during the second. During the same period twenty-eight deaths resulted from railroad accidents in the city. The two hundred and fiftieth victim of the trolley cars in Brooklyn borough, since the lines were built, died last week.

**The Quarantine Against Hampton,** where there was recently an outbreak of yellow fever among the inmates of the Soldiers' Home, has now been raised, all fears of the spread of the disease having been removed.

**A New Naval Hospital at Mare Island.**—The old hospital at the Mare Island, Cal., navy yard, which was almost destroyed by earthquake several years ago, is now being replaced by a large modern structure. The new building will be of two stories and basement, the central portion being of three stories, with two hundred and sixty feet front. The central building will be for the administration, the wards being in the two wings. There will be dressing-rooms for minor cases at the extremities of each of the main wings, attached to the wards, and in the upper part of the central structure there are private rooms for invalid officers. In the rear will be a separate building connected by a covered way on each story with the main building. It will contain the kitchen and lavatories below, the dispensary and operating-rooms on the first floor, and the chapel in the upper story.

**Baltimore Sweat Shops.**—The Health Commissioner of Baltimore, Md., will shortly begin an investigation of the sweat shops with the view of preventing the spread of contagious diseases.

**Deaths in the Army.**—The following table, recently made public by the adjutant-general of the United States army, shows the number of deaths of soldiers from May 1, 1898, to June 30, 1899:

| | Killed. | | Died of Wounds. | | Died of Disease, Etc. | | Totals. |
|---|---|---|---|---|---|---|---|
| | Officers | Men. | Officers. | Men. | Officers. | Men. | |
| Cuba | 21 | 223 | 10 | 64 | 34 | 889 | 1,240 |
| Porto Rico | .. | 4 | .. | 8 | 4 | 251 | 267 |
| Philippines | 20 | 253 | 10 | 82 | 11 | 369 | 725 |
| Hawaii | .. | .. | .. | .. | .. | 46 | 46 |
| At sea | .. | .. | .. | 7 | 9 | 204 | 220 |
| United States. | 1 | 5 | 2 | 6 | 106 | 3,985 | 4,105 |
| Totals | 42 | 485 | 22 | 167 | 164 | 5,743 | 6,603 |

**Navy Department,** Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending August 12, 1899. August 5th.—Medical Inspector J. R. Waggener promoted to medical inspector from April 9, 1899; Medical Inspector T. H. Streets promoted to medical inspector from April 16, 1899; Surgeon T. A. Berryhill promoted to surgeon from April 9, 1899; Surgeon E. P. Stone promoted to surgeon from April 16, 1899. August 8th.—Passed Assistant Surgeon J. M. Moore ordered to the *Vermont*, August 10th; Assistant Surgeon B. L. Wright detached from the *Vermont* and ordered to duty with the Second Marine battalion for Manila, P. I., and on arrival at Manila to report to the commander-in-chief of the Asiatic station for duty. August 9th.—Passed Assistant Surgeon W. F. Arnold granted extension of sick leave for one month; Passed Assistant Surgeon G. Pickrell authorized to drop middle initial of name. August 10th.—Passed Assistant Surgeon G. Pickrell detached from the *Baltimore* and ordered to the *Monterey* and to the Cavite naval station; Assistant Surgeon H. H. Haas detached from the *Oregon* and ordered to the naval hospital, Yokohama, Japan, for treatment.

**Disposal of the Dead by Liquid Air.**—It is said that a company has been formed in this city which will erect a crematory near Nyack, where the rapid consumption of dead bodies will be effected by means of liquid air.

**Death Rather than a Bath.**—A prisoner in a Jersey City jail persistently refused to take a bath, but was finally told that he would be forced to wash himself. He still refused, and the next morning was found dead in his cell, having killed himself.

**Death by Electricity.** Four firemen, while at work at a fire in Omaha recently, were killed by an electric shock. When the fire had been brought under control the firemen set to work to lower the extension ladder upon which they had been working. Suddenly there was a flash, and the four men who were working at the crank lowering the ladder fell to the pavement apparently lifeless. The ladder had come in contact with a live electric-light wire carrying a current of two thousand volts. The men were carried into an adjoining building and every effort was made to resuscitate them. One seemingly revived, but fell dead in a few minutes, but the others did not regain consciousness.

**Obituary Notes.**—Dr. Nathaniel Wilson Leighton died on August 12th, at his home in Brooklyn, after a brief illness. He was sixty-six years old and was born in Falmouth, Me. He was graduated from the Medical School of Maine, at Bowdoin College, in 1857, and from the now defunct New York Medical College in 1858. He was house physician and surgeon at the Kings County Hospital in 1859, and later at the Eastern District Hospital. He served during the Civil War on the army medical staff and received the brevet commission of lieutenant-colonel in 1864. He then resumed practice in Brooklyn and was for twenty years a pension examining surgeon. He is survived by two daughters and three sons.—Dr. F. H. Fincke, of Baltimore, a member of Commissioner-General Peck's staff, died at Chicago on August 13th, of heart disease. He had been assigned to duty as expert in medicine, dentistry, and chemistry in the Department of Liberal Arts and Chemical Industries at the Paris Exposition.—Dr. James L. Kortright died on August 14th, at Middletown, N. Y. He was born in Brooklyn in 1859, and was a graduate of the College of Physicians and Surgeons in this city in 1881. He practised in Brooklyn, where he was one of the visiting staff of St. Catherine's Hospital, until about a year ago, when he removed to Middletown in the hope of obtaining relief from pulmonary trouble. He leaves a widow and two children.—Dr. Joseph Coblentz, formerly of Reading, Pa., died on August 6th, at Vaughn, Wash., at the age of seventy-two years.—Dr. Andrew K. Smith, Surgeon U. S. A., retired, died of apoplexy on August 14th, at Highland Falls. He was born in Connecticut and was a graduate of Jefferson Medical College in 1849. He entered the army medical service in 1853. He was retired in 1890, and had since resided in this city. A widow and a daughter survive him.—Dr. George W. Ammon died suddenly at Reading, Pa., on August 13th, at the age of thirty-seven years. He was a graduate of Jefferson Medical College in the class of 1888.—Dr. Samuel B. Gilmore died at Philadelphia on August 13th, of typhoid fever, at the age of twenty-three years. He was graduated from the medical department of the University of Pennsylvania at its recent commencement.—Dr. Tunis L. Schenck, of Brooklyn, died suddenly on August 15th, of Bright's disease, at the age of fifty-eight years. He was born in Flatbush, and was graduated in medicine from the College of Physicians and Surgeons in this city in 1865.—Dr. Edward T. Shepard, of New Orleans died on August 15th, at the age of fifty-five years. He was born in Cincinnati, but went to New Orleans, in early life, and was a graduate of the medical department of the University of Louisiana in 1867. He was one of the physicians to the Louisiana Retreat for the Insane, and was at one time a member of the board of administration of Charity Hospital.

## Society Reports.

### THE BRITISH MEDICAL ASSOCIATION.

*Sixty-Seventh Annual Meeting, Held at Portsmouth, August 1, 2, 3, and 4, 1899.*

(Special Report for the MEDICAL RECORD)

GENERAL SESSIONS.

*First Day—Tuesday, August 1st.*

THE proceedings began by a meeting of the council at 9:30 A.M. This, which was private, was followed at 11 A.M. by two religious services, one at the Church of St. Mary, Southsea, where a sermon was preached by the Right Reverend Bishop of Winchester, and the other at the Roman Catholic Cathedral, where there was high mass followed by a sermon by the Rt. Rev. Monsignor Cahill.

The first general meeting of the association commenced at two o'clock The president of the council announced the absence of the president, Sir Thomas Grainger Stewart, through ill-health, upon which a vote of condolence was passed.

DR. WARD COUSINS, on taking the chair as president-elect, alluded in feeling terms to the regretted absence of his predecessor and proposed that a telegram should be sent to him expressing the hope that he would be speedily restored and regretting his enforced absence. This was carried with acclamation. Dr. Ward Cousins expressed his high appreciation of the honor the association had conferred upon him, and said that the town of Portsmouth would do what it could to entertain them in a suitable manner, and he (the president) hoped they would combine scientific discussion with amusement.

**Address of Welcome.**—The mayor, aldermen, and council of Portsmouth then entered, and the mayor, addressing the meeting, said that in the name of the corporation of Portsmouth he extended a hearty welcome to the British Medical Association. Portsmouth was not a great educational centre, but it nevertheless possessed not a few advantages, and would in no sense be described as a mean town, for it was the headquarters of the British navy, had unrivalled dockyards, and stores sufficient to equip the largest fleet that could be assembled. Some of the famous old "wooden walls" of England were in their possession, and some of the newest pattern; they had armed forts of a unique character in the bay, and they could boast of Haslar Hospital and Training College for the navy, and Netley for the army. He trusted that their deliberations would result alike to the advantage of the medical profession and the general welfare of mankind. In addition, Portsmouth was a busy town and a favorite watering-place and seaside resort. He, the mayor, in common with all his fellow-townsmen, were proud of the honor conferred on Dr. Ward Cousins, whom he heartily congratulated upon attaining the highest position it was in the power of the profession to bestow, and Portsmouth joined him in wishing the association a very successful conference under the presidency of their distinguished fellow-citizen.

**Report of the Council.**—DR. SAUNDBY, when the mayor and corporation had retired, moved the adoption of the annual report. They had just had, he said, a most prosperous year, financially, and their revenue might fairly be described as enormous, £42,924, against liabilities £38,188, leaving a surplus of £4,736. The council of the association had not been idle in other respects, for when the London Chamber of Commerce levelled at the medical profession the accusation of taking secret commissions, not only from druggists and chemists and other tradesmen, but from undertakers, the association after making strict inquiries could obtain no evidence that substantiated the accusation and called on the London Chamber of Commerce to prove their allegation; but that body merely replied by acknowledging the receipt of the communication, and the council repudiated with indignation the unfounded accusation that any number, if indeed any, of medical men were in the habit of going about with an undertaker's card in their pockets, debating which would be the more profitable course, to cure the patient or let him die and pocket the undertaker's commission. Monstrous!

The council had under consideration the mode of registration of medical men in the different parts of the empire, and application had been made to the India and colonial offices to inquire into the system of registration in the various dependencies of the empire. To which the former replied that there is no system in India; but the colonial office replied, offering, if the association would specify precisely the particular kind of information required, that the colonial secretary would address a circular despatch to the governors of all the colonies requesting them to supply it. This was done, and the matter was still under consideration.

The question of the inadequacy of the fees paid to medical witnesses was under the consideration of the parliamentary bills committee, and a memorial upon the subject had been drawn up and presented to the Home Secretary, to which that official replied by stating that he could not receive a deputation on the subject, nor did he think any useful purpose would be gained by so doing.

The Secretary for the Colonies had the fact brought before him that in Jamaica medical men were obliged, under a penalty of 40*s*., to notify infectious diseases, but were not awarded any remuneration for the duty thus imposed, and replied that he had instructed the governor of that colony to remedy the defect by introducing a law to provide for the payment of fees to medical men for notifying infectious diseases and to protect them from any legal consequences of such notification.

A new research scholarship had been founded in memory of the late editor, Mr. Ernest Hart, of the annual value of £200.

Venereal disease, said the chairman of the council, was a burning question that required to be carefully handled. A committee had been appointed to consider the subject, and a memorial sent to the government on behalf of the association, urging the appointment of a departmental committee to discover how great the evil was, and to express opinions as to any means that could be devised for preventing or limiting the spread of venereal disease among the civil population of the country; but no step in this direction had yet been taken by the government.

The members of the council of the association were not in a hurry as regards the midwives bill, but were watching carefully the proposed legislation on the subject. A resolution was drafted and sent to the General Medical Council, to each member of the House of Commons, and to the principal newspapers in London and the provinces. The council had since learned that the midwives bill had been abandoned for this session.

The president of the council then moved the adoption of the report. The treasurer of the association seconded, and stated that their assets were more valuable this year than last; the revenue for next year was promising, but there was, he regretted to say, a disposition on the part of some members of the association to shirk the payment of their subscriptions. It would be noted that the expenses connected with the printing and distribution of the journal amounted to £21,664.

and the amount received for subscriptions was only £19,598; but, on the other hand, advertisements brought in a further sum of £19,325, so that the journal paid for itself, a result due to the excellent business capacity of all concerned in its production.

Dr. Hartley proposed that the various items of the report should be taken in detail. His principal objection was that the cost of printing the advertisements was greater than the amount expended on the literary portion of the journal, and that the two accounts should be kept separately. The motion was seconded, and on being put to the meeting was rejected on a show of hands by a large majority.

Mr. George Brown objected to the statement that the midwives bill prepared by the association had been brought before the House of Commons, which was considering another bill the passing of which would be a disaster, not only for the medical profession, but for the public. It was promoted by the Midwives' Institution and a few gynecologists, and although it had been adopted by Mr. Balfour it did not represent the views of medical men. It was time that the British Medical Association took strong and concerted action in the matter. He moved a resolution to that effect.

Mr. Victor Horsley traversed Mr. Brown's statement and stated that the bill repudiated medical control over midwives, and that Mr. Johnson, M.P., who introduced a deputation to the lord president of the privy council, stated that medical men approved of it, but the general public had no idea of the aspirations of the Midwives' Association, and he had heard Mrs. Jacob Bright state that the midwives would not rest satisfied until they had a distinct and independent status.

Dr. Brierley thought the mischief was exaggerated, although the Duke of Devonshire had twice declined to hear the medical profession in opposition to the proposed midwives bill. No other profession or trade stand would such arrogant treatment at the hand of a cabinet minister.

It was then proposed that Mr. Brown's resolution be adopted with the rider added by Dr. Brierley, and this was carried.

Dr. Crocker proposed a vote of thanks to the retiring treasurer of the association, Dr. Charles Parsons, for his services during his term of office, and he was elected a vice-president of the association for life. He had been appointed in his absence three years ago when the meeting of the association was held at Carlisle, and in returning thanks he said that it was a matter of no small satisfaction to him that he left the association in a very flourishing condition and the owners of their own freehold premises in London, where they had forty men at work in the printing department, and a considerable number of clerks, two of whom were young women. Thanks to Mr. Fowkes, the general manager, everything worked smoothly, and when that gentleman came to retire, as in time he must, he (Dr. Parsons) hoped the association would let him do so on a handsome pension which he certainly deserved, for the association owed him more than the bulk of its members perhaps realized.

Mr. Butlin proposed Mr. Andrew Clark as treasurer, who, he said, was practically the minister of finance of the association. The nomination was duly seconded, and Mr. Clark was unanimously appointed treasurer of the British Medical Association, and duly returned thanks. He is not such a good speaker as Dr. Parsons, but no doubt will improve with practice.

Dr. Muir then complained that Scottish medical officers were completely at the mercy of the local district councils, from whose decision, no matter how contrary to right and justice, there was no appeal. He told of a recent glaring instance of oppression on the part of a district council in Scotland, and moved that the victim be assured of the sympathy of the association. As this was merely a "pious opinion," it was carried.

Mr. Victor Horsley then moved: That any draft bill for the amendment of the medical acts shall contain *inter alia* provision for further direct representation of the profession in the General Medical Council and for the establishment of a one-portal system of qualifying examination. There were, he said, two ways of getting what they wanted: first, to ask parliament to make the council an elective body, which, however, they were not likely to grant; and, secondly, to carry out the provisions of the medical acts of 1855–56. He thought the action of the British Medical Association in this matter had been discreditable, and on some protests being made he repeated the epithet, and said no other was applicable under the circumstances. This question had been considered at a special meeting of the council, when the following resolution was passed:

"*Resolved*, That the medical acts amendment bill as amended be referred back to the parliamentary bills committee with a request that they redraft the bill and submit it to a future meeting of the council."

The matter was reconsidered by the committee and the following resolution passed:

"That the sub-committee on the medical acts amendment bill be appointed to reconsider and amend, if necessary, the draft bill of the parliamentary bills committee."

This was done, and Mr. Horsley complained that the bill was emasculated and rendered worthless. Dr. Saundby suggested cut in two, but Mr. Horsley insisted on the word he had selected to signify the action of the committe toward the bill.

Dr. Brierley seconded the resolution, which was carried after it had received the support of Dr. Walker. This gentleman was also of opinion that the British Medical Association should have a representative in the House of Commons, and thought they might usefully employ part of their large surplus in sending Mr. Victor Horsley to Parliament to represent them.

The suggestion was not favorably received by the meeting.

Dr. Crocker gave his account of the action of the council: they did fight for the amendment bill, and Dr. Pope said that as regards the representation of the profession in the General Medical Council, if it had been insisted on, they would have lost the whole of their Irish members and many of those from London. This remark seemed to cause annoyance to a gentleman at the back of the hall, who shouted "Let 'em go, we don't want 'em!" which was received with laughter and tokens of dissent.

**The Indian Medical Service.**—Dr. T. M. Nair, of Madras, had given notice that he would move the following: That the present constitution of the civil medical service of India, whereby all important, educational, scientific, and sanitary appointments are exclusively reserved for members of a military medical service, namely, the Indian medical service, who are only lent for civil works till required for war purposes—is wrong in principle, prejudicial to the interests of medical education, science, and sanitation, and unsuited to existing conditions and requirements; and that in the interests of medical education and sanitation in India, and for the general advancement of medical science, the civil medical department should cease to be an appendage of, or a close reserve for, a military service, and all educational, scientific, and sanitary appointments in the department should be thrown open to the best talent available from the open profession of medicine.

As Dr. Nair was not present to move his resolution,

it was moved by Dr. Sarat K. Mullick who added some grateful appreciation of the work done by the military medical service of India, which, he said, had created the science of medicine in India.

The resolution was seconded by Dr. Potter, who had nothing good to say of his fellow-countrymen, but stated that the Indian government put incompetent men into posts simply because they were military men. He instanced the case of a professor of midwifery whom he had to call in consultation, and who admitted that he knew nothing whatever practically of the branch of the profession he was supposed to teach.

General Harvey, director of the military medical service in India, said he could not remain silent and hear that service maligned; the civil medical service of India was open to every one through the door of competition, and instanced several cases in which medical men holding high appointments were not military men, while one was not even a subject of her majesty. The reason so many civil posts were occupied by military surgeons was because the government could not find any one else competent to fill them. Let those gentlemen who objected compete for the posts themselves, and if they came out first from the competition they would get the appointment.

Colonel McLeod, examiner at Netley, said that from his own experience the men who were appointed were wholly competent to fill the posts and to maintain the reputation of their predecessors. Moreover, in the great cities the medical appointments were in the hands of the corporations of those cities, mostly natives, and, strange to say, they all appointed Europeans. It was the business of a government to get the best men it could, and he must say he doubted the accuracy of the statement that had been made to the contrary.

This led to some angry exclamations from Dr. Potter, but the chairman intervened at once and stopped what had threatened to be a scene, though the heat was all on one side, and that not the military one.

Dr. Mullick then, in replying, acknowledged in very handsome terms his own personal obligations to General Harvey, and to Colonel McLeod, and repeated what he had already said about how much India owed to the military medical service; but, he said in concluding his remarks, he thought the time had come when others should have a chance. As he did not refer to the remarks made by his seconder, it may be presumed that he did not agree with him.

The resolution was then put to the meeting and lost, no doubt chiefly on account of the judicious advocacy of Dr. Potter.

**The President's Address.**—Dr. J. Ward Cousins, M.D., F.R.C.S., began with a review of medical progress from the beginning of the century, noting the discovery of vaccination and its results, the lessons of the cholera epidemic of 1848 and those of the Crimean war. He spoke of the wonderful results of the labors of Florence Nightingale in the way of hospital and nursing reform, and paid a tribute to the late editor of the *British Medical Journal*, Mr. Ernest Hart, who was a pioneer in preventive medicine, had labored with enthusiasm in the great questions of epidemic cholera, water-borne disease, vaccination, and many others, and had raised the *British Medical Journal* to the position it now occupied.

**Pathology.**—The early part of the century was the period when the chasm between morbid anatomy and living pathology began to be bridged over. The old humoral theories of disease had been abandoned, and it was no longer believed that disease depended on an excess of bile, or blood, or phlegm, or other fluids of the body, and that it could be cured by getting rid of these elements. Hunter's pathology was a long way in advance of that of his predecessors, and he was the first to recognize that all the processes of the organism belonged to biological science. He saw that disease was only a deviation from health, and that both conditions were regulated by the same vital laws.

About 1830 great improvement took place in the manufacture of the microscope, and it was then that the value of microscopical examinations began to be generally appreciated.

Physiology then began to be everywhere recognized as the true basis of pathological study. In 1838 Schleiden made his brilliant discoveries in vegetable tissues, and soon after Schwann investigated the cellular structure of animal bodies. Although the progress of the century has been the outcome of the labors of many able workers, still, the speaker said, the first place should be given to Rudolph Virchow. We are indebted to him for exhibiting histology as the real instrument for unfolding the mysteries of disease. He practically gave to the world a new pathology founded on the results of observation and experiment. Every kind of organic structure and every new formation, he held, could be traced to a vital source, and he denied the possibility of spontaneous generation in either physiology or pathology. He recognized that every plastic exudation, which had been called amorphous material, contained living cells, and that these had come from living structures, and thus every new formation must be the offspring of some living tissue in which its living germs arose. The evolution of pathology has progressed side by side with that of biology, and we may say that, in its broadest sense, pathology is an outgrowth of biology. The work of the last fifty years has been a great unravelling of the relations between the healthy and the unhealthy phenomena of life. Through many years biology and pathology have been mutually helpful in their evolution, and we may rest assured that in the coming century their healthy reaction on each other will still go on. Pathology will advance, he said, and the new discoveries of biology will serve as starting-points of new pathological truths.

**Bacteriology.**—Recent investigations in bacteriology have been a great stimulus to the study of comparative pathology or the relations between the diseases of mankind and those of the lower animals. It was only a few years ago that the real nature of human tuberculosis was discovered, and its intimate association with a like disorder in domestic animals was demonstrated. Laennec was the first to describe tuberculous nodules, tracing their development from miliary tubercles. In 1865 the inoculation of animals with caseous material was found to produce in their bodies tubercles which were apparently similar to the disease in man. The probability of contagion was suggested, but that only excited ridicule at the time. Tuberculosis was generally regarded as an hereditary disease, but still external influences were looked on as powerful exciting causes. The microscope at that time failed to detect in the diseased parts any specific elements. Tubercle was examined by the keenest and best trained observers in the world, but it was pronounced to be so indefinite in structure that it could be recognized as much by negative as positive qualities.

In 1882 the whole pathology of the disease was revolutionized by the demonstration of the life history of the tubercle bacillus. The disease is now known to be a specific disorder, and the bacillus is the absolute proof of its invasion and the cause of the morbid changes. The inheritance of constitutional peculiarities, the liability to chronic inflammations, and the susceptibility to external influences are now regarded as simply conditions favoring the establishment of the microbe within the body, as auxiliary factors, which

are nevertheless no less potent because the specific characters of tuberculosis have been revealed.

Bacteriological investigation has already unfolded many of the problems connected with diphtheria. The researches began in Germany in 1882, the chief experiments being by Behring and Kitasato, who were soon followed by Roux, of the Pasteur Institute in Paris. We now know that many animals are liable to the attacks of this disease and that it is communicable to the horse, rabbit, guinea-pig, and fowls. Horses when attacked develop symptoms similar to those which follow inoculation of the diphtheritic toxin.

The bubonic plague which was epidemic throughout Europe during the Middle Ages has scourged India and the East during the last three years, and many workers have been led to make the disease the subject of special study. In 1894 a bacillus was discovered in the blood of a patient suffering from the plague. It is believed that rats are largely responsible for spreading the infection, squirrels and cats have been known to die of the disease, and it has recently been stated by a French observer that fleas are disseminators of the disease.

Ogsten in 1881 detected micro-organisms in acute abscesses, and this discovery has resulted in a demonstration of a direct connection between suppuration and pyogenic organisms. It is certain that the staphylococcus, the streptococcus, the bacillus coli communis, and others may be the exciting causes of septic conditions in man and the lower animals. Are the micro-organisms the direct cause of septicæmia or is it produced by the chemical substances which they elaborate? All animals appear to be liable to blood poisoning. Dr. Hewlett says that poultry, pigeons, pheasants, and sparrows are susceptible to a disease which Pasteur proved to be excited by a bacillus identical with the bacillus of rabbit septicæmia. Even the mouse has its specific septic disturbance, and the organisms which are present in its blood appear to be identical with those discovered in the septic disorders of swine.

**Malaria.**—This disease has been traced to a parasite which has the power of assuming a latent condition within the human body, living in the interior of the red blood corpuscles. Manson thinks that it is removed from the blood by some species of mosquito. The parasite is then propagated outside the human body. The insects infect their larvæ, and man is in turn, the speaker believed, infected by drinking the water contaminated by the mosquito, or by inhaling the dust of the dry mud of the pools in which mosquitoes have perished.

With all these advances, however, Dr. Cousins said, we were yet only touching the fringe of the possible revelations of bacteriology. Much that has been done will have to be done over again, and much that has been written will have to be rewritten. Many questions have yet to be solved. The striking differences in the susceptibility to disease of different individuals are still to be explained. Some seem to possess a natural insusceptibility to infectious disorders while others are susceptible on the smallest exposure. He did not believe that any individual can inherit or acquire an immunity from all forms of disease, although some races appear to acquire partial immunity from yellow fever and malaria. Race immunity is generally explained by natural selection and protection by inheritance. During the long periods susceptible persons were weeded out, and those that remained are capable of transmitting their insusceptibility. But we learn from experience the resisting-power to infectious diseases is very variable, and that there is no such thing as absolute immunity.

**Surgical Anæsthesia.**—"In the noontime of this Victorian era," Dr. Cousins said, "surgical anæsthesia was the brilliant gift to the civilized world by our brethren and kinsmen across the great Atlantic, and at the last annual meeting but one of this, the greatest of the centuries, we desire to record our admiration of the courage and genius of William Morton and the wisdom and surgical skill of Charles Collins Warren, and again to crown their memories with enduring fame as great benefactors of the human race."

The original anæsthetic agents still hold the confidence of the medical world, but there are many differences of opinion regarding them, and we may hope that soon safer remedies may be discovered. Sir James Simpson entertained this hope until the end of his career, and Dr. Snow, who did so much to perfect the administration of anæsthesia, believed that better agents could be found. Surgical anæsthesia, however, can never be wholly stripped of risk; but the risk is now greatly reduced by our modern safeguards and improved methods of administration. Before the introduction of anæsthetics operations were confined to cases in which they were absolutely necessary, and both patient and surgeon had to be brave and determined—one to suffer pain, and the other to perform delicate manipulations with rapidity and dexterity. The introduction of surgical anæsthesia exercised at once a great influence on the practice of surgery. Within six months the surgical work of the London hospitals was actually doubled, and in every department the domain of surgery rapidly extended. Unfortunately, the surgical world was quite unprepared for the sudden outburst which followed the great discovery. Surgical instruments were few in number, and very different from what they are to-day. Hospitals were for the most part constructed regardless of sanitary precautions, and without any means for securing adequate light and fresh air for the safe management of surgical cases and treatment of acute diseases. Nursing then meant nothing more than the attendance of a parcel of ignorant women who possessed no qualification for their duties, and who had never received a moment's training. It cannot be gainsaid that in those days thousands of lives were sacrificed to ignorance and superstition, and thousands more to inebriety and dirt. Under such conditions it is not surprising that suppuration occurred in almost every wound, and that septic processes were started by every operation.

The high mortality which occurred in the institutions both of Great Britain and on the Continent roused the profession to earnest investigation, and the unsanitary condition and many structural defects of the hospitals were soon revealed. Waves of gangrene, pyæmia, and erysipelas ran through the wards of these old buildings, and the medical officers saw clearly that these disorders were infectious and carried from one patient to another.

And now, Dr. Cousins said, his review had reached the dawn of another important epoch in the medical history of the century. The terrible ravages of sepsis helped to bring about better ward ventilation and improved sanitary arrangements in many of the old buildings. The evil of overcrowding was checked, and many reforms followed in the administrative and nursing departments. The technique of operative surgery was also improved. Water dressing or irrigation was used by some, others closed the wounds with friar's balsam; and others, after bringing together the cut integuments with plaster strips, used dry wool and pressure. There can be no doubt that greater cleanliness and new methods of treatment were introduced at this period with success, and these advances helped to prepare the surgical world for the time when the doctrines of Lister revolutionized the practice of surgery. Lord Lister demonstrated to the world the part that living organisms play in the production of septic

diseases, and disclosed the simple means by which their growth and development could be prevented. He proved that wounds could be made to heal by first intention, that the process of suppuration could be controlled, and that precautions easy of application would stop the development of septic disorders.

**Roentgen Rays.**—There is at this time no organ or region of the body which has not been investigated by the surgeon, and year by year his art has gained wider application, and reached a higher state of perfection by new methods of diagnosis and improvements in surgical technique. Only three and a half years ago the discovery of Professor Roentgen was communicated to the scientific world, and it has already revolutionized the old methods of military surgery, and rendered easy the location of metallic substances impacted in the body. It has given a fresh impulse to the study of diseases and deformities of the skeleton, and is an invaluable guide to the treatment of injuries and diseases of the epiphyses and joints.

**Hernia.**—The time is coming when there will be a considerable reduction in the number of adults suffering from hernial troubles, the speaker said, and this important result will be due to the improved technique of radical operations. There will also be a great reduction in the number of persons afflicted with loss of sight, the issue of the modern treatment of infantile ophthalmia and the corneal diseases of children, and also the early correction of errors of refraction.

**Adenoid Growths.**—During the last twenty-five years great advances have been made in aural surgery, and the number of deaf persons in the world has been greatly reduced. It took Dr. Hans Wilhelm Meyer some years to convince the profession that pharyngeal vegetations were a common cause not only of loss of hearing and obstructed nasal respiration, but also of defective articulation and impaired mental and bodily development. But he lived to see his discovery acknowledged, and it is no exaggeration to assert that the number of young persons who have been saved from life-long deafness by the removal of these obstructing glands amounts already to hundreds of thousands, and that hundreds of thousands more will be delivered from this terrible affliction in future times.

**Septicæmia.**—The true causation of human septic disease is still undetermined. Up to the present time the toxin of septicæmia has not been isolated, although the bodies of infected animals must contain a very powerful poison. The filtrates of streptococcus cultures have exhibited very little toxic action, and there is no very satisfactory evidence of their value in the treatment of septic diseases. The prevention of inoculation through a wounded surface is now possible, but when the disease is once fully established we are practically powerless to cure it. A remedy will doubtless in time be found, but at the present time we have no cure for sepsis when it has entered the body.

**Cancer.**—Dr. Cousins said that the treatment of cancer offers a great field for inquiry in coming years. Cancer is said to cause six or seven per cent. of the total deaths of both sexes over forty-five years, but these figures are probably rather under than over the real number. Recently some investigations have been published suggesting that the disease is due to a parasite, and Mr. Plummer states that he has discovered parasitic bodies in eleven hundred and thirty cases out of twelve hundred and seventy-eight. Local irritation is certainly a great factor in the development of cancer, and this may possibly favor the entrance and growth of the parasite. Other observers have suggested that the disorder is an infectious disease. A curative serum for carcinoma has not yet been discovered. Up to the present time surgical treatment yields the only good results, and the earlier it is adopted the better. Much good will doubtless come from improvement in our methods of diagnosis, so that the surgeon will be able to recognize the disease in its incipient stage. It is a satisfaction to know that many of the best pathologists and surgeons of the present day are diligently laboring in all parts of the world to unfold the mysteries which still surround this terrible disease.

The speaker then took up the question of preventive medicine, the battle for which is to be fought out chiefly in the dwellings of the working classes. Much, very much, must yet be done in the way of educating the public up to the recognition of the importance and absolute necessity of cleanliness and sanitary living.

Mr. Butlin, of St. Bartholomew's Hospital, moved a vote of thanks to the president, and said he came prepared to hear a good discourse, but he was not prepared for an ovation so full of facts and wise and able counsel as he had listened to.

Professor Ogston, of Aberdeen, seconded the vote of thanks, which was carried with acclamation.

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## SECTION OF MEDICINE.

*First Day— Wednesday, August 2d.*

**The Treatment of Tuberculosis.**—Dr. T. Mitchell Bruce took this as the subject of his presidential address.

**The President's Address.**—Dr. T. Mitchell Bruce in opening the session outlined the work before the section. There were two subjects appointed for formal discussion, namely, (1) the medical tests required for admission to the public services, and (2) the prevention and treatment of tuberculosis. The first subject was one very naturally suggested by the place of meeting. Portsmouth, having long been one of the greatest military and naval centres in Great Britain, was associated in the minds of every one with the army and the fleet, and the choice of this subject would give an opportunity to the many members of the army and navy medical services to discuss something with which they were practically familiar, and on which therefore they could speak with the authority of experts. But the subject did not concern them alone, for all physicians, as loyal citizens, were deeply interested in the selection of the personnel to whom the interests and honor of the United Kingdom in its relation to other countries would be entrusted.

The question of the prophylaxis and treatment of tuberculosis was also not entirely foreign to Portsmouth, for on the other side of the Solent lay the Isle of Wight, and the places on this island and the coast region of the south of Hampshire and Dorset, with Netley, Southampton, the New Forest, Milford-on-Sea, Southbourne, Bournemouth, Swanage, and Weymouth, were the types of English winter quarters for the phthisical, rivalling in this respect the health resorts of Devon and Cornwall on the west, and of Sussex and Kent on the east. Here were to be found many members of the association whose time was devoted almost exclusively to the care of sufferers from consumption, many of the latter being entrusted to their guidance each winter by colleagues in the other parts of Great Britain. Naturally, he continued, this was the second direction in which the officers of this section turned for a subject of useful discussion; and, indeed, the extraordinary interest being manifested at present in the treatment of tuberculosis of itself justified the choice. And inasmuch as there now existed a firm basis of etiological and pathological facts on which to work, it was thought only proper not to confine the discussion to the bare question of treatment, but to study also the subject of prevention. Dr.

Bruce said that he expected great things from this discussion. It might be somewhat premature to inquire concerning the results of the open-air treatment of tuberculosis, at any rate in this country; but he was confident that the discussion would be entered upon with an enthusiasm begotten of the consciousness of rapidly increasing knowledge and of growing hope, and that in the hands of such masters as had promised to contribute to it, the discussion would be continued on a high level and prove a genuine practical success.

If the work about to be begun in the section should result on the one hand in an improvement in the quality and efficiency of the public services, and, on the other hand, in a reduction of the misery and waste wrought by tuberculosis, the speaker thought the members would be able to congratulate themselves on time profitably as well as pleasantly spent, and he looked forward with confidence to the outcome of the labors of the next three days.

**Medical Tests Required for Admission to the Public Services.**—Dr. T. D. Savill, in opening the set discussion on this subject, considered that the higher the type of the man the less chance he had of passing the tests and consequently of rejection from the army.

With regard to height, there was no doubt that five feet six inches (about the speaker's own height) was the best for all practical purposes: a shorter man could stand more fatigue and undergo more exertion than a taller man; the shorter man was capable of more endurance. A man might have every quality suitable for service in the army and yet be rejected on the one question of height. It would be a good thing if every young man was obliged to submit to military training for two years. See the Germans: what big, broad-shouldered athletic fellows they were, and how easy it was to tell a man who had been drilled from one who had not! There ought to be a general conscription enforced.

Dr. Sykes was of the opinion that the officers secured in the army were unsuitable; they were selected for their literary and scientific attainments and no account at all was taken of their physical capacity: the consequence was the wrong men were chosen. There was only one nation besides the British that chose its officers by literary tests, and that was the Chinese, and could anything be more inefficient than their army? There was no uniformity in the examinations. He (Dr. Sykes) knew of a young man who had a chronic abscess in his ear, had it well syringed, and passed the test examination; another, admirably fitted in every respect, had slight varicose veins and was rejected: had he gone to a civil hospital and been operated on, he would have been accepted. Chest measurement is a fallacious test. Say the minimum was thirty-five inches, and two men presented themselves for examination and passed, though one was six feet in height and the other five feet six inches; there was an immense difference in the physique of the two men, but because they had the requisite chest measurement they were passed. Why did the young officers die off in India? Because of their poor physique and consequent inability to sustain fatigue and resist the effects of the climate. "There is something rotten in the state of Denmark," said the speaker in conclusion, and the system urgently required revision.

Dr. Barr was of opinion that the best men were wanted, and thought it was a disastrous step to lower the standard of height and chest measurement in order to introduce into the service an inferior type of men. Brave men were wanted, not fellows with a pulse beating ninety strokes to the minute. So soon as he gets in a warm corner such a man is useless, mischievous even, for one coward with nerves will create a panic and destroy an army in action.

Surgeon-General Muir asked for information as to what points constitute a good standard. He thought that the amount of expansion of which a man's chest was capable would be a better test. Given two men of the same height, one with a chest expansion of two inches, and the other with a chest expansion of four inches, the latter would unquestionably be the better man. He thought that the physical examination should follow the literary, for the latter might break a man down and render him unfit for service. As regards height, what was the type of British manhood? It would be well to have that point established on a correct basis. What was wanted in soldiers and officers was endurance and not merely good shooting.

Surgeon-General Cuffe thought that the most suitable class of men came from the agricultural districts, but they were more difficult to get than was formerly the case. As a rule, very tall men have a poor chest measurement, but the ordinary run of agricultural recruits turned out well. The officers were deficient in physique very often, though eminently qualified from a literary point of view; but vacancies occurred, and it was necessary to fill them with the best men obtainable. With regard to "lame ducks," it was not the examiner's business, said the speaker, to accept them and by operating on them afterward make them efficient; but if they went to a civil hospital and got cured, then they might be accepted. The color test was a very important one, for a man would be of no use who could not distinguish signals; therefore, color-blindness quite unfitted a man for the service. Some candidates brought first-class certificates from men eminent in the profession, and had to be rejected by the examining surgeons because sufficient care had not been taken by the man who gave the certificate, or he had been imposed on. He instanced a case of a young man whose father was an influential member of parliament, who was certified as fit, and when examined he was found to have a lateral curvature of the spine. It was impossible for any one who was not acquainted with the routine of examining recruits to judge of a man's fitness for the service. A disease such as a minor amount of varicosity in the veins of the leg, for instance, would be taken advantage of by a lazy man as an excuse for shirking his duty; therefore it was essential not to accept any one suffering from such complaints as did not actually unfit him for the service, but nevertheless rendered him less capable of enduring an extra strain on the system.

Dr. Calwell thought it was a question of averages; but in examining for insurance, a person with "nerves" was not considered a first-class life. He had met with a man who might be described as a perfect specimen of humanity, but he was afflicted with nervousness and would not be accepted.

Colonel Welch, R.A.M.C., said personal appearance was an important consideration. What was wanted was the best that could be got—not perfection, which was unattainable; but it was seldom that even the most suitable was secured, often the reverse of that. The men who served the Queen were not the best specimens of their class and did not even represent the medium of the race to which they belong. A certain amount of literary acquirements was, of course, necessary, but physical qualifications were by no means undesirable, and should receive more consideration than they got. There was necessarily variation of results, for tests were elastic, and it was not fair to blame the examiners. If albuminuria (which had been mentioned as sufficient to insure the rejection of a candidate)—if albuminuria was associated with structural changes—well and good, it should be held sufficient to exclude a man from the army, but if it was merely functional, then it was not of so much consequence.

Chest measurement, as a rule, did not take the development of the muscular system into consideration; there should be a fixed standard of comparison in such cases, for there might be a great difference in the breathing capacity of two men that measured the same number of inches around the chest. A good test of fitness was the gradual elimination of the unfit: no lad under twenty should be accepted except as a probationer. The proportion of height to weight was very important, for increase of height unaccompanied by proportionate increase in weight and development was waste. He was of opinion that a couple of years' military training was of incalculable benefit to a man, especially as regards discipline.

Dr. Mitchell Bruce, in summing up the discussion, advised members to draw up some resolutions making a request of the war office in the name of the British Medical Association that the physical should precede the educational test; that soldiers should not be required to serve in the tropics under the age of twenty-two years; and that the physical standard for admission into the army should be reconsidered in the direction of raising and not of lowering.

**Hypertrophic Cirrhosis with Pigmentation.**—Dr. William Osler, of Baltimore, Md., read a paper with this title. The bronzing, he said, preceded the occurrence of diabetes, which was not an essential feature of the disease, but a late symptom that might be entirely absent. The pigmentation was not confined to the skin, but was distributed throughout the various organs of the body. He gave several cases: A patient complained of an enlargement of the liver and of a change of color: on examination the spleen was also found to be enlarged. He was in no pain, and was more concerned about his altered appearance than the increase in size of his liver, of which he was sensible. He was not an alcoholic subject, but had always been in good health. The first symptoms were noticed in 1895, and in 1896 when he again came under observation they had increased to a very marked degree, and there was considerable emaciation. Afterward erythema nodosum and purpura supervened, and the man died in 1897; he had ascites toward the close of his illness, but glycosuria never occurred. Professor Osler said it was this form of cirrhosis that was described in France as diabète bronzé, sans diabète.

The second case was that of a pilot, aged forty-eight years, who first applied for advice respecting the discoloration of his skin; he also had enlargement of the liver and spleen, but no glycosuria. He was not an abstainer, but had never been a heavy drinker, and had worked as a pilot for fourteen years, an occupation that requires a man to be careful and abstemious. He had never been exposed to malaria; at an early stage of his illness he had purpura and erythema, and in two years he had a recurrence of these complications more than one hundred times.

It was probable that this form of cirrhosis was a morbid entity associated with deterioration of the blood corpuscles, diabetes being quite a secondary complication. The essential difference between it and other forms of cirrhosis was the peculiar pigmentation by which it is characterized.

**Uric Acid and Its Effects.**—Dr. Alexander Haig then read a paper entitled "Uric Acid and the Circulation: Some New Methods of Estimating Its Effects." High blood pressure and defective capillary circulation, he said, were constant concomitant signs of the uric-acid headache. The headache was known to be due to uric acid, because all diet and drug treatment that relieved it diminished the amount of this substance in the blood and urine. The headache was due to the effects of high blood pressure on the cranial circulation. If Raynaud's disease was due to uric acid, it followed that similar but less marked alterations in the rate of the capillary reflux would be found corresponding with other and less marked alterations in the amount of uric acid in the blood. After a good deal of experimentation, he had adopted that test which gave a constant area of pressure, and he measured the duration of the pressure and the rate of the return of the color by means of a metronome beating half seconds. He further added to the test thus constituted an observation of the rate of disappearances of the after-image, or fatigue image of the retina, as a measure of the good or bad capillary circulation in the retina. He also observed and recorded in curves either the size of the radial artery by Oliver's arteriometer, or the blood pressure by the Still-Barnard sphygmometer, and the figures shown were thus obtained. A few months of daily observations proved that all of these things altered together; that slow capillary reflux went with high blood pressure, or dilated radial artery, and with slow disappearance of the after-image, or *vice versa*. Further, it showed that all these results followed exactly the well-known physiological fluctuations in the excretion of uric acid, the capillary reflux being slow in the morning and quick in the evening, and that these results corresponded with, and could be corroborated by, the examination of the urine, the examination of the granules in the blood, and the relation of surface to deep temperatures. In reference to drug action he soon found that, just as he had previously known that he could control the uric acid in the urine, the granules in the blood, and the relation of surface to deep temperature, so now he could control, also with absolute certainty, the capillary reflux, the retinal circulation, and the blood pressure, either from day to day or from hour to hour; that this could be done only by controlling the uric acid; but that if he failed to control the uric acid, he also failed to control the circulation and its results. Any one could duplicate the physiological results in his own person, as in every one living the ordinary life of this country the capillary reflux was at its slowest some time in the morning, and at its quickest some time in the evening; but if the normal uric-acid curves were altered, the capillary curves would follow. These tests were, singly or combined, indices of the amount of uric acid in the blood and urine, and this in the case of the capillary reflux could be estimated by any one without instruments and in ten seconds of time. Fever on the one hand, and Bright's disease on the other, are thus easily and quickly discriminated, and in the case of Bright's disease and diabetes attention was at once drawn to what he had long regarded as the central factor of these diseases, namely, defective capillary circulation and its consequence, defective combustion. These results showed that the observed relation between migraine with its slow pulse, high blood pressure, and defective capillary circulation, and an excess of uric acid in the blood and urine, was not an accidental coincidence, but a single instance of a general law. Uric acid controlled the capillary circulation of the body, and any accurate record of such capillary circulation was thus an index of the quantity of uric acid in the blood and urine.

No discussion followed the reading of this paper, which was illustrated by diagrams which were removed too quickly to admit of their being copied.

**The Gelatinous Form of Sodium Biurate and Its Bearing on the Pathology of Gout.**—Dr. Luff then read a paper with this title. He said that his experiments were conduced with artificial blood serum, which was easier to procure, and gave the same results as the genuine article. He found that sodium bicarbonate hastened the conversion of the gelatinous into the crystallized form of biurate, which explained why certain mineral waters actually bring on an attack

ot gout; but potassium bicarbonate produced an exactly opposite effect.

**The Nature and Treatment of Gout.**—Dr. Bain then read a paper entitled "An Experimental Contribution to the Study of Gout," and stated that extract of colchicum had no effect on the excretion of uric acid. He presented the following table embodying the results of some of his experiments, showing the excretion of uric acid under varying conditions.

| | Uric Acid | Bases |
|---|---|---|
| Fixed diet | .47 | .055 |
| Colchicum | .51 | .053 |
| Sod. salicyl | .62 | .037 |
| Spinach | .50 | .... |

When asked what constituted a "fixed diet," he replied: "Bread and butter, tea, beef-tea, meat, etc." He considered that sodium bicarbonate was a specific in the treatment of gout.

Dr. Sykes considered that lumbago was a form of gout, and always was relieved by a full dose of sodium bicarbonate.

Dr. Tyson, of Philadelphia, said that there was no subject more difficult to discuss than gout. In America it was not a very common disease, but in his hands sodium bicarbonate gave the best results, and he always gave it the first trial when called upon to prescribe for a patient suffering from an attack of gout; this was always relieved by a continuous use of soda drinks. Clinical experience, he thought, must determine the point.

Dr. Luff was of the opinion that the difference of the results in the experience of the gentleman who had spoken was due to the non-differentiation of gout and rheumatism. In arthritic cases he gave soda, and if it did no good the complaint was gout.

Dr. Bain thought that, in a disease supposed to be due to retention of uric acid in the system, it was a mistake to give a drug that increased the formation of that product. If he might venture to say so, he fancied Dr. Sykes' lumbago was of rheumatic origin—an insinuation which Dr. Sykes repelled with some warmth. It was gout, he said, and his father had had it before him.

The Chairman said that no doubt Dr. Sykes was the best judge of his own case.

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## SECTION OF SURGERY.

*First Day—Wednesday, August 2d.*

**The President's Address.**—Mr. H. T. Butlin made a few introductory remarks, taking as his subject "The Work of the Section."

He said that the officers of the section had arranged for two subjects for formal discussion, the first being the diagnosis and treatment of gunshot wounds of the abdomen, and the second, the prevention and treatment of syphilis in the army and navy. The selection had been guided largely by the knowledge that there would be an unusual number of naval and military medical officers present at this meeting, and the speaker hoped that they would participate actively in the discussion. It had, indeed, been arranged that each of the subjects above mentioned should be introduced by a member of the medical corps of the army or navy. The discussions, however, should not be confined to the members of the medical service in either army or navy, for pains had been taken to select subjects of interest to civil as well as fighting medical men. Especially was this so in the case of the first of the set discussions. Many surgeons in civil life have abundant opportunity to study gunshot wounds of the abdomen, for of late years the use of firearms has increased alarmingly. If a man quarrels with a fellow-workman he gets a pistol and shoots him, or if a lad quarrels with his lass he shoots her, sometimes fatally; then turns the weapon against himself, but rarely with such success that he blows out the little brains he has. The statistics of St. Bartholomew's Hospital illustrated in a remarkable manner the increase in the number of wounds due to firearms. In the seventies and early eighties there was an average of about three cases in a year, but for some years past there have been eleven or twelve cases every year, and last year the speaker had under his own care four patients with bullet wounds of the chest. At this rate, he said, civil surgeons might hope soon to become as cunning in the diagnosis and treatment of gunshot wounds as their naval and military brethren. He did not know whether there was any essential difference in the character of gunshot wounds in civil and in military practice, but there was probably a great difference in the moral effect. The pistols used are very good, but some of them are little better than toys. A civilian shot point-blank and from a short distance was usually horribly frightened, fully expecting to die, so hospital surgeons had to deal with a mental distress much greater than that from which the soldier suffers from a wound which may or may not be dangerous in itself. The speaker was called one evening to see two young men who had been shot, each in the chest, and at very close quarters. One of them appeared seriously injured, and was very ill for several days. He breathed with difficulty, and made no outcry, but the other bewailed his fate in loud groans, and as the bullet had struck him full in the chest, and the assassin was only about four feet distant from him, he fully believed his time was come. When Mr. Butlin came to examine the man, however, he discovered that he presented no sign of serious injury, and was not in the least likely to die, and in fact he recovered perfectly.

Judging by the title of the second discussion it would appear to be a subject of interest to the army and navy man only, but in reality it concerned the civil practitioner as much as, if not more than, the military man. That the question of the reduction of venereal disease among soldiers and sailors was a vital one was evidenced by the public notice which it had attracted. It had been brought up in parliament, and it had been made the subject for the next Parkes' memorial prize.

The number of men suffering from venereal diseases in the army was enormous. For example, the ratio per 1,000 of soldiers in India "constantly sick" of venereal disease during the year 1897 was 39.41; in the West Indies during the same year it was 35.56; and at home it was nearly 12 per 1,000.

If this was the whole story, then the discussion might properly be left to military surgeons, but unfortunately the mischief did not end here. The management of syphilis in the army, owing to the impossibility in most cases of carrying out a sufficiently long continued plan of treatment, was eminently unsatisfactory, and every year numbers of discharged soldiers and sailors suffering from syphilis were let loose upon the community and convey the disease to women and, through them, to children, so that what with the probability of future outbreaks of syphilis in the men themselves and the infection of women and children there could be no question that the health of a considerable portion of the community was seriously impaired. The prevention and treatment of syphilis in the navy and army was a subject therefore in which all physicians were deeply concerned.

Mr. Butlin then reviewed briefly the titles of the papers announced in the programme which, he said, bore the promise of rich fruit.

**Diagnosis and Treatment of Gunshot Wounds of the Abdomen.**—Colonel Stevenson, R.A.M.C., professor of military surgery at Netley, opened the appointed discussion on this subject. The importance of the subject from a military surgeon's point of view could hardly be overrated, while to the civil surgeon the subject was of great, and from the apparently increasing frequency in civil practice of these cases, and increasing interest. In both cases the diagnosis rested on the same appreciation of symptoms, but the treatment in civil and military practice was often different. In civil life the lines on which operation should be performed were clearly laid down, civil practice having been freed from the dread of interference with a serous membrane. In military surgery the apparent slower recognition of the capability of modern surgery in cases of gunshot wounds of the abdomen was in reality due to the conditions under which these cases had to be treated. The wounded men were often left a long time on the field of battle before being picked up, this being an adverse factor in treatment. Then any procedures adopted must be carried out in the field hospitals, in which the personnel was kept as low as possible. The work in these hospitals was done at high pressure, and the military surgeon had to bear in mind the greatest good to the greatest number, and thus often aid might be given to many patients in the same time that one laparotomy—often a tedious process—would take up. Penetrating wounds of the abdomen, when healed by the expectant treatment (*i.e.*, rest and opium), were probably the most fatal class of cases due to injury. In the Crimea 92.9 per cent. of cases resulted fatally; in the American war ninety per cent. He estimated that perhaps in reality only one per cent. of the wounded recovered, and the difference between apparent and real mortality was due to actual penetration not having taken place in eight or nine per cent. of the cases. He believed that when a bullet traversed the abdomen we might rely on the presence of one or both of two conditions: extravasation of intestinal contents or hemorrhage—in either of which a fatal issue was certain. The present indication as to treatment was quite distinct. The abdomen should be opened, the intestines sutured or any bleeding point secured, and the peritoneum closed. Since about 1885 this subject had been actively taken in hand. Mere exploratory laparotomy had been shown to present a very small mortality, and holding as he did that when a projectile had entered the abdomen it was futile to expect safety of the viscera, laparotomy was always called for. He referred to Marion Sims' paper and suggestions on this subject. In battle about fifteen per cent. of the wounds were found to be abdominal, of which the majority of patients died on the field. The chief cause of death was hemorrhage. Hemorrhage in the abdominal cavity was often very profuse and seldom stopped spontaneously. To control it laparotomy must be done. Wounds of the intestine were seldom simple; a bullet generally punched out a piece of gut equal in area to the bullet's cross-section, and as a rule the intestine was wounded in more than one place. In such cases he thought it a waste of time and words to insist on the chance of no ill result. Laparotomy, and that immediately, was called for. If solid organs, the spleen or kidney, were damaged, they would probably require to be removed, or the patient would die of hemorrhage. When the diagnosis was once made he thought the laparotomy should be immediate, every half-hour lessening the patient's chance of recovery. The only excuse for delay in military surgery was overcrowding in the field hospitals, or absence of requisite supply of antiseptics. Whereas the mortality of those operated on within twelve hours of receipt of the injury was fifty-three per cent., it rose during the next twelve hours to seventy-seven per cent.

Mere contusions of the abdomen, as by a fragment of a shell, or in civil practice by buffer accidents, might be accompanied by rupture of blood-vessels, solid organs, or intestinal tube, and laparotomy would be called for. In these cases symptoms alone must be relied on. The three primary symptoms to be looked for were shock, vomiting, and pain. But their severity must not be taken as a measure of the extent of the injury. The diagnosis must be based on their presence, persistence, progress, and duration. The differential diagnosis between contusion with rupture and contusion without rupture must depend on the symptoms increasing or diminishing in severity. If due to contusion only they diminished; if internal injury was present they increased in severity. The order of frequency in which the viscera were wounded was liver, spleen, kidneys, stomach, small intestine, and lastly large intestine. The value of tympanites as a symptom of perforation of the intestine, and escape of gas into the peritoneal cavity, he considered of no certain value.

For the treatment of symptoms, he recommended compression of the abdominal walls for shock, teaspoonful doses of hot water for thirst, and if the pain was excessive opium might be given. If possible he considered opium should be avoided, as it masked the symptoms and obscured the diagnosis. If it had to be given, morphine, gr. ⅓, subcutaneously was better than opium by the mouth. The speaker said that Colonel Senn, U. S. A., urged early operation, but only when distinct evidence of visceral lesion was present. To assist diagnosis Colonel Senn used inflation of the intestine with hydrogen gas, a pressure of two and one-half pounds per square inch being used if needful, the patient of course being anæsthetized. If perforation were present the gas escaped by the abdominal wound. If evidence of perforation was forthcoming, expectant treatment held out little hope. In the war of 1870–71 the mortality was ninety-eight per cent. in these cases. Wounds of the large intestine were not so fatal as those of the small, possibly due to being in part extraperitoneal. He held that the proper time to perform laparotomy was the earliest possible moment after diagnosis of penetration of the abdominal cavity. If, when a projectile entered the abdomen, in only four or five per cent. of cases the viscera were injured, one might wait; but as the figures were the other way about, and since after penetration the viscera were almost always injured, immediate operation gave the best results. After twelve hours' delay the chances were against recovery, and twenty-four to forty-eight hours' delay was hopeless. Profound shock and collapse, unless due to hemorrhage, might be considered as contraindications. When the patient had rallied from the primary shock, the wound should be examined, enlarging it slightly if needful, to determine the fact of penetration. Only the finger, and no instrument, should be used. If penetration had occurred the abdomen should be opened and all effused blood removed, and bleeding points sought for and secured. Any wound of the intestinal tract should next be attended to, bearing in mind that the more nearly the bullet had traversed the abdomen from side to side the greater was the number of perforations likely to occur. And as a fatal result might follow overlooking only one perforation in many, the examination must be as complete as possible. Each perforation as discovered must be dealt with by simple suturing by Lembert's method or by resection. Resection was called for when the loss of substance in the tube would cause a diminution of its calibre by one-third, when several perforations existed close together, and when the mesenteric edge was implicated.

Suturing when simple must be done at right angles to the long axis of the gut, to prevent constriction. The best material for suturing the serous coat was fine China silk previously boiled, and thin catgut for the mucous coat. A Milhiser's round needle with a somewhat blunt point is best. Ten Lembert's stitches should be used to the inch. For circular enterorrhaphy the Czerny-Lembert suture should be used, with catgut for the first and China silk for the second line.

The major operations on the intestines in these cases are nearly always excisions of portions of the tube, or end-to-end anastomoses. What was required was a water-tight seam, made by some quick method. Direct methods such as Mannsell's were mentioned; the additional incision here required was an objection. Of indirect methods he thought highly of Murphy's button on account of its rapidity. Its use requires practice and experience, however, or too much sloughing might result. The abdomen should be well flushed with sterile fluid at 105° F. and drained for from twenty-four t forty-eight hours with Keith's tubes or capillary gauze drains. The results of laparotomy for gunshot wounds in the last three wars were not encouraging, but considering the conditions, and the mortality if the cases were let alone, they were no contraindication. In the Spanish-American war all died; in the Greco-Turkish war one case of hemorrhage resulted in recovery; one patient with injury to the liver recovered, and one with wound of the hollow viscera died. In the Afridi campaign five cases were operated on, and all had fatal results.

In conclusion he would like to elicit opinion in two points: Was mere penetration ground for operating and what was the best way to restore continuity of the intestinal canal?

Dr. J. Ward Cousins said that the question had been asked whether we should operate so soon as a diagnosis was made. He thought not. The diagnosis was not easy, there might be no injury of the internal viscera, yet much collapse The action taken must depend on the judgment of the individual surgeon. If no operation was done he was not prepared to take such a gloomy view of these cases as Colonel Stevenson. The incision should be made through the point of penetration, so as to expose the tract of the bullet on account of charring, etc. Manipulation should be very gentle, and the wound should not be dilated by means of hard retractors, but held apart by stout threads. He preferred fine boiled silk for intestinal suturing. He considered wounds of the intestine far more serious than those of the stomach.

Dr. Barry Blacker suggested the use of the *x*-rays in these cases to localize the site of the bullet, which combined with the position of the wound of entry might afford evidence of the amount and site of the injury. Difficulties were met with in these cases, as owing to the abdominal movements the shadow of the bullet was often blurred and ill-defined.

Major W. C. Beevor said when visceral injury was diagnosed in civil life the rule should be to operate, but in warfare the conditions had to be taken into account. He described the conditions during a skirmish in the late Afridi campaign. The only available water was a soupy mixture probably containing urine and fæces, from a fetid village pond. The antiseptic dressings were dusty from a long mountain march, and would have to be handled by dust-begrimed men. Primary operation done under such circumstances must have resulted in infection. As illustrating the difficulty of diagnosis, he related a case in which a major of the Gordon Highlanders received a wound from a ricochet bullet, which presented the characters of a penetrating wound of the abdomen. After a time the shock passed off and the patient was able to walk and crawl half a mile to the dressing station. No operation was adopted, and the officer made an excellent recovery. In another case a bearer was shot in middle line, about one and one-half inches above the umbilicus. He fell and was left as dead by his comrades. Subsequently he was picked up by the medical officers and ordered to be carried to the main body. His carriers under fire deserted him and he managed to rejoin the main body two days later. When seen there was a piece of omentum the size of one's fist protruding from the wound. This was ligatured and cut off and the abdomen was irrigated, and he made an excellent recovery. Major Beevor wished especially to draw attention to the excellent effect on the collapse of the injection of hot sterilized water into the peritoneal cavity, both before operation, during operation, or afterward, through the drainage tube if one was at hand.

Mr. Damer Harrisson agreed with Colonel Stevenson that the absence of liver dulness was no certain sign of perforation. He related a case in which the anterior and posterior walls of the stomach were both perforated and both sutured, and the man recovered well. A quart of hot neutral saline solution was left behind in the abdomen, and he thought with Major Beevor that it was most beneficial in warding off shock. This case was operated on five or six hours after the receipt of the injury. He was quite in favor of immediate operation.

Mr. Clement Lucas quite agreed with Colonel Stevenson's maxims, but thought Major Beevor's remarks showed how impossible it was to hope to carry them out in military surgery in many cases. As to civil practice he thought that wounds from firearms were much on the increase, and he had prepared a resolutionre stricting the sale of firearms to be brought before the parliamentary bills committee. He emphasized the great danger of bullet wounds of the abdomen, and illustrated the same by cases. He would go so far as to say that if you want to kill a man don't shoot him in the head or chest, but shoot him in the abdomen. He had used ergotin in hemorrhage from the liver and kidney and suggested the use of it in other forms of abdominal hemorrhage. He had also noticed the improvement in the pulse during operation, when hot flushing was employed.

Dr. James Murphy agreed in condemning the use of opium. He had a very high opinion of Murphy's button.

Dr. J. Paul Bush thought no reliance could be placed on the presence of resonance in the hepatic area as a sign of perforation. He referred to the great difficulty of ascertaining whether more than one perforation existed.

Colonel Stevenson in reply said that statistics varied with the conditions under which the operations were performed, and in that respect the late examples in military surgery were unfortunate. As to the antiseptics and needful sterilizing apparatus, etc., the new equipment obviated many previously existing defects. He did not agree with Dr Cousins that the cases were difficult to diagnose. All that he maintained it was needful to ascertain was whether as a matter of fact a wound of the abdomen was a penetrating wound or not. If it was a penetrating wound he looked on wounding of the viscera as certain, and therefore the fact of penetration called for immediate laparotomy. Major Beevor's two cases were no argument against immediate operation; they were tangential wounds, in one case merely exposing omentum, in the other not injuring the abdominal contents at all. When patients recovered apart from operation he regarded the wounds as not actually penetrating.

Mr. Butlin called attention to the great difficulty in cases of wounds in the lower part of the thorax in deciding whether the symptoms were due to injury of thoracic contents or of structures below the diaphragm.

SECTION OF OBSTETRICS AND GYNÆCOLOGY

*First Day—Wednesday, August 2, 1899.*

**Conservative Gynæcology.**—Dr. George Granville Bantock, President of the Section, in a brief introductory address, said that he considered there was too great a tendency in recent years to resort to the knife in the treatment of gynæcological cases. Emmet's operation in particular had been done to death, and Emmet himself had to protest against its indiscriminate use. Some authorities proposed total removal of the generative organs for small fibroid tumors, and appeared to regard them almost in the same light as malignant growths. In his opinion a fibroid did not necessarily increase the risk of pregnanacy and childbirth; an erroneous analogy had been drawn between ovarian and fibroid tumors. He would ask, who had known an ovarian tumor to disappear? and, on the other hand, who had not heard of fibroids disappearing? In chronic inflammatory conditions of the appendages some advised their removal; he had known many such cases to result in recovery without operation, and had positive evidence in many cases of the wisdom of the advise he had given to patients years previously, not to have such operations performed. He deprecated operation either by the abdominal or vaginal route for cases of uncomplicated retroflexion. Tait had said, "When in doubt open the abdomen," but this advice had been much misunderstood. What was meant was, when disease actually existed of the precise nature of which there was a doubt, not to open the abdomen to see if disease was present. He believed that there was no evidence to support the theory of internal secretion of the ovaries, and when ovulation ceased he considered that the ovaries became useless and were only a source of danger. In operating he never left ovarian tissue when the tubes were removed. He had removed the second ovary for disease as long as eighteen years after removal of the first, and he always advised the removal of both ovaries when one was affected.

**The Treatment of Fever Following Delivery, with Special Reference to Serum Therapy.**—Dr. Herbert Spencer, professor of midwifery in University College, London, opened the discussion on this subject. He would divide fever following delivery into four classes: First, one-day fever, from engorgement of the breasts or emotional causes. The temperature went up rapidly on the second or third day with no other symptoms, relieved rapidly by a purge. Second, fever due to conditions not depending on the labor sometimes. The diagnosis of these was difficult. Among these conditions he would mention (1) influenza. He thought that this was the last thing to be thought of in this connection and that this name was sometimes used to cover real cases of puerperal fever. (2) Typhoid: he had seen cases in the puerperium which had been proved to be typhoid by a post-mortem examination, and in making the diagnosis during life he would rely on Widal's test. (3) Infection from previously existing pelvic lesions. (4) Fever due to septic infection, or true puerperal fever. This was generally due to infection by streptococci, but various organisms might cause it. He recognized three fatal forms, viz., acute general, lymphatic, and venous septicæmia. He advised a routine examination of every patient toward the end of her pregnancy, to avoid injury to the genital tract by substituting so far as possible abdominal for vaginal examination, to clear out the uterus carefully in the third stage of labor; to cleanse the hands and vulva thoroughly; to use as a lubricant perchloride in glycerin; to disinfect instruments by boiling. If attending a case of puerperal fever he believed that it was possible to make one's self safe by washing and antiseptics, and that abstention from practice did no more good. As regards the actual treatment of puerperal fever he advised thorough examination of each patient, examining the interior of the uterus. He used india-rubber gloves to avoid contamination. Any septic substance found in the uterus should be at once removed, but it was sometimes better when the substance was strongly adherent to leave it. He never used the curette, but washed out the uterus. He had tried continuous irrigation but had abandoned it, and discountenanced frequent intra-uterine douching when not followed by improvement. He did not use a gauze drain for the uterus as some advised. As regards abdominal section, he would not do it unless there was distinct evidence of localization of fluid. He thought that no medicine had a specific effect, and he deprecated the use of antipyretics; he gave tonics and stimulants freely, with fresh air, as much food as possible, alcohol in large quantities, and nutrient enemata when vomiting was troublesome. Serum therapy was not applied on a scientific basis. It had not decreased the mortality; it certainly lowered the temperature, but at present the good results were doubtful.

Dr. Arnold Lea, continuing the discussion in a paper entitled "Two Cases of Puerperal Septicæmia due to Streptococcic Infection," said that it was impossible to diagnose the bacterium causing infection from the symptoms and signs; in his two cases the kind of infection was verified by a bacteriological examination. The first case was treated by curetting and the application of carbolic acid twenty per cent., and resulted in recovery. Cover-glass preparations showed streptococci in the discharge, but not in the blood. Serum was not given. In the second case the patient was curetted early. On the tenth day the temperature was 104.4° F. Serum was given and followed by temporary improvement. Death occurred on the twelfth day. On bacteriological investigation streptococci were found in the discharge, in the uterine wall, and in the blood. He considered that a microscopical investigation must be done if this was to be scientific treatment. The infection was first purely local at the placental site, and in mild cases was limited by inflammation of the adjacent uterine wall. Streptococci did not cause fetor of the discharge. The local infection remained limited only for a few hours, so that treatment to do good must begin early He believed in the use of the sharp curette followed by the application of caustic solutions to the uterine wall.

Dr. Murdoch Cameron, of Glasgow, said that in those cases he douched with a double current tube. He did not believe in the use of serum, but believed in the curette. He thought it most important to procure sleep. He said it was possible to disinfect one's self perfectly in one hour after seeing a case of puerperal fever.

Dr. Shaw MacKenzie, of London, believed that syphilis predisposed to puerperal fever, and he would give mercury subcutaneously.

Dr. Purslow, of Birmingham, thought that it would always be almost impossible to give an authoritative opinion or accurate statistics as to the value of the serum treatment for the following reasons: Puerperal fever varied so much in severity, and the prognosis was so uncertain, most desperate cases sometimes recovering with little or no treatment. Dependence was never placed on serum treatment alone, but treatment by washing out the uterus and by drugs was always associated with it. He had found the curette to cause dangerous hemorrhage.

Dr. Inglis Parsons, of London, used the curette when the infection was local, and after curetting he swabbed the uterus with tincture of iodine. He gave quinine per rectum. He thought antipyretics were useless. Statistics were useless unless the same serum was always used and it was pure.

Dr. More Madden, of Dublin, had formed no opinion of serum treatment, but he relied on quinine, gray powder, and turpentine.

Professor Byers, of Belfast, said that puerperal fever was not becoming any less frequent even in Germany, where antiseptic principles were most observed. As regards prophylaxis, he had largely given up vaginal examinations in favor of abdominal, and thought that was a very important matter. He also dwelt on the importance of considering any fever after delivery as a serious matter, and of making a thorough examination when called to a case of sepsis. He would use a curette when the os was patulous and there was an unpleasant discharge, and breaking-down tissue could be felt in the uterus. He had not found good results from the serum treatment.

Major Peck, of the Indian medical service, found that some patients stood antipyretics better than cold packs, and had seen good done by antifebrin in five-grain doses.

Dr. Johnston, of Bradford, said that when fever set in he douched at once and used the cold pack.

Dr. Kealey thought that the mental condition had often something to do with the causation of fever, and that the reason it was more prevalent among the better classes was that they looked forward to their confinement with much more dread than did the working-class women.

Dr. Edgar Barnes, of Ryde, thought that sitting the patient up in bed soon after delivery had a good effect in allowing drainage.

Mr. J. W. Taylor, of Birmingham, said that he would like to see more collaboration between the laboratory and the bedside. It would be impossible to get any satisfactory scientific results until a bacteriological examination was made in each case.

Dr. Spencer made a brief reply, in which he deprecated the application of iodine to the interior of the uterus, as it caused clotting in the sinuses and veins.

Dr. Murdoch Cameron read a paper entitled "A Case of Rupture of the Uterus, Missed Labor, and Delivery Three Months Later."

This concluded the business of the first session.

*(To be Continued.)*

## Correspondence.

### OUR LONDON LETTER.

(From our Special Correspondent.)

OVARIAN AND RENAL CYSTS—VACCINATION WORRIES—PLAGUE—FOOD POISONS—COCKLES—HOSPITAL SUNDAY FUND—SIR B. SANDERSON, SIR M. FOSTER, SIR J. FAYRER—BRITISH MEDICAL ASSOCIATION'S ANNUAL MEETING—ECHOES FROM PORTSMOUTH—THE MALARIA EXPEDITION—EPSOM COLLEGE.

London, July 28, 1899.

The difficulty of diagnosing ovarian from other cysts was exemplified at the last meeting of the Gynæcological Society, when several members mentioned their experiences in this respect. The discussion arose in the relation of a case of a large hydronephrosis removed by laparotomy. The patient was a thin girl aged fourteen years, sent to Dr. Sunderland with a diagnosis of ovarian cyst. On opening the abdomen the tumor was found to be covered with peritoneum. Dr. Sunderland removed it by enucleation and ligaturing a pedicle containing the vessels several inches distant from the ureter, which was tied separately. The fluid, removed by tapping in the course of the operation consisted of about seven pints of urine. The flattened kidney substance could be seen at the back of the specimen shown. The patient recovered rapidly.

Mr. Furneaux Jordan said there was certainly at times difficulty in diagnosing renal from ovarian cysts. In a case he formerly reported he opened the abdomen for, as he thought, ovarian cyst. In the cyst thirty-three calculi were found. The other kidney was not examined, and the patient died forty-eight hours afterward. It was found at the post-mortem that the other kidney was also affected and contained seven calculi. It was strange that this patient had never complained of pain at all.

Mr. Bowerman Jessett related that a patient some years ago declined operation. She was passing blood and pus. This disappeared and she got well, but two years later returned with total suppression, having a large tumor on the opposite side. He operated and she recovered. Two years later still she returned with a large tumor on the same side, and again he removed several calculi. Yet another two years, and he operated for the third time, and the patient died. At the post-mortem both kidneys were found atrophied to such an extent that it was remarkable that she had been able to live, for hardly any kidney substance remained.

Dr. Heywood Smith mentioned a case that was aspirated some sixteen years ago, when the patient died two hours afterward. The autopsy showed both kidneys greatly distended and a calculus in each.

Dr. Arthur Giles mentioned a case in which not a symptom pointed to the kidney, but on operation its nature was disclosed; the renal cyst was removed and recovery followed.

Dr. Macnaughton-Jones (president) commented on the difficulties of diagnosis, and remarked that if the renal cyst was suspected it was difficult to be sure which kidney was affected—an argument in favor of abdominal section.

Dr. Purcell said other tumors than renal ones might simulate ovarian cysts. He had seen a case in which the abdomen was opened and a large tumor tapped which proved to be a distended bladder, though the nurses had declared that it had been emptied by catheterization just before. The wound of the bladder was closed and the patient recovered.

Dr. Hodgson called attention to a diagnostic sign: in hydronephrosis there was usually dulness in the flank, which is generally resonant in ovarian tumors.

The anti-vacs, like other foolish fanatics, continue to make themselves a nuisance to the community. Some of their less fanatical supporters are troublesome by asking questions in the House or calling for statistics. One member this week wanted to know in what jail certain recalcitrant guardians would be confined, and whether special privileges would be granted to ladies who had announced their determination to go to prison rather than carry out the law. So much for the conscience clause satisfying the would-be martyrs.

The outbreak of smallpox at Hull has not quite ceased. At a recent meeting the chairman of the sanitary committee complained that one hand was tied by the anti-vacs and the other by the opponents of the proposed new smallpox hospital. Yet Mr. Chaplin had stated in the House of Commons that of the eighty-three cases which had occurred sixty-two showed evidence of vaccination. The death rate of these sixty-two was 9.7, while among the unvaccinated it was 57.1. This is a lesson which is repeated with nearly every outbreak, and would perhaps do its work but for certain low papers which pander to the gambling spirit of the age and try to circulate their trash further by exploiting every fad. Their contents and their advertisements are a disgrace to the press. With regard to the smallpox question they might do some good if they would publish facts and exclude falsehoods. They might very well tell people that Ger-

many has practically stamped out smallpox. Thus the official statistics recently issued for 1897 show that there were only five smallpox deaths in the whole empire. This in a population of fifty-three millions. These five deaths occurred in five separate districts in Prussia, the other provinces not having a single one. There are plenty of other facts which might well cause serious reflections to Mr. Balfour and those who caved in to the virulent attacks of the anti-vacs.

The possible advance of plague into Europe is often discussed, and the question has found its way into *The Times*. Our sanitarians seem confident, but they are not supine. On the contrary they are arranging their precautions, and some of the port authorities are distributing information in the form of leaflets drawn up by their medical officers of health.

Two instances of suspected food poisoning have startled the public. One occurred in a first-class hotel where two of the victims have died. The other happened to children who were taken out for a holiday, and above eighty of them were seized with colic and vomiting soon after their meal. The question of ptomaines or microbes is quite popular. Searching inquiry is being made into both events.

Cockles are suspected of spreading typhoid. They are collected from sources similar to those which have been shown to be dangerous in the case of oysters, and are often eaten raw. Even when they are cooked the process is a very partial one.

The Hospital Sunday fund has again succeeded. At a meeting on Wednesday a distribution of £50,500 to one hundred and thirty-eight hospitals and fifty-four dispensaries was sanctioned. Since the fund started twenty-six years ago, more than a million sterling has been raised.

The Physiological Society has entertained at a dinner the two physiologists recently decorated by the Queen—Burdon Sanderson and Michael Foster.

Sir Joseph Fayrer's honors and decorations seemed full. There has now been added to them a "good service pension," which he well deserves.

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LONDON, August 4, 1899.

PORTSMOUTH has supplanted the metropolis as the scene of medical interest during this week. A number of members of the British Medical Association left London on Monday afternoon for the annual week's meeting. Some indeed hurried off on Saturday. Others again delayed until Tuesday and a few merely took a day ticket to turn up in the section in which they were interested. A number are returning this afternoon, though many remain for to-morrow's excursions.

I gather that the meeting has been a successful one. Your own reporters furnish you with full details of the most important sectional work. It was known here that Sir T. Grainger Stewart would not be well enough to attend, and great regret and sympathy were naturally expressed at the meeting. Dr. Ward Cousins seems to have had quite a triumph, and some of his prominent fellow-citizens said he excelled himself and showed himself an orator of unexpected power. The members who had heard him on former occasions were by no means surprised to find him a good speaker.

The service at Portsea parish church was only fairly well attended, the attractions of the locality being too strong, *e.g.*, visits to the Dockyard, the *Victory*, the Gun-wharf, the Military Station Hospital, the Royal Portsmouth Hospital, and other institutions. The bishop took for his text, "Freely ye have received; freely give," which he said "embodied the foremost thought that such a body as the medical profession suggested."

For the benefit of Roman Catholic members high mass was celebrated at St. John's. This was the first occasion of a double service, and excited remarks on the question of sectarianism in a medical society. At each service there was a collection on behalf of the Royal Medical Benevolent Fund.

Wednesday opened with the temperance breakfast, at which the Bishop of Southampton made an earnest speech, especially referring to the evils of the drink habit in the middle and lower middle classes. In the evening of the same day there was a crowded meeting at Southsea under the auspices of the National Temperance League. In the afternoon the mayor's garden party was held in the asylum grounds, and was generally considered a great success. In the evening again a soirée was given by the president on the Pier. This looks like a day of festivities, but there was also a good deal of work done in the sections, and the address in surgery was delivered by Professor Ogston, who subjected the management of the army and navy medical services to a most searching criticism. He maintained that while the calls of modern science had been taken to heart in the medical services of foreign armies, they had fallen on unheeding ears among those responsible for the efficiency of our own, and this was the more astonishing on account of the contrast between the medical and other departments.

People who know Dr. George Wilson, medical officer of health of the Mid-Warwick district, expected something out of the common when they found he was to preside over the State Medicine Section. They were not surprised, but others thought his address was a gigantic joke. He pooh-poohed bacteriology, serum therapy, and other modern methods, laughed at "the insane hunt after the tubercle bacillus as if it could be bottled up in a twopenny halfpenny spittoon," and aired other heterodox notions. As there is no discussion on the addresses, he was as safe from reply as a parson in his pulpit.

Next year's meeting is to be at Ipswich, and Dr. Elliston was appointed president-elect.

The expedition for the study of malaria left Liverpool for Sierra Leone on Saturday. Major Ross is the leader. He was accompanied by Dr. Annett, bacteriologist of the Liverpool School of Tropical Diseases, and Mr. E. E. Austin, the entomologist of the British Museum. At Sierra Leone they will be joined by Dr. Van Neck on behalf of the Belgian government and the Congo Free State. Major Ross expects to be absent about two and one-half months, and will probably make Free Town the centre of his operations. The organizing of this expedition—the first scientific one for examining the subject of malaria in its home—is a great credit to the newly established Liverpool School of Tropical Diseases. We may certainly anticipate important results.

Lord Rosebery paid a tribute to the profession in his address to the students of Epsom College. He had impressed on them in various ways the value of the quality of manhood which so distinguishes the race; then considering the close association of that college with the profession and the probability that some of them would qualify for its practice, he said that profession "contains the most supreme elements of manhood of all professions; it needs tenderness and courage in the highest degree." Having dwelt on these, he added, "The profession of the physician is one long struggle in which, like the Englishman, he must never know when he is beaten until victory has gone against him."

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**Acute Delirium** may result from a too free use of salicylate of sodium (℥ iii. in thirty-six hours).—*La Presse Médicale.*

# Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending August 12, 1899:

| | Cases. | Deaths. |
|---|---|---|
| Tuberculosis | 188 | 169 |
| Typhoid fever | 29 | 12 |
| Scarlet fever | 45 | 2 |
| Measles | 4 | 11 |
| Diphtheria | 104 | 30 |
| Laryngeal diphtheria (croup) | 0 | 1 |
| Cerebro-spinal meningitis | 0 | 6 |
| Chicken-pox | 3 | 0 |
| Smallpox | 1 | 0 |

**Trouble from Carbolic Acid.**—A man from Norwich, N. Y., who after a tiff with his wife smeared carbolic acid upon his whiskers and feigned suicide, has repented. His employer administered mustard, and the doctors poured emetic after emetic down his throat against the joker's decided protestations, and finally the stomach-tube was resorted to. When the victim stopped his struggling, the doctors found time to look into the throat and found that no poison had been taken. Moral: Don't sham suicide.

**Points in Favor of the Use of Alcohol and Their Refutation.**—Dr. Bienfait (*Gaz. hebd. de Méd. et de Chir.*, April 13th) examined point by point the various objections to total abstinence: (1) Is alcohol a digestive? No; its ingestion produces a passing excitation, interrupts the proper action of the muscles of the stomach because alcohol acts as an anæsthetic after having irritated the walls of the stomach, and it drives the blood to the skin and so hinders the action of the gastric juice. (2) Is alcohol an appetizer? No; it produces an excitation of the stomach which causes a sensation taken for hunger. (3) Is alcohol a food? No; it does not correspond to the definition of a food, and the heat that it seems to produce does not serve as an actual warmth. (4) Is alcohol heating? No; it causes a flow of blood to the skin and a lowering of temperature. (5) Is alcohol a stimulant? In no case, either physical or intellectual. (6) Is alcohol a protector against contagion? No; it predisposes the body to contagion. (7) Can we live without alcohol? This idea that we cannot live without alcohol is a prejudice that numerous facts contradict. (8) Is alcohol good for children? It should never be given to children. (9) Does alcohol increase longevity? According to reliable statistics alcohol diminishes longevity.

**Etiquette and Clothes.**—A little incident has occurred in Ireland which shows the trend of public opinion in the matter of adapting our clothes to the weather prevailing rather than blindly following any preconceived notions of supposed professional etiquette. One of the most popular barristers of the Irish bar has shocked the lord chief justice of Ireland by appearing in court with a white waistcoat on. For this "outrage" he has been publicly reprimanded by the judge; but the sympathy of the bar is with Mr. Macdermott, Q.C., and much indignation is expressed that so trivial an offence should have been noticed at all. We think that man should be allowed to follow the steps of the gentler sex and emancipate himself from the ridiculously heavy clothing he is compelled to wear in the performance of his daily work. It is quite correct nowadays for ladies to appear either in the home or the street in the comfortable blouse or skirt of light material, but the man must don the frock coat and the cloth trousers, when, under the almost tropical heat we have lately experienced, he would give anything for it to be correct for him to put on the "white ducks," or clothes of similar material. What makes for comfort makes for health, and it wants only a few bold spirits to insist on wearing a truly "rational" suit at such times, and the change might soon be effected.—*Sanitary Record.*

**Nature and Definition of Puerperal Fever.**—In the *Centralblatt für Gynäkologie*, 1899, No. 1, Olshausen calls attention to the necessity for a rational definition of "puerperal fever," and of a clear understanding of the difference between infection and intoxication. By infection he understands the presence and circulation of bacteria in the organs and fluids of circulation in the patient's body. By intoxication is meant the absorption from the birth canal of the products of bacteria contained therein. While it is almost impossible to draw a sharp distinction in the matter, still it is important to understand as clearly as possible the two conditions. He also draws attention to some infections which may enter the body through the birth canal and which do not strictly come under the term "puerperal fever." Such are tetanus, scarlatina, and diphtheria. As regards gonorrhœa, its close resemblance to sepsis brings it on the border-line of this condition. It is, however, essentially different from sepsis. It is contended by Olshausen that the term "puerperal fever" shall be applied only to those diseases caused by septic microorganisms.—*English Public Health.*

**Compulsory Notification in Great Britain.**—Prof. Sims Woodhead, speaking in regard to the prevention of phthisis spreading from human patients, says: "I must frankly confess that I am greatly in favor of compulsory notification; and I am in favor of this because I think it is one of the means of impressing upon the public, and even in some cases upon ourselves, the fact that there is danger of the spread of infection from tuberculous patients, unless proper precautions be taken by the patient and his friends to destroy all excreta and secreta that may contain tubercle bacilli. The very fact that we consider it necessary to speak of tuberculosis as a notifiable disease should render our task of disinfecting a patient and his surroundings a much easier one."—*Edinburgh Medical Journal.*

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended August 12, 1899:

SMALLPOX—UNITED STATES.

| | | Cases. | Deaths. |
|---|---|---|---|
| Kentucky, Louisville | July 26th to August 2d | 5 | |
| Louisiana, New Orleans | July 22d to 29th | 3 | |
| Massachusetts, Boston | July 29th to August 5th | 1 | |
| Ohio, Columbus | July 29th to August 5th | 1 | |
| Dayton | July 29th to August 5th | 1 | |
| Washington, Spokane | July 22d to 29th | 2 | |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Belgium, Antwerp | July 8th to 22d | 4 | 2 |
| Brazil, Rio de Janeiro | June 15th to 30th | .. | 32 |
| Colombia, Panama | July 25th to August 1st | 1 | 1 |
| Egypt, Cairo | June 24th to July 15th | .. | 7 |
| England, London | July 8th to 15th | .. | 1 |
| Greece, Athens | July 15th to 22d | 11 | 3 |
| India, Calcutta | June 24th to July 1st | .. | 1 |
| Netherlands, Rotterdam | July 15th to 22d | 1 | |
| Russia, Odessa | July 8th to 22d | 9 | 4 |
| St. Petersburg | July 8th to 22d | 15 | 6 |
| Turkey, Erzeroum | July 8th to 15th | 2 | |

YELLOW FEVER.

| | | | |
|---|---|---|---|
| Brazil, Rio de Janeiro | June 15th to 30th | 15 | |
| Cuba, Manzanillo | July 13th to 20th | 1 | 1 |
| Matanzas | July 26th to August 2d | 1* | |
| Santiago | July 15th to 22d | 12 | 2 |

CHOLERA.

| | | | |
|---|---|---|---|
| India, Calcutta | June 24th to July 1st | .. | 7 |

PLAGUE.

| | | | |
|---|---|---|---|
| Egypt, Alexandria | From outbreak to July 9th | 65 | 32 |
| India, Calcutta | June 24th to July 1st | .. | 6 |
| Straits Settlements, Penang | January 1st to June 30th | 42 | 33 |

* Doubtful.

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 56, No. 9.
Whole No. 1503.

NEW YORK, AUGUST 26, 1899.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### THE REPORT OF A CASE TREATED WITH YELLOW-FEVER SERUM.

BY ALVAH H. DOTY, M.D.,

HEALTH OFFICER, PORT OF NEW YORK.

ON Thursday, July 6th, the United States transport *McClellan* arrived at this port from Santiago, Cuba, having on board two cases of yellow fever, one a daughter of the late Dr. Clendenin, surgeon U. S. A., who recently died of this disease at Santiago, and the other Oscar F. Lackey, twenty-five years of age, a civil engineer in the employ of the Federal government. Both patients were transferred to the hospital at Swinburne Island. Miss Clendenin required but little treatment, as her symptoms were of a mild character. Mr. Lackey, however, presented a typical case of yellow fever. The report of Dr. Porter, of the *McClellan*, showed that Mr. Lackey had had a chill late on the preceeding Monday evening (July 3d), or early Tuesday morning, followed by considerable headache, pains in loins, etc. On July 5th, his temperature reached 104° F., and a large amount of albumin was found in his urine. The patients arrived at Swinburne Island about 6 P.M., July 6th, and at 7:20 P.M. Mr. Lackey's condition was as follows: Temperature, 103.8° F.; pulse, 55; respiration, 28. He suffered from headache and was very nervous, associated at times with some delirium; hemorrhage from the gums, more or less irritability of the stomach and some looseness of the bowels were noticeable. The urine contained about thirty-five to forty per cent. of albumin in bulk, and had specific gravity of 1.025 and a pronounced acid reaction. As the case under consideration was well marked and had not progressed too far, I decided to make use of the yellow-fever serum. To this Mr. Lackey's consent was readily obtained, and preparations were carefully made for its introduction. But little literature referable to the administration of the serum exists. In Sanarelli's article it is stated that the serum may be given either subcutaneously or intravenously, and that the latter method is more rapid and effective in its action. This investigator recommends that about 100 c.c. be used, partly in the veins and partly under the skin.

The serum used in Mr. Lackey's case was produced in the laboratory of this department under the supervision of Dr. Charles B. Fitzpatrick. Of this 10 c.c., when injected into a guinea-pig ten hours before inoculation with a fatal dose of a living culture of the bacillus icteroides (Sanarelli), prevented death. However, to cure guinea-pigs inoculated with a fatal dose of the living culture, a larger dose (14 c.c.) was required.[1]

Inasmuch as Mr. Lackey was the first case to be treated with the serum at this station, it was decided to use the subcutaneous method. Accordingly at 11:30 P.M. (July 6th), the first injection, consisting of 25 c.c., was given in the loose cellular tissue on the right side, just above the pelvis; at 2:30 A.M. (July 7th), three hours afterward, a second injection of 25 c.c. was administered at the corresponding place on the left side, and at 7:20 A.M. (five hours later) a final injection of 50 c.c. was made; the latter was introduced in the vicinity of the first injection on the right side. The syringe used was similar to those employed in introducing the diphtheria antitoxin, having a capacity of 25 c.c. This was carefully sterilized by boiling. The skin at the site of the puncture was treated with an antiseptic solution, and after the withdrawal of the needle, collodion was immediately applied. The operation caused no inconvenience to the patient, and no unpleasant signs or symptoms either local or constitutional followed the use of the serum.

The following table shows the temperature, pulse, and respiration preceding the first injection and for twelve hours afterward:

| Date. | Time. | Temperature. | Pulse. | Respiration. | |
|---|---|---|---|---|---|
| July 6th | 11:20 P.M. | 103.2° F. | 51 | 32 | |
| | 11:50 P.M. | 102.8 | 49 | 32 | (11:30 P.M. serum.) |
| July 7th | 12:50 A.M. | 103.0 | 55 | 28 | |
| | 1:50 A.M. | 102.4 | 55 | 27 | |
| | 2:20 A.M. | 102.2 | 53 | 28 | (2.30 A.M. serum ) |
| | 4:05 A.M. | 102.8 | 53 | 28 | |
| | 5:45 A.M. | 102.8 | 51 | 24 | |
| | 7:15 A.M. | 102.4 | .. | .. | (7:20 A.M. serum.) |
| | 8:20 A.M. | 102.4 | 54 | 24 | |
| | 10:20 A.M. | 102.1 | 51 | 26 | |
| | 12:20 P.M. | 102.6 | 51 | 24 | |

At 11:30 A.M. on July 7th, the following entry was made by the nurse on duty: "Patient brighter, headache disappeared."

It will be seen by the chart, that eight ounces of urine are recorded on the 6th of July. This covers a period of twelve hours or more—some passed in the morning before the removal of the patient to Swinburne Island was not measured by the surgeon of the vessel. On the 7th, fifteen ounces are recorded; this represents the urine passed during twenty-four hours with the exception of a small amount voided during a movement of the bowels. The amount of albumin in the urine, thirty-five to forty per cent., continued until July 12th, when it rapidly decreased and disappeared on July 15th. The specific gravity of the urine, which at first was 1.025, gradually diminished. The urine was distinctly acid and contained numerous epithelial casts.

Nervous system: But little is to be recorded under this heading, as after July 7th the patient was in a comfortable condition, mind perfectly clear and no apparent restlessness. The hemorrhage from the gums caused the patient some annoyance during the night, as rather frequent expectoration was necessary. Otherwise there were no nervous manifestation and no complaint from the patient, whose intelligence and co-operation made the care of his case a pleasant and easy task for all.

Alimentary tract: Considerable irritability of the stomach existed, and some slight vomiting occurred during the 6th, 7th, and 8th of July. After this there

[1] The details of these experiments are given in Dr. Fitzpatrick's article published in the MEDICAL RECORD, July 1, 1899.

was but little trouble in this direction. The vomited matter was small in quantity, and contained mucus, etc., occasionally having a yellow tinge. The looseness of the bowels, which was apparent for two or three days after reaching the hospital, was evidently due to the administration of a brisk cathartic while on shipboard.

Treatment.—Besides the serum, no medicinal agents (excepting whiskey) of any kind were employed in Mr. Lackey's case during the course of the disease. During convalescence a tonic containing strychnine was given.

From ten to twelve ounces of warm salt water was occasionally introduced into the rectum to assist the function of the kidneys. This was retained and evidently had the desired effect.

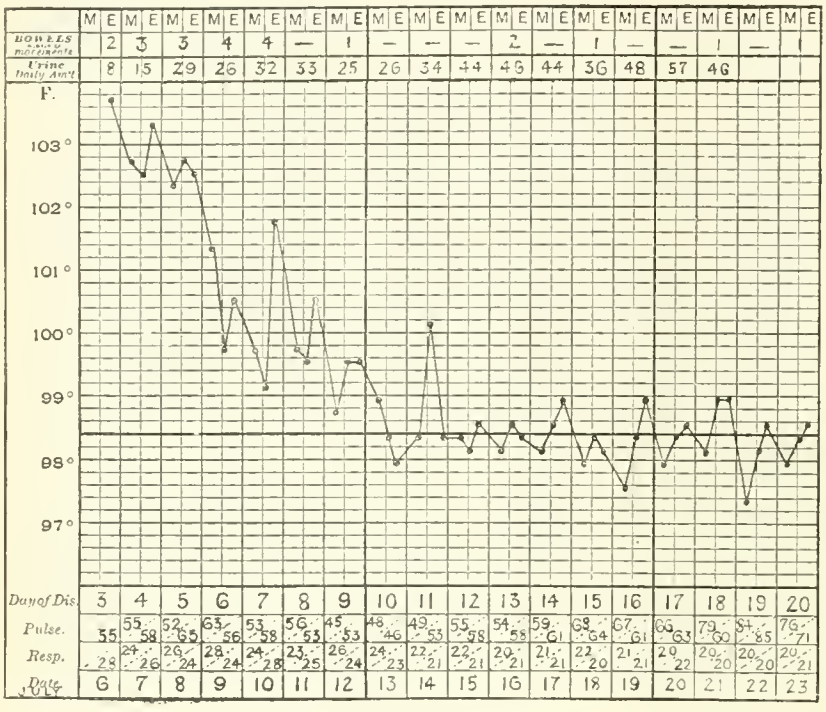


Chart Showing Temperature, Pulse, etc.

There are few diseases in which the organic degeneration is so pronounced and rapid as in yellow fever, and therefore there is no condition in which judicious nourishment and stimulation are more imperatively called for. They are, however, usually given too late to be of the greatest value. To begin the use of stimulants early in the disease is to offer prompt support to the heart before it has become too exhausted to respond. The rapid depression and degeneration which occur in yellow fever certainly cannot be fully understood by those who advocate the use of stimulants only after the third or fourth day of the disease. Nor does the value of the rectum as a means of introducing nourishment and stimulants seem to be generally appreciated. The use of the serum, if fully active, would not by any means do away with the necessity for giving careful attention to the nourishment and stimulation of the patient. Marked degenerative changes have usually taken place before this agent can be administered. The therapeutic action of the serum does not repair the tissue or take the place of nourishment, and at most it only counteracts the infection due to the specific organism and in this manner diminishes the mortality from of the disease.

In Mr. Lackey's case, during the first three or four days, fresh milk peptonized at the hospital was given in amounts ranging from a tablespoonful to two ounces every two hours. A teaspoonful of whiskey was occasionally added. This was suspended when the stomach exhibited signs of irritation. During this period, however (three or four days), six ounces of peptonized milk with from one-half to one ounce of whiskey was given by the rectum three times during each twenty-four hours. After the fourth day at the hospital the nourishment was rapidly increased. In addition small quantities of one of the bottled waters (still) were frequently given. Champagne and sparkling waters were not well borne by the stomach.

I am well aware that the value of the serum in the treatment of yellow fever cannot be definitely decided, until it has been employed in the treatment of a large number of cases. Therefore in this instance it is consistent only to present the facts in connection with the case.

Mr. Lackey recovered from the disease; whereas cases of yellow fever brought to this station on incoming vessels, unless they are of a mild character, usually terminate fatally. The care and treatment of yellow fever on shipboard are necessarily restricted and unsatisfactory, and when to this are added the climatic changes, which take place between Cuba and this port, and the exhaustion incident to the transfer of the patient from the vessel to the hospital at Swinburne Island, the prognosis is very unfavorable.

The nervous symptoms which were apparent in Mr. Lackey's case practically terminated on July 7th, and did not return. The record of the pulse shows no evidence of heart failure, or any other unfavorable signs. A reference to the charts will show that the amount of urine passed after July 6th was rather large, considering the fact that the kidneys were seriously affected, as shown by the amount of albumin present. The favorable conditions and result which I have just enumerated are what might be expected to follow the successful use of the serum, which is believed to limit the destructive action of the specific organism in the system. However, the age of the patient, an apparently good constitution, the early administration of nourishment and stimulants, with the use of saline solution by the rectum, and the most careful watching and nursing, may have contributed largely to the satisfactory termination of the case.

The importance of a thorough investigation as to the value of the serum treatment in yellow fever cannot be overestimated. The good results already obtained in diphtheria justify the belief that this method of treatment will sooner or later prove to be of great value in yellow fever.

The work already begun by this department in the direction above referred to will be continued until a definite conclusion is reached. The serum is now being tested in Vera Cruz and some has been sent to Brazil and other sections where yellow fever is almost always present and where ample opportunity can be given for a thorough test. Additional horses are now being inoculated, in order that there shall be no delay in the experimental work. This is the only scientific method of determining the value of serum.

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**Chorea.**—Oil of wintergreen combined with its own weight of vaseline, rubbed over painful joints lessens the pain and benefits the chorea.—Luigi.

# BRIGHT'S DISEASE, OR NEPHRITIS.

By WALTER SANDS MILLS, M.D.,

NEW YORK CITY.

**Historical Note.**—In 1827, Richard Bright,[1] one of the attending physicians to Guy's Hospital, London, first called attention to the association of albuminous urine, dropsy, and diseased kidneys. This report is one of the most interesting monographs in medical literature. His description of the clinical symptoms observed and of the macroscopic appearances of the kidneys found after death will forever remain a classic. Bright reported a number of cases of dropsy with death. Post-mortem examination of some of the bodies showed diseased kidneys. In studying the clinical histories in conjunction with the lesions found on the autopsy table, Bright discovered that when the urine of dropsical patients had been coagulable by heat, there were found at the necropsy extended pathological changes in the kidneys; whereas, on the other hand, when the urine of dropsical patients had not been coagulable by heat, the kidneys, as a rule, were found to be healthy. He summed up these observations in the following words: "I have never yet examined the body of a patient dying with dropsy attended with coagulable urine, in whom some obvious derangement was not discovered in the kidneys."

Heretofore, dropsy had been recognized as due to impeded circulation, either from disease of the heart or of the liver, or as due to the mechanical interference of tumors. Bright's observations led him to believe that dropsy might also be due to impeded circulation from disease of the kidneys; for in many of his cases the heart and liver were but little, if at all, diseased, and the kidneys only were at fault. Nevertheless, he did not overlook the fact that hypertrophy of the heart seemed sometimes to be associated with degenerated kidneys. In some of his cases Bright also noted variations in the amount of albumin in the urine from day to day; in other cases he found albuminous urine and degenerated kidneys, but no dropsy.

The publication of his series of cases by Bright directed special attention to the study of diseased kidneys, and his name was, by common consent, given to the disease first described by him.

**Definition.**—Bright's disease has been variously defined, nearly every author giving a definition of his own. The definition that, in a few words, seems to me best to describe the conditions found, is,[2] "A disease characterized by degeneration of kidneys whereby the excretory function is so impaired that urea is not sufficiently eliminated by the blood: any disease of the kidneys marked by the persistent presence of albumin in the urine and attended by disintegration and wasting of the organ."

**Theories as to Its Origin.**—It will be well to stop for a moment to consider theories as to the origin of Bright's disease. Bright himself ventured the following proposition: "It is probable that the altered action of the kidneys is the result of the various hurtful causes influencing it through the medium of the stomach and the skin, thus deranging the healthy balance of the circulation, or producing a decidedly inflammatory state of the kidney itself." In other words, he considered the changes in the kidneys to be the result and not the cause of disease.

The disease is general with specially marked degenerative changes in the kidneys. Dickinson,[3] Millard,[4] and others consider the changes in the kidneys to precede the appearance of albumin in the urine and deterioration of the blood. On the other hand, Semmola,[5] for more than thirty years, has maintained the contrary. By experiment, and deduction therefrom, he concludes that the blood always first becomes deteriorated so as to contain an increased amount of albumin. This deteriorated blood may be due to direct poisoning, as in the acute infectious diseases, or in the ingestion of certain drugs. Otherwise, Semmola believes the deterioration to be due to interference with the respiratory function of the skin, thus causing the retention in the blood of noxious substances that would else be eliminated.

To me Semmola's views seem to be the correct ones. His experiments certainly are convincing. In one series he varnished half the bodies of several dogs: in a few days albumin appeared in the urine, subsequently followed by pathological changes in the kidneys.

Bradford[6] has been unable to find any direct relationship between the blood-vessels of the kidneys and of the skin. It can be seen, however, that when the respiration of the skin is inhibited the excrementitious matters thus kept in the blood are perforce required to circulate through the kidneys. It is this impure blood which causes the pathological changes in the kidneys in Bright's disease.

**Classification.**—As the changes that take place in the kidneys in Bright's disease have become better understood they have been found to be due to a true inflammation. Therefore the word nephritis has come to be applied to it. Different observers have made different classifications of nephritis. From a clinical standpoint the best classification is Flint's[7] division of the disease into acute nephritis and chronic nephritis. Strümpell[8] describes: (1) acute nephritis, (2) subchronic and chronic forms of nephritis, with the exception of the genuine contracted kidney, (3) contracted kidney. This is the classification most generally followed. Although typical cases of this so-called subchronic nephritis and of the contracted kidney differ in essential particulars, yet frequently it is clinically impossible to distinguish them. Moreover, the treatment of Bright's disease is mainly symptomatic, and as the same symptoms may be present in all its forms the same methods of treatment may hold good in all its forms.

From the pathological point of view again there is the acute and the chronic nephritis, but with many and varying anatomical divisions according to the part of the organ mainly affected. Bright described three forms of diseased kidney: (1) The organ loses firmness, it looks yellow and mottled. The kidney may be slightly or much enlarged. (2) The surface is granulated as though it had been sprinkled with grains of sand. The interstitial tissue is affected: it is opaque, white, and occasionally no anasarca accompanies it. (3) A contracted kidney with less interstitial inflammation. Later in his report he said it was impossible that each of these forms was merely a different stage of the same progressive degeneration.

This idea, that varying forms of kidney found in Bright's disease were merely stages of one disease, has been advocated by some of the later students of the subject, notably by Frerichs,[9] who divides nephritis into, (1) the stage of hyperæmia and commencing exudation; (2) the stage of exudation and commencing change of the exudation, and (3) the stage of degeneration and atrophy. From this simple classification there are numerous others varying all the way to Councilman's[10] fourteen anatomical divisions of parenchymatous nephritis alone. Delafield and Prudden[11] include congested kidneys under the generic term Bright's disease. This is a mistake, as, although albumin and dropsy may occur, the dropsy at least is usually due to other causes, and the kidneys after death show none of the changes recorded by Bright.

A careful review of much of the literature of Bright's disease, together with a close study of clinical cases and an opportunity for post-mortem work, suggest to

me the desirability of dividing the subject into acute Bright's disease and chronic Bright's disease.

**Acute Bright's Disease.**—Roughly speaking, the kidney is composed of the parenchyma or secreting portion, and of the connective or interstitial tissue. The entire organ is richly endowed with blood-vessels. It is subject to all the changes of inflammation from simple congestion to exudation and degeneration of plastic material. In some diseased kidneys the principal damage done seems to be in the parenchyma of the organ; in others the greatest change is in the interstitial tissue. Bright's disease has therefore been divided into parenchymatous and interstitial nephritis. Anatomically, this is convenient. It must be borne in mind, however, that all subjects of Bright's disease present kidneys that are more or less damaged in every part. The terms parenchymatous and interstitial are merely relative. Clinically, it is often impossible to differentiate between these forms.

Morbid anatomy—acute parenchymatous nephritis: Acute parenchymatous nephritis has been variously called acute tubular nephritis, acute glomerular nephritis (Klebs), acute diffuse nephritis, acute croupous nephritis (Millard), acute degeneration of the kidneys (Delafield and Prudden).

On post-mortem examination the kidney is usually found to be enlarged. The increase in size may be slight, or it may be so great as, in a case reported by Dickinson, to burst the capsule. The whole organ may be enlarged, but the principal increase is in the cortex. The capsule is non-adherent. The surface is smooth and hyperæmic.

On section the cut surface exudes blood. The kidney substance is hyperæmic. The Malpighian bodies are injected and show in the cortex as minute red spots. The cones are decidedly reddened, in some cases purple in color. The pelvis of the kidney also shows a heightened color. In fact, the whole organ may be so congested as to be almost of a chocolate hue. There is a fine illustration of this form of kidney in Bright's original memoir. Other kidneys are paler than those above described. On washing the cut surface the distended tubules, containing exuded fibrin, fatty and destroyed epithelium, and so on, show themselves as yellowish streaks, thus giving the washed section more or less of a buff color.

Congestion and then inflammation take place. There is cloudy swelling of the epithelium lining the tubules. This has a tendency to become loosened and to fall off into the tubes. After the epithelium has become impaired there is an exudation of serous fluid, leucocytes, and red corpuscles into the tubes, and to a slight extent into the interstitial tissue. The tubules are now filled with a mass of epithelium, granular matter, leucocytes, red corpuscles, and fibrin, so great as often to obliterate the channels. This diminishes the secretion of urine. It is the mass of débris which, as before stated, gives the gross appearance of a pale infiltration. Fatty degeneration, according to Coats,[12] appears in portions of the epithelium. Casts are found in the convoluted and straight tubules and in the loops of Henle. Sometimes fibrin is found next the basement membrane. It probably gets there through the tubules. This is said by some observers to seal the tubules and thus to cause a diminution of urine.

In more protracted cases and in scarlatinal nephritis the interstitial tissue becomes involved. Dickinson says that when this point is reached the process is at the dividing line between the acute and the chronic forms.

Acute interstitial nephritis: Councilman[13] has very recently described what he calls an acute interstitial nephritis. He defines it as "an acute inflammation of the kidney characterized by cellular and fluid exudation in the interstitial tissue, accompanied by, but not dependent on, degeneration of the epithelium; the exudate is not purulent in character, and the lesion may be both diffuse and focal." It accompanies or follows the infectious diseases, as scarlet fever, diphtheria, and so on. Councilman believes it to be the most common form of kidney found in the infectious diseases of children. It is also found in some of the other infections. This, together with its focal character, leads Councilman to consider the disease to be bacterial in origin, although as yet he has been unable to demonstrate that as a fact. It is only fair to other observers to state that many of them have noted the great interstitial changes in nephritis following the acute infections, especially scarlet fever.

To the eye, Councilman's acute interstitial kidney shows an enlarged organ. It may be very much enlarged, or it may be slightly so or not at all. The capsule is thin and easily removed. The kidney is pale, grayish, and mottled. In some cases the surface is irregular. On section there is found to be an increase in size of the cortex. The glomeruli are not injected but have a grayish appearance. The kidneys are soft, lax, and friable. They exude a milky fluid, possibly degenerated epithelium. Councilman says it is not pus. Occasionally the macroscopic changes may be slight.

Under the microscope there is found to be an intense cell infiltration of the interstitial tissue. This is both general and local. It is most marked just beneath the capsule and at the base of the pyramids. These cells are packed in the middle of the cortex and around the glomeruli. They resemble the plasma cells of Unna. The tubular epithelium may be destroyed, or its change may be slight. The blood-vessels are always changed, and the plasma-like cells found in them.

Pathology: There are three symptoms associated with all forms of Bright's disease, the pathology of which will be considered at this point. They occur in both the acute and the chronic forms of nephritis. I refer to the appearance of albumin in the urine, dropsy, and uræmia. It is this trio of associated symptoms that individualizes Bright's disease. It is this trio of associated symptoms that, found in every form of the disease, frequently makes clinical differentiation of the varying pathological forms of kidney impossible. As a rule, all three symptoms appear at some time during the history of each case. Many exceptions, where one or another of these symptoms was absent, have been reported. Of the three albumin in the urine is the most frequently found. Occasionally a case will run its course without the detection of albumin. When this happens I believe that it has been overlooked, either by too infrequent examination of the urinary secretion, or by faulty methods of analysis. Cases of Bright's disease in which albumin is actually never present in the urine I believe to be extremely rare. It may be absent for a time, but not during the entire course of the disease.

The albumin found in the urine of nephritis is from the blood. Under normal conditions this is not found in the kidney secretion. The cause of its appearance is still a mooted question. Cohnheim's theory is the generally accepted one. He claims that it is due to change in the epithelium of the glomeruli, thus allowing the albumin to pass through. According to Semmola (*vide supra*), this change in the renal epithelium is produced by the deteriorated blood. That change in the glomerular epithelium alone allows of the passage of albumin is corroborated by the fact that in chronic interstitial nephritis, when the glomeruli are largely destroyed, albumin is scant and sometimes absent.

Dropsy is the next most constant symptom of Bright's disease. It is nearly always found in the

acute form, and is found in the majority of cases of the chronic disease. It may not be evident for a long time in some of the latter, but if carefully searched for it will usually be found to a varying degree, especially toward the end, in nearly every case. Dropsy consists of an infiltration into the tissues and serous cavities of a watery fluid. This dropsical fluid is pale or colorless, of low specific gravity—1.006 to 1.012—and composed of water, salts, and extractives. It contains albumin. The fluid comes from the blood. Cohnheim's theory, that dropsy is due to changes in the walls of the blood-vessels, is to-day generally accepted. Renal dropsy, according to Lazarus-Barlow,[14] exhibits itself first in the loose subcutaneous tissue. He claims this to be a proof of Cohnheim's theory. Dropsy due to defective heart's action is found in dependent portions of the body. So is dropsy due to obstructed circulation. If the heart recovers its tone or if the obstruction is removed, the dropsy promptly disappears. Further than the above the pathology of dropsy is not understood.

The third of the trio of symptoms is uræmia. This is found in any form of the disease, but is most often associated with chronic interstitial nephritis. The pathology of uræmia is obscure. The most recent experimental work in pathology of the kidneys with which I am familiar is that of Bradford.[6] In the Goulstonian lectures delivered before the Royal College of Physicians in March, 1898, Dr. Bradford devoted some attention to the subject of uræmia. In conclusion Bradford asks: "Is uræmia due to a retention of some body or is it due to the formation of something? Experiment and clinical evidence is against the retention theory. The only uræmia of the laboratory is the latent uræmia of the clinic. It is probably due to some abnormal product of disordered metabolism." In summing up he says, "(1) Uræmia is not due to sudden retention. (2) In kidney disease and after experiment there is evidence of great tissue disintegration; and it is probable that uræmia depends on this."

That uræmia acts as a powerful poison to the nervous system is well known. It exhibits itself as headache, drowsiness, stupor, coma, convulsions, reflex nausea, and vomiting. Before an outbreak of uræmia there is a diminution in the amount of urea excreted by the kidneys. There is an increase in the percentage of urea in the blood. These few facts comprise the sum total of our knowledge of the pathology of uræmia.

Exciting causes: The most frequent direct exciting cause of acute Bright's disease is scarlet fever. The specific poison probably acts directly on the kidneys. Smith[15] reports an acute nephritis in a nurse who had cared for a case of scarlatina, but who at no time presented any other of the effects of the specific poison. Flint also reports that he has seen acute nephritis occur in several attendants on scarlet-fever patients. He says that most of these patients had had scarlet fever years before. Scarlatinal nephritis may develop at any stage of the original disease. It is most apt to come on toward the close of the third week. It may come on as late as a month after convalescence is established. Smith says nephritis occurs most often in mild cases, and usually follows exposure to cold. This tendency of scarlet fever to produce Bright's disease makes it imperative on the attendants that all possible exposure of the patient be guarded against. Even then it may develop in the most carefully cared-for patient.

Acute Bright's disease may occasionally follow the other infectious diseases, as diphtheria, pneumonia, typhoid fever, typhus fever, relapsing fever, smallpox, measles, erysipelas, cholera, dysentery, and so on. Malaria occasionally produces acute Bright's, but is more apt to cause the chronic form.

Exposure to cold associated with dampness is a frequent cause of the acute nephritis. Cold alone is not so bad. Bright's disease is not a disease of cold countries.

Alcohol has long been considered to be a potent cause of acute nephritis. It is more probably due to the carelessness of alcoholic habitués in exposing themselves, and to their well-known lessened ability to react against malign influences, than to the alcohol itself.

Pregnancy is another cause of acute nephritis. It occurs more often in primiparæ. It is most apt to develop toward the end of gestation.

Certain poisons, if ingested in sufficient quantity, will cause acute nephritis. The most common ones are arsenic, cantharides, carbolic acid, chlorate of potash, turpentine, and some of the mineral poisons. Millard reports a case caused by essence of ginger that had been taken to cure dyspepsia.

Extensive burns are very apt to cause acute Bright's disease. Certain skin diseases are also said to be responsible for a few cases.

Symptoms: Acute Bright's disease is a self-limited disease running a course of two weeks to two months, and ending in recovery, chronic nephritis, or death. The onset is usually sudden. It may be ushered in by a chill or chills, accompanied in some instances by a slight rise in temperature, which rarely goes beyond 103° F. Children are more subject to increased temperature than are adults. The skin is dry. This last is characteristic. There is loss of appetite, possibly with nausea and vomiting. The respiration is quickened. Pain in the loins in the region of the kidneys is often present, especially on deep pressure. The pulse rate is increased. Sometimes there is hypertrophy of the heart, but this is not common. A more frequent symptom is rapid dilatation. The percentage of urea in the blood is increased. Anæmia develops early. This, with the œdema, gives the patient a peculiar waxy look. Epistaxis is quite common. Purpura may appear.

In the vast majority of cases the first symptom noted is a sudden appearance of œdema in one or more parts of the body; usually it is a general dropsy or anasarca. This is one of the earliest and most frequent symptoms of the acute disease; it is rarely absent. After exposure to cold anasarca may set in within twenty-four hours. It usually shows itself first in the loose areolar tissue about the orbit. It may show itself first about the ankles. As a rule, however, it develops suddenly and is general. Nearly always it is a marked symptom: it may even be so great as to break the skin. Quite often it will exhibit itself as œdema of the lungs. If there is any reason to suspect acute nephritis, œdema must be most carefully searched for, otherwise it may be overlooked. I have seen two such cases. Both patients were emaciated. In one œdema was not suspected. At the necropsy I found several quarts of fluid in the abdomen. The other case showed a slight puffiness about the eyes, but ascites was said to be absent. On most careful examination I was able to demonstrate it. My diagnosis was later confirmed at the necropsy. Favorite places for the œdema to develop are in the loose areolar tissue about the eyes, about the genitals, about the ankles and legs, in the abdomen, and in the lungs. Œdema and diminished urine are said to hold a reverse relation to each other; as one increases the other diminishes. That is, when the dropsy is greatest the amount of urine passed is the least. When the dropsy begins to disappear, the quantity of urine increases.

In acute nephritis the urine may be entirely suppressed. As a rule it is much diminished, of high color, and with increased specific gravity. Frequent micturition is a leading symptom. On examination it

is found to contain a large percentage of albumin, more, I believe, than in any other form of the disease. On very rare occasions albumin may be absent. The quantity of urea and of phosphates is diminished. The urine is clouded and deposits a heavy sediment. Under the microscope this is found to be composed of epithelium, casts, and blood. In acute Bright's epithelial and blood casts predominate; hyaline and other form are not so prevalent. Casts are composed of débris deposited and compressed in the tubules. Some authorities claim that those passed with the urine come only from the straight tubules, casts found in the convoluted tubules not being able to get through the narrower straight ones. Coats, on the other hand, says that the casts are more or less compressible and flexible, and that those formed in the convoluted tubules can accommodate themselves to the smaller diameter of the straight tubules and thus pass through. Leucocytes and red blood corpuscles are found in abundance in the sediment. In fact the heightened color of the urine is due to the quantity of blood contained.

Eye changes are rarely present in acute Bright's disease. Sometimes sudden blindness develops. This usually disappears in a few hours. No retinal changes are found to account for it. The symptom is probably of central origin and may be due to uræmic poisoning or to the pressure of fluid in the brain.

Acute Bright's disease may announce itself in the form of convulsions. This is especially true of the nephritis of pregnancy and of scarlatina. If careful watch is kept over the kidneys during gestation and during the progress of infectious diseases, this accident will not be so apt to take the attending physician unawares, for analysis will nearly always show that trouble is brewing. The convulsions of pregnancy are nearly always due to nephritis. These are known as "eclampsia." According to Lusk[6] this occurs about once in every five hundred pregnancies. Convulsions, coma, and other profound nervous disturbances are probably due to uræmia. Except as just noted, uræmia is not so common in acute as in chronic Bright's disease.

Complications: The complications of acute Bright's disease other than those enumerated in the symptomatology are not numerous. Bronchitis is nearly always present. In fact it is usually classed as a symptom. Pericarditis, pleuritis, pulmonary congestion, pneumonia, may occasionally develop.

Diagnosis: In typical cases the diagnosis is easy. The symptoms are rapid pulse, increased respiration, dry skin, œdema, frequent micturition, suppressed or diminished urine. If any urine is passed it is found to contain albumin, casts, and blood. If there is a history of convalescence from scarlet fever or other infectious disease, or of exposure, the diagnosis is certain.

Sometimes an acute exacerbation of a chronic nephritis will give the same combination of symptoms. Then, without the previous history of the case, it is impossible to distinguish it from the acute form. I have had one such case in hospital practice. A woman, aged fifty-two years, came in with a history of exposure followed by all the classical symptoms of acute Bright's. The quantity of urine passed voluntarily and by catheter varied slightly from day to day, but it averaged less than half an ounce for three weeks, when she died. At the necropsy the kidneys were found to be of the typical contracted kind. They had evidently been a long time in developing. The case was one of an acute exacerbation of a chronic condition.

Acute tuberculosis has sometimes been confounded with acute nephritis. The history of the case is of value in differentiating the two diseases. In the former there is extreme emaciation and lack of œdema. The two diseases may coexist.

Acute Bright's disease may have to be distinguished from the acute congestion of inflammatory disease. In nephritis there is abundance of albumin and of casts, in congestion only a trace. If nephritis is induced by acute inflammatory disease, it follows that disease, and symptoms of the kidney affection thereafter cease to bear any relation to it. If acute congestion of the kidneys accompanies an infectious disease, the kidney symptoms increase as the original disease grows worse, and decrease and disappear when convalescence is established.

Suppurative nephritis is differentiated from Bright's disease by the history. It originates from external violence, by metastasis from suppuration in some other part of the body, by irritation from calculi. Suppurative nephritis is usually accompanied by pain, swelling, and affects but one kidney. In Bright's disease enlargement can rarely be demonstrated and both kidneys are alike affected.

There is a transient albuminuria that is found after eating certain things, after violent or exhausting exercise, and sometimes in adolescence. Cases of this nature are classed as cases of physiological albuminuria. Millard, in the last edition of his book, denied that there was any such thing as physiological albuminuria. He claimed that he never had found albumin except in diseased kidneys. While not quite willing to deny the existence of physiological albuminuria myself, yet I believe that apparently healthy individuals whose urine occasionally contains albumin need close watching. They should once in a while be thoroughly examined for other evidences of Bright's disease.

It is well known that albuminuria is a frequent symptom in pregnancy. It may be due to congestion of the kidneys caused by pressure, it may be due to acute nephritis, it may be due to chronic nephritis. Lusk makes the statement that eclampsia is more apt to occur in patients who have developed the albumin during pregnancy than in those who were suffering from well-marked nephritis beforehand. Nevertheless, he advises against pregnancy in subjects of Bright's disease. The albumin of pregnancy appears in the later months and is associated with hyaline and granular casts. These symptoms usually disappear after labor. When the first symptom noticed is dyspnœa, the lungs will of course be examined. If œdema is present, examination of the urine will show whether or not nephritis is also present.

Convulsions or coma may first call attention to the disease. If due to uræmia, these conditions are usually preceded by a diminution of urine. Other premonitory signs are vertigo, headache, dulness of the intellect, impaired hearing, and blurred vision. There are also apt to be nausea and vomiting. When these symptoms are present, careful analysis of the urine is in order.

If the patient is seen for the first time in convulsions or in a state of coma, but without data on which to base a clinical history, the differential diagnosis is impossible. Subsequent developments will help very materially to clear up the case. If the coma lasts for any length of time, the patient must be catheterized and an analysis made of the urine. The importance of this is obvious.

Uræmic convulsions are epileptiform in character and usually pass into coma. The coma is profound and there is stertorous breathing. The temperature does not rise, the pulse is rapid, the skin is dry. In true epilepsy the convulsion is followed by a condition of stupor. If roused, the patient's mind is dazed. If not roused, the patient usually falls asleep and sleeps quietly for a time.

After cerebral hemorrhage the temperature rises and the pulse tends to go slower. Some form of paralysis is produced; this may be detected even when the patient is unconscious. The pupils are apt to be uneven. If convulsions are present, they follow and do not precede the coma.

Ordinary syncope is too transient a symptom to be confounded with uræmic coma.

In coma produced by poisoning, unless the dose is immediately fatal, the development of the symptoms is gradual. Irritant poisons disfigure the lips and fauces; this should lead to their detection. Narcotic poisons cannot always be distinguished from uræmia.

In unconsciousness from the effects of heat there is a better chance for differentiation at the beginning, because it occurs only in hot weather or in hot places. The skin is dry, the temperature is very high. If the patient is a victim of sunstroke, the pulse will be full and bounding and the face red and congested. If the case is one of heat prostration, the pulse is very weak and rapid and the face excessively pale.

In surgical unconsciousness, concussion of the brain, fracture of the skull, and shock, the testimony of the bystanders is usually available.

Prognosis: The prognosis of acute Bright's disease is usually good. The majority of cases get well. If the acute symptoms subside, the œdema disappears, the albumin becomes less, and the quantity of urine passed increases, the patient is improving. The œdema disappears long before the albumin does.

Ordinarily acute nephritis lasts from two to six weeks. If the symptoms persist for two months or more the disease is becoming chronic. This is not a common course for it to take. From one-quarter to one-third of the victims die. The patient may die in a few days in coma or convulsions, or he may live for some time and eventually die from exhaustion or from some complication, as œdema of the lungs and so on. Death may be caused by extension of the inflammation to internal organs.

Treatment: The patient ill of acute Bright's disease must be put to bed and kept there until all acute symptoms have subsided. The room must be kept warm and at an even temperature day and night. The patient must be protected from any possible danger of exposure to draughts of air or other chilling influences.

Milk is the best food. To make it more palatable it may be flavored with coffee, salt, or soda water. There are persons who will be upset by milk. Thoroughly shaking the milk before use will make it more digestible. Diluting it with lime water or carbonated water has the same effect. Some patients will take more kindly to buttermilk or to kumyss than to plain milk. Gruel may be sometimes used to advantage.

The use of tea, coffee, alcohol, and spiced foods must be stopped until after the patient is thoroughly convalescent. In exceptional cases very dilute whiskey and water may be given if the patient is excessively weak. The drinking of large quantities of pure water —several quarts daily—is essential. Lemon juice added to the water is very beneficial and may be taken *ad libitum*. Water holding in solution benzoate of sodium or citrate of potassium is used by some. My own preference is for a pure spring or distilled water with the juice of half a dozen to a dozen and a half lemons a day. This acts not only as a diuretic, flushing out the kidneys, but also has a direct effect on the kidneys, soothing the inflammation and diminishing the amount of albumin excreted.

As the acute symptoms subside and convalescence is established, meat broths, soft-boiled eggs, and fruits may be added to the bill of fare. A full diet of the character usual to the patient will have to be adopted slowly and with caution, all the time closely watching and noting the slightest changes in the urinary secretion.

The failure of the kidneys to excrete the usual quantity of urine, and the stoppage of the respiratory action of the skin as evidenced by its dryness, together cause the retention in the system of a lot of excrementitious matters that would otherwise be got rid of. To help eliminate this material as far as possible, diaphoretic treatment is resorted to The best method is the application of heat in various forms.

The patient may be wrapped in dry hot blankets and given hot drinks. This method of diaphoresis can be employed with almost every patient. A more effective way, but one that is dangerous in cases with heart lesions, is to give the patient a hot-air bath. This can be done by completely covering the patient, except the head, with blankets, in such a way as to form a sort of air chamber, and devising some apparatus to heat the air underneath. The hot-air bath ought to last no longer than twenty minutes. Care must be used lest the patient take cold: a rub-down afterward with alcohol and water will help to prevent that.

The hot pack is another method that lends itself to quite general application. This consists in wrapping the patient in a sheet wrung out in hot water and wrapped round about with blankets. This hot pack may be kept up for from a half to one hour. Finally the hot-water bath may be utilized. This may last for half an hour. In utilizing any one of the methods described above, close observation of the patient will have to be kept up to guard against exhaustion or distress of the vascular system. It is an advisable procedure to rub the patient thoroughly with dilute alcohol both before and after either the hot-air or the hot-water treatment.

Pain over the kidneys may sometimes be relieved by dry cupping. Poultices do not seem to do so well.

If the bowels are constipated and the urine is scanty, it is claimed that a good deal of the excrementitious matter may be eliminated by means of cathartics. For a mild cathartic I know nothing better than rubinat water. Senna or gamboge may be used. A more popular remedy is calomel. This may be given in eighth to quarter grain doses, repeated every hour or so.

If uræmic eclampsia or coma is impending the treatment by means of hot air or hot water, as outlined above, must be resorted to. Active depletion may be used. This is usually done by the use of pilocarpine hypodermatically, a quarter to a sixth of a grain at a dose. This relieves the dropsy as well as the uræmia. Other drugs used in this way are jalap, drop doses of elaterium, and croton oil.

Loomis[12] speaks very strongly in favor of the use of morphine hypodermatically in uræmic convulsions. He claims that it not only quiets the patient, but that it has a beneficent effect on the kidneys as well.

Inhalation of chloroform is a frequently used method for controlling uræmic convulsions. It has no curative effect, but it serves as a temporary relief until other means can be employed.

In uræmic delirium my only success has been with hyoscyamus. I have seen that put the patient to sleep. After a few hours he wakened in a normal state of mind.

In eclampsia Lusk recommends the use of veratrum viride in doses of fifteen drops of the tincture to a teaspoonful of water, repeated in a half-hour if necessary. If beneficial in eclampsia there is no reason why it should not be of service in any case of uræmic convulsions.

For the lesser manifestations of uræmia other methods are of service. In uræmic headache I used nitroglycerin in the 1:100 solution, diluted, so that my patient gets less than a drop at a dose. Bartholow[13]

and others mention its use. Belladonna is another remedy that may be called for in this condition.

For the nausea sometimes found in slight uræmia, bits of cracked ice held in the mouth frequently do much to relieve.

The œdema of nephritis will often respond promptly to treatment. My favorite drug, if œdema is general, is infusion of apocynum. Ten or fifteen drops may be given every hour. The quantity of urine passed is increased, the œdema is held in check or reduced, and the patient feels generally stronger.

For œdema of the lungs alone I use apis mellifica. Its action is prompt and certain. I have verified it many times in practice. I use a 1:100 preparation, and give half-drop doses every half-hour until relief is apparent. Another remedy that may fit the dropsical symptoms, and is good for the anæmia and debility of Bright's disease, is arsenic. I use Fowler's solution, and push it until the physiological effects are produced.

When the œdema becomes so great as to threaten to break through the skin, and medicinal and hygienic measures have no effect on it, it is necessary to resort to operative measures. The skin of the legs may be punctured under strictly antiseptic precautions, if the œdema is great there. In ascites tapping the abdominal cavity and drawing off the fluid is sometimes necessary. Or it may be necessary to tap the chest to relieve the pressure there.

Aconite in minute doses frequently repeated will be found of service in reducing the hyperæmia of acute Bright's disease.

Cantharides has a beneficent action on the kidney of acute nephritis. It is best given in drop doses of the tincture. It also seems to diminish the dropsy. Later on, when the dropsy has gone down but albumin still remains, bichloride of mercury will be found to be of service. Drop doses of a 1:10,000 solution is efficient. If the gastro-intestinal disturbances are marked, if there is much flatulence with scanty urine, turpentine in drop doses will help very much.

Cactus grandiflorus is the remedy for a lesser degree of flatulence causing palpitation of the heart.

The anæmia of acute Bright's is treated with iron and cod-liver oil. Inhalations of oxygen are also of value for this symptom; the oxygen also acts on the blood in such a way as to cause a diminution of the amount of albumin passed.

**Chronic Bright's Disease.**—As in the acute form, so in chronic nephritis, there are many names by many investigators. In describing the morbid anatomy of chronic nephritis I shall describe two forms, parenchymatous and interstitial. I must again call attention to the fact that frequently these two forms are clinically indistinguishable. There are typical cases that may be differentiated before death, but there are more that are on the border line and cannot. In all forms of chronic Bright's disease both the parenchymatous and the interstitial tissues are affected. The varying anatomical divisions merely imply that one part of the kidney structure is more damaged than is another.

Morbid anatomy: Chronic parenchymatous nephritis, otherwise known as chronic tubular nephritis, chronic diffuse nephritis, chronic diffuse nephritis with exudation (Delafield and Prudden), chronic croupous nephritis (Millard), chronic desquamative nephritis, chronic catarrhal nephritis, the large white kidney, and, later on in the disease, the small white kidney.

The kidney of chronic parenchymatous nephritis differs but little from that of the acute form. The changes are merely slower in taking place. Usually the organ will be found to be enlarged. This is called the large white kidney. It may be as much as three times its normal size. The capsule is non-adherent. The surface is smooth and pale. There may be patches of congestion. On section it is found that the increase in bulk is mainly in the cortex. The cones are less enlarged and retain their original color.

This form of kidney must not be confounded with the amyloid, lardaceous, or waxy kidney, which is also large, white, and smooth. This latter is due to a general amyloid degeneration, and is always found associated with waxy liver and waxy spleen. It is never found except after a wasting disease. An application of a watery solution of iodine simply discolors the parenchymatous kidney; with the amyloid kidney it gives a mahogany color to the waxy part and a yellowish tinge to the remainder. Amyloid degeneration may occur or coexist with any form of nephritis.

In chronic parenchymatous nephritis the secreting portion of the kidney is specially involved, the interstitial portion less so. The diseased condition is general or diffuse—that is, the tubular and the intertubular tissues are both affected. There is cloudy swelling of the epithelium, which later loosens and becomes detached. The tubules are distorted and obstructed with the débris until they look varicose. Fatty degeneration of the epithelium occurs, showing as yellowish streaks and giving the organ its light color. The packing of débris into the tubules may be so extensive as to obscure the interstitial tissue. The blod-vessels may be crushed. Blood and casts are found in the tubules. Later, as the case progresses there develops a new formation of interstitial tissue with an infiltration of leucocytes. This new connective tissue extends out to the capsule, which may become thickened. In time this may distort the organ. There are slow contraction and granulation. The shrinking of the new formation causes the cortex to sink in, and we have as a result the small white kidney, which somewhat resembles the contracted or chronic interstitial kidney. The latter, however, begins its change at the surface, whereas the parenchymatous form begins its change in the interior. Even when firmly contracted the small white kidney is smooth, although it may have an irregular surface. It is soft and flabby and the capsule is non-adherent. The cortex may become thin and the glomeruli sclerosed. The organ retains its original buff color. Much of the cortical excess in the deeper parts remains.

Chronic interstitial nephritis: Chronic diffuse nephritis without exudation (Delafield and Prudden), contracted kidney, granular kidney, granular atrophy of the kidney, cirrhosis of the kidney, renal sclerosis, gouty kidney; these are some of the names given to inflammation of the connective tissue of the kidneys. It must not be forgotten that the parenchyma of the organ is also involved.

This form of kidney is generally recognized as chronic from the beginning. It is usually much reduced in size, hence its name, contracted kidney. The capsule is thickened and firmly adherent, its removal tearing off portions of the kidney substance. When the capsule has been stripped off the surface, the kidney is seen to be covered with fine granulations. These are of a lighter color at the tips and darker at the bases. Small cysts are visible and characteristic. There is an excess of fat about the organ. On section the kidney substance is found to be tough. All parts of the organ show gray radiating striæ which are found to be new formations of connective tissue. The cortex is thinned and irregularly defined. The Malpighian bodies are many of them obliterated. The medullary rays are obscured.

There is a formation of round cells in the cortical part of the kidney so that a kind of granular tissue is found. From this the new connective tissue is developed and gives a great increase in the interstitial sub-

stance. This change first occurs about the Malpighian bodies. It encroaches on the glomerular walls, these in turn become thickened and encroach on the glomeruli themselves until there is nothing there but a mass of connective tissue. The tubules are also encroached upon and obliterated. There is cloudy swelling of the tubular epithelium followed by waxy or fatty degeneration. The epithelium is shed and forms casts as in the kidney of parenchymatous nephritis.

In the interstitial kidney cysts are formed by the squeezing and crowding of the tufts and tubules by the new tissue, and the consequent retention of the urinary contents in these little sacs. The blood-vessels of this form of kidney are thickened. There is an hypertrophy of the long and circular fibres of the muscular coats. In the glomeruli the blood-vessels may be destroyed by the advancing sclerosis. Thoma has found that the outflow of blood under a given pressure is much lessened in the contracted kidney.

Vascular changes: In chronic Bright's disease of the kidneys changes of the vascular system take place in parts of the body other than the kidneys. Roberts divides the vascular changes into three classes: (1) Simple hypertrophy of the left ventricle without valvular lesion. Bright was the first one to point out this class in his original communication. (2) Valvular defects coexist with Bright's disease. The valvular lesion is usually secondary, although it may exist separately. (3) Chronic nephritis may be secondary to the heart lesion.

There is frequently an hypertrophy of the heart. This is most often found with the contracted kidney. It may accompany parenchymatous nephritis. The general tendency of belief is that the obstruction to the circulation in the kidneys causes an increased pressure in the arteries. The heart and arteries, therefore, have constantly to exert more pressure to force the blood through. This in turn causes hypertrophy of the left ventricle, and a thickening and hypertrophy of the muscular coats of the arteries result.

Dickinson says cardio-vascular changes are constant, especially in the contracted form of kidney. Arterio-capillary fibrosis, or arterio-sclerosis, as it is also called, is a fairly constant accompaniment of chronic interstitial nephritis. When this disease (arterio-sclerosis) was first described by Gull and Sutton, they advanced the proposition that the disease was general, and that the contracted kidney was merely the result of a general process. This idea has not received the unqualified support of other observers. Osler[19] says he believes that arterio-sclerosis precedes the contracted kidney oftener than is generally supposed. He says the disease of the arteries may follow the kidney lesion.

Ocular changes: The only other constant change found in chronic Bright's disease is in the eye. The patient complains of impaired vision. On examination the eyes are found to be affected. There is a haziness of the retina and optic disc. The optic papillæ are swollen and have a clouded and indistinct outline. Extravasations of blood are seen. The veins are tortuous. Numerous white spots are seen, varying in size and scattered about the neighborhood of the optic disc. These are found to be foci of fatty degeneration.

A rarer form of eye trouble is sudden and transient blindness, most often found in the acute nephritis of pregnancy or of scarlet fever. This must be of central origin, as no retinal changes are found.

Exciting causes: Many cases of chronic Bright's disease are of insidious onset and are first discovered by accident. Cases of this nature cannot always be accounted for. Occasionally the acute disease runs into a chronic form.

Diabetes mellitus causes a few cases. Malaria is held by some observers to be an important factor in the production of chronic Bright's disease. Osler says he has never observed such an origin. In the Johns Hopkins[20] Reports for 1895 will be found an analysis of malarial fever as it exists in Baltimore. Of several hundreds of cases the subsequent appearance of acute nephritis is noted three times. Chronic nephritis is not mentioned. Thayer and Hewetson were the authors of that report. Heredity is a predisposing cause. It is common for a number of cases to occur in the same family. Grief and worry undoubtedly cause chronic nephritis in some subjects. Lead is another potent cause of chronic Bright's. Workers in industries in which lead is used are exceedingly liable to develop the contracted form of kidney. In England gout causes many cases. In the United States gout is an unimportant factor. Some cases are due to the irritation of impacted calculi. Others are caused by the upward extension of cystitis or inflammation of other of the urinary organs.

Exposure is probably the most common causative factor.

Chronic Bright's disease is one of temperate climates. The varying changes in temperature are held to account for many cases. Persons who are exposed to sudden changes of temperature in their work are prone to the disease. It is most common in the poorer classes among those who are exposed to hardship and privation. Habitual users of alcoholic liquors are frequent subjects of chronic Bright's disease. Many observers believe that the alcohol itself is responsible. Dickinson, however, considers the subject at length and combats this theory. It is well known that the habitual drinker is less able than others to withstand or resist disease. He is also exceedingly liable to expose himself and thus to produce nephritis. Experimenters have never been able to produce nephritis by the use of alcohol in animals. Tuberculosis causes some cases. Syphilis may produce the disease, especially the contracted kidney.

From one-third to one-half more men than women are affected. Roberts holds that this disproportion is not so great during the child-bearing period, when the sexes are more evenly attacked. He asserts that this is a proof that pregnancy is a real causative factor.

The disease is rare in infancy and in extreme old age. It is most common during late middle life.

Symptoms: Chronic nephritis is an affection that may last from one month to many years. A few patients recover, the majority eventually die. The onset is most often insidious and the disease is usually discovered by accident. Patients really ill of Bright's disease will present themselves with symptoms pointing to the nervous, vascular, or digestive systems so often that it is always wise to resort to a urinary analysis before making a positive diagnosis. It is my rule to examine the urine of all patients in private practice no matter what the ailment.

In chronic nephritis the urine varies in amount from day to day. In the parenchymatous form it is usually diminished in quantity, is dark in color, of slightly increased specific gravity, and contains albumin. It resembles the urine of acute nephritis. In typical cases of the interstitial variety the urine is increased in quantity and is of low specific gravity; this may be as little as 1.010. Albumin may be present only to a slight extent, or it may even be absent for a time. As the disease draws to a close, however, albumin rarely is absent altogether. In all forms of chronic nephritis, toward the end of life, the quantity of urine is diminished. In one case of an acute exacerbation of chronic interstitial nephritis under my care during the summer of 1898, the patient passed an average of less than half an ounce of urine for each

twenty-four hours for three weeks before death. Micturition is more frequent than is normal. The patient, as a rule, is obliged to pass urine during the night. This indeed may be the first symptom for which the patient seeks relief. The urine is very apt to irritate the parts. Besides the appearance of albumin in the urine, as noted above, in all forms of chronic Bright's disease there is diminished execretion of urea and of the mineral salts. This was first noted by Bostock,[21] who made the chemical analyses of the urine in Bright's original cases. Various observers have since that time added to the knowledge extant concerning the chemical constituents of the urine of chronic nephritis. When the urine is scanty and the specific gravity increased we may have a larger percentage of urea in the water, but the total quantity for the twenty-four hours will fall below normal. When the urine is increased in quantity and the specific gravity is low, the percentage of urea is low, but the total amount for the twenty-four hours may not be greatly lessened. Toward the end the excretion of urea is greatly reduced. I have seen it as low as eight grains in the twenty-four hours.

Within the past few years Purdy[22] has called attention to the diminution of the phosphates in chronic Bright's disease, especially in the urine from the contracted kidney. More recently Laidlaw[23] has gone so far as to say "that a deficient excretion of phosphates in the urine is the only constant urinary symptom of chronic nephritis with interstitial changes; it is more constant than albumin, more constant than the low specific gravity or increased quantity of the urine." Laidlaw suggests for this symptom the name of "oligophosphaturia."

In the sediment granular and fatty casts predominate. Epithelium from the bladder and kidneys is found. Blood corpuscles and pus cells are also frequently found. The sediment in chronic interstitial nephritis is less than that in the parenchymatous form.

A good many cases of chronic Bright's disease discover themselves first through a puffiness about the eyes, or through œdema in some other part of the body. Occasionally cases progress to the end without œdema. This does not often happen. As mentioned when discussing the œdema of acute nephritis, œdema will usually be found if carefully searched for. The chronic parenchymatous kidney is the one that produces dropsy to the greatest extent. It develops slowly and constantly increases, until toward the end of life it may cause dyspnœa by œdema of the lungs, or by pressure in the pleural or abdominal cavities. Ascites sometimes develops to an astonishing extent. I have several times removed fifty and sixty ounces of fluid from the abdomen.

The dropsical fluid accumulates not only in the cavity of the abdomen, but there may also be an effusion into the walls of the intestinal tract and a consequent diarrhœa. The dropsy may become very great, and yet, under appropriate treatment, almost entirely disappear. If the case happens to be one of the rare ones that end in recovery, the œdema may cause no further trouble. As a rule, however, the dropsy recurs again and again until the point is reached where medicinal treatment has no further effect. Then the only resort is to palliative measures until death closes the scene. The favorite places for the appearance of œdema have been indicated under the symptomatology of the acute form of the disease. It begins in the loose areolar tissue about the orbits and genitals. Flint says a good place to detect slight œdema is over the sternum. When the heart's action fails, the dropsy appears in dependent portions of the body. The labia and scrotum may become swollen to the size of a man's head. The face may lose all semblance of a natural appearance and look more like a balloon than anything else.

The third of the great trio of Brightic symptoms is uræmia. This may manifest itself as a dull throbbing headache—a very frequent symptom in chronic interstitial nephritis. In my experience the common form of headache is occipital. Other observers have noted it more frequently in the frontal region. We may get cerebral nausea and vomiting as a result of the uræmic poisoning. Uræmic vomiting is said to have an ammoniacal odor. If the vomited matter is acid it is said to evolve ammonia on the addition of caustic potash. The patient may be drowsy or stupid, or he may be talkative and start and twitch. Uræmic coma and convulsions are comparatively frequent. Either condition may be the first to call attention to the disease. Delirium is rare. I have seen one case of it. It appeared suddenly and would disappear after a quiet sleep induced by hyoscyamus. This occurred a number of times during the last few weeks of life.

If the brain symptoms are slight, there may be blurred vision, light flashes, and other disturbances of the sense of sight. Cases have been reported of toxic dyspnœa due to uræmia. My own experience has been that dyspnœa is always associated either with œdema of the lungs or with pressure from hydrothorax or ascites.

Vascular changes are marked in chronic nephritis. Hypertrophy of the heart or valvular lesion is associated with nearly all cases. The pulse is characteristic of the vascular condition it is associated with. In parenchymatous nephritis there is apt to be a weakened pulse with increased rate. Valvular lesions are often found with this form of kidney. In the interstitial form of the disease the pulse is full and strong. Owing to the sclerotic changes that take place in the walls of the arteries the pulse continues to feel hard to the end. The heart sounds are strong. The second sound is accentuated. The apex is low and to the left. Palpitation is common.

Anæmia accompanies chronic Bright's disease. During transient disturbances of the circulatory system cyanosis may develop. In far advanced cases, when the heart is unequal to the continued strain, cyanosis of the dependent parts of the body is common. I have seen but one case in which the cyanosis was general for any length of time. The patient was waterlogged and cyanosed when brought to the hospital. He lived about a week in that condition. Cyanosis and anasarca were more marked than in any other case that has passed under my observation. Angina pectoris is occasionally present as a symptom. I have had one such case. Purpura may also occur. Cerebral hemorrhage is quite a common symptom, especially in chronic interstitial nephritis.

In the lungs bronchitis is commonly associated with the chronic as well as with the acute Bright's disease. There may also be cough and dyspnœa. The dyspnœa may be due to uræmic poisoning or to pressure of the dropsical fluid. Pleurisy is often found with chronic Bright's disease. It occurs most often in connection with a heart lesion. The symptoms found in the gastro-intestinal canal are numerous. They often cause a mistake in diagnosis. I have seen nausea and vomiting occur often in chronic Bright's disease. They may be due to uræmia, or they may be due to actual gastric disease. Burning pains in the stomach are sometimes complained of. One patient of mine complained of soreness across the abdomen. Diarrhœa often occurs, especially in dropsical subjects. This is sometimes due to the swollen condition of the intestines which causes them to act abnormally. It may be accompanied by cramps. There may be a great deal of flatulence.

The symptoms found in the nervous system are numerous and varied. Some are due to the deteriorated blood, others are due to uræmic poisoning. Headache

frequently occurs. Sleeplessness is another distressing symptom, especially toward the end, when it is apt to be aggravated by dyspnœa. The patient may be drowsy, dull, or in a profound stupor. This latter is due to uræmia. Uræmic convulsions are similar in their manifestations to epilepsy and are quite common. Coma also is quite common. These two symptoms, convulsions and coma, are often preceded by amaurosis. They may be preceded by vertigo, numbness of the hands and feet, cramps in the muscles. This last group may for a long time be the only manifestation of uræmia.

One patient of mine first consulted me because of this peculiar numbness. Later she complained of "sinking spells," which she brooded over. Then she got the notion that her family was neglecting her. Noises annoyed her. Music, which she had formerly been very fond of, caused her to weep. In a word, the condition simulated one of melancholia. Another patient, already referred to, developed violent delirium. He believed a conspiracy had been formed by his wife and physician to kill him and to get his property away from him. It required considerable diplomacy to manage him. I hope never to see another case like it.

One of the diagnositic signs of chronic nephritis is albuminuric retinitis. A patient will complain of blurred vision. An ophthalmoscopic examination will show the characteristic changes. This consists in the appearance of an indefiniteness in the outlines of the optic papillæ. The retina is puffy-looking. The veins are engorged and tortuous. Little white spots of different size are scattered about the optic disc.

Another eye symptom that has been mentioned several times is sudden blindness. This augurs ill. It sometimes precedes the onset of acute uræmia. The blindness is only temporary in any case. No anatomical changes have been discovered in association with it.

The temperature of chronic Bright's disease is most frequently below normal a very little. During the final weeks it may vary from 99° to 100° F. The appetite is lost. The skin is dry and pale. There may be intense itching, accompanied or not by a deposition of urea on the surface of the body. As life draws to a close the patient exhibits all the signs of profound disorganization. There are twitching and picking at the bed-clothes. The patient slides to the foot of the bed. Urine and fæces are passed involuntarily. The patient is unconscious.

Complications: An acute nephritis may develop in the course of a chronic condition. This may present such a classic picture of the acute disease that the chronic condition remains undiscovered until the necropsy. Chronic nephritis is subject to all the complications of the acute disease. Hemorrhages from the mucous membranes may occur, as epistaxis and hæmoptysis. Alternate constipation and diarrhœa is more or less common; this may be due to catarrhal conditions, to uræmia, or to œdema. Secondary inflammations of the pleura, lungs, pericardium, peritoneum, and even of the integument may complicate the chronic nephritis. Numerous nervous, digestive, and vascular changes are associated with it; most of them have been noted in the symptomatology. Chronic Bright's disease and pulmonary phthisis are often found associated.

Diagnosis: The diagnosis of chronic Bright's disease, early in its history, is frequently overlooked. The onset is insidious, and the disease may progress for months and years before it is even suspected. In the majority of cases the discovery of the existence of chronic nephritis is made by accident, many such being found on examining candidates for life insurance. It is quite a common affection in this country. It is important that chronic Bright's disease be discovered early, for if promptly and properly treated much can be done to prolong life. It is wise, therefore, to make analysis of the urine a routine measure in all cases, whether nephritis is or is not suspected. For several years I have made it my rule to examine the urine of every new patient and to keep a record of the result on file for future reference. A number of times I have in this way discovered that a patient was suffering from chronic Bright's disease, and in each instance I believe the patient has been the gainer.

Typical cases of chronic parenchymatous nephritis, in which the urine is scanty and contains albumin, and there is œdema, are not difficult to diagnose. Nor are cases with a history of profuse urine of low specific gravity, slight œdema, accentuated second sound of the heart, indicating the contracted kidney, at all confusing.

Acute exacerbations of a chronic nephritis can be mistaken only for the acute disease. Without a history these cases cannot be differentiated. This makes no difference in the treatment, as both groups of cases require the same. It does make a difference in the prognosis, because the rule is for the acute case to result in recovery and for the chronic case to be fatal.

The varying symptoms of chronic nephritis may simulate those of any of the conditions already noted in discussing the diagnosis of acute nephritis. That section must be read before going on to the consideration of the other disease that may be mistaken for chronic Bright's. The urine must be carefully studied in all doubtful cases, not once, but many times. Even then a positive diagnosis can be made only by carefully weighing all the evidence.

Chronic indigestion is often treated without the fact being detected that it is caused by Bright's disease. Patients with gastro-intestinal troubles should always be carefully examined for further evidences of nephritis, as this is one of the characteristic methods of its development.

Other patients will exhibit symptoms of neurasthenia, of melancholia, of neuralgia, of rheumatism. All such patients must be watched for the development of Brightic symptoms.

Anæmia is one of the most prominent symptoms of nephritis. Any case presenting anæmia as a symptom needs to be watched.

It is unnecessary, perhaps, to particularize further. A patient presenting with constant disturbance of the digestive system, of the nervous system, of the vascular system, or of the respiratory system, should put the physician on his guard. Groups of symptoms of any of these parts, especially if of obscure origin, should arouse the suspicions of the medical adviser. Even if changes cannot at first be found in the urine, that does not imply that they may not later develop. If this fact is always borne in mind and acted on, mistakes will not be so apt to occur. Finally, some cases will escape the most careful diagnostician until help is impossible.

Prognosis: The prognosis of chronic Bright's disease is bad. Nearly all patients die of it. The disease may last from several months to ten years or more. A few observers have reported cases of cure. I have never seen or personally known of an actual cure. I have seen many patients much benefited by treatment and kept alive for varying lengths of time. Acute exacerbations may be met and subdued with appropriate treatment. But a time will come in nearly every case when that becomes no longer possible.

Death may occur from any of the causes that effect a fatal termination in acute Bright's disease. Cerebral apoplexy is the cause of death in quite a percentage of cases.

Treatment: When acute symptoms develop during

chronic Bright's disease, the patient has to be treated in all respects as if it were an acute case.

If the patient is found to be suffering from chronic Bright's disease in a quiescent state—that is, if he is in fair general health—he must be cautioned against catching cold. It would be preferable to have him removed to a warm climate. Wherever he lives he ought at all times to wear wool next the skin—woollen underwear by day, woollen pajamas by night. Great care must be used to keep the skin functionating. For this purpose there is nothing so good as a sponge bath, followed by a good rub-down. This kind of bath is best taken with moderately cool water on rising in the morning. Every other day is often enough. One or two hot baths—tub baths—should be taken through the week, preferably at night just before retiring.

The diet of the chronic Brightic in apparent fair health is a mooted question. My opinion is in favor of a liberal diet. Red meat is permissible once a day. Chicken, eggs, most kinds of fish, vegetables, fruit, milk, all may be used. Fat, greasy foods, and rich, heavy pastries must be avoided. Tea and coffee may be used if desired. In the way of alcoholic liquors, I like my patients to stop their use altogether. If something of the sort must be used, claret and diluted whiskey—at the strongest one part whiskey to four of water—are the least harmful. I prohibit all malt liquors.

If there is a history of syphilis, iodide of potassium will almost invariably benefit the patient.

Besides the remedies mentioned under the treatment of acute Bright's disease, there are one or two that need special notice here. Bichloride of mercury was mentioned before. It is one of the best of remedies in chronic nephritis. It will diminish the amount of albumin and may cure the patient. I have also found lead to be a good remedy, especially in the contracted kidney. Millard mentions its use.

Toward the end of life, when the heart begins to fail, there are a number of remedies that may be of service. Infusion of digitalis is one of the most frequently used. It ranks high as a diuretic and as a heart stimulant. My own experience with it, however, I must confess to have been disappointing. I like caffeine better and have seen it do good work. The heart's action becomes stronger, the urine increases in quantity, and the patient is less nervous. Strychnine is a good heart stimulant, but its use must not be continued for too long a time. If it is, the patient gets into a neurasthenic condition that is distressing. The bowel becomes paralyzed. It is a dangerous remedy to give for continued periods. It will make the patient worse if care is not used.

For emergency use in threatened heart failure, camphor in drop doses, repeated every five minutes if necessary, is my first choice. It is one of the most prompt and diffusible of heart stimulants. For hypodermatic use at such times brandy or ether may be used.

One of the most distressing symptoms in advanced cases of Bright's disease is sleeplessness. Morphine is usually recommended. I have so often seen it excite instead of soothe the patient that I do not use it any more. If I use opium at all I prefer codeine. I give it in one-eighth of a grain doses. It is safer and does the work more effectively for me. The bromides and chloral I object to on general principles. If the sleeplessness is not caused by actual physical pain, but is more of a nervous phenomenon, I sometimes use trional. I give it in the usual fifteen-grain dose. In such cases it has proven itself very satisfactory.

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152 WEST 119TH STREET.

## MUCOCELE OF THE MAXILLARY SINUS.*

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IN reviewing the older literature on the subject of diseases of the maxillary sinus, the term "hydrops antri" is repeatedly met with, especially in works on general surgery. The title is now rarely seen, and it is generally admitted that a hydrops cannot form in the maxillary sinus on account of the character of the mucous membrane lining this cavity. The cases referred to in the former literature of this subject were probably due to other conditions, the word "hydrops" indicating an error in the diagnosis.

While the term "hydrops antri" has been abandoned, that of "mucocele" of the antrum of Highmore is occasionally met with. In Charles Burnett's "System of Diseases of the Ear, Nose, and Throat," Joseph H. Bryan,[1] while admitting that hydrops in its true sense—that is, an inflammation characterized by a serous secretion—cannot develop in the maxillary sinus, believes that mucocele, indicating an accumulation of mucus, the result of a catarrhal inflammation of the mucous membrane due to extension from the nose, may still exist in cases in which the ostium maxillare becomes closed so that the accumulated mucus cannot escape. The anatomy of the mucous membrane of this cavity, however, indicates that the term "mucocele," especially presenting the violent symptoms that are usually ascribed to this condition, cannot be considered as a pathological entity, this being also the opinion of Zuckerkandl[2] and the majority of investigators who have given attention to this subject.

The lining membrane of the maxillary antrum consists of two layers, the one forming the periosteum of the bony wall and closely adjusted to all its anfractu-

* Read before the annual meeting of the American Laryngological, Rhinological, and Otological Society, Cincinnati, June 2 and 3, 1899.

osities, and the other the mucous membrane proper. In the latter are found glands of the muciparous order, some being of acinous and others of tubular formation. These glands are very much scattered except in the upper part of the cavity, where they are found in a somewhat larger number. On account of the paucity of these glands, the maxillary sinus secretes only sufficient to moisten the surface of the cavity, this fact having already been pointed out by Burns[3] in 1821. There is a close adjustment between these secreting glands and the absorption by the lymphatics of this cavity, so that without the loss by evaporation from the inspired air, as in the nasal cavities, there is no excess of moisture.

A careful investigation of the cases which have been published under the title of "hydrops" and "mucocele" indicates that by far the majority of these cases were due to cysts, and even some of the cases of empyema were probably also of cystic formation. These cysts, which may be single or multiple, may be caused by dilatation of a follicle in the mucous lining of the antrum, to cystic degeneration of a polypus, or to dentigerous cysts, either internal or external, which may reach the maxillary sinus by erosion and present all the characteristics of an antral cyst.

While empyema of the antrum is not of infrequent occurrence, cases exhibiting the symptoms of retention, dilatation, and deformity, whether published under the term hydrops, mucocele, or cysts, are of comparatively rare occurrence. That a cyst which is ruptured into the nasal cavity may be mistaken for empyema is easy to understand, and a differential diagnosis presents so much difficulty in some cases that a mistake can easily occur. If a cyst completely fills the maxillary sinus, and spontaneous rupture takes place into the nasal cavity and pathogenic micro-organisms invade its contents, we will have all the evidences of an empyema, and a correct diagnosis can be arrived at only by the most careful investigation. If the walls of the cyst are closely adherent to the sides of the antrum, and an artificial opening is made through the alveolar process, the probability of correcting the error becomes greatly diminished, and no doubt some of the cases of rapid cure of a supposed empyema of long standing are due to this cause. Cysts may be present in the antrum for an indefinite time, as they usually give rise to no marked symptoms until the distended walls begin to encroach upon the normal limits of the sinus. As already stated, the diagnosis is not always a simple matter. Transillumination, which is an important measure in empyema, is here negative as compared to the normal cavity, and the same may be said of the Roentgen rays. The thin wall of the cyst and its translucent and frequently transparent contents offer little obstruction to the luminiferous rays, so that the difference from the normal cavity is practically *nil*. In fact, it is not impossible that the contents of the cyst may have some converging effect on the light, so that the transillumination is actually increased. Nor would the *x*-rays offer more satisfactory results in such cases. When the cyst formation has developed to such a point that the symptoms of distention are present, the diagnosis is greatly facilitated. Ectasis may be due either to a cyst or a solid tumor, and transillumination and the *x*-rays easily enable us to differentiate between the two.

Cysts of the antrum have sometimes been mistaken for more serious conditions, and several cases are on record in which preparations were made for the surgical removal of the whole superior maxilla under the impression that the symptoms were due to a malignant neoplasm, when the conditions presenting themselves were feund to be caused by a dilated cyst.

The prognosis of cyst of the maxillary sinus is better than in cases of empyema of long standing. We are all familiar with the obstinate character of many cases of empyema when the pathological condition has existed for a considerable time. Cysts, on the other hand, frequently yield promptly to treatment, and, even in cases in which a spontaneous rupture has taken place and the secretion is infected with pathogenic micro-organisms, the prognosis is much more favorable than in cases of chronic empyema of the maxillary sinus. In some of the published cases of rapid cures of long-standing empyema of this cavity the disease was probably cystic.

Several cases of cyst of the maxillary sinus are reported by Kunert,[4] in which the symptoms strongly suggested empyema, but in which the real cause was a cyst of the maxillary sinus. Lesniowski[5] reports a case of a patient who had suffered for a year and a half from pain and swelling similar to that found in the cases formerly reported under the title of "hydrops" of the maxillary sinus. In this case also the cause was found to be a cyst of the maxillary sinus, complete relief following its extirpation. A case under the title of "mucocele" is reported by Baumgarten,[6] the patient being a boy, aged thirteen years, in whom a spherical swelling the size of an apple appeared under the left zygomatic process. The skin was normal, but weak fluctuations could be detected at the canine fossa. The hard palate was depressed on the left and fluctuations could also be felt there. The nasal cavities were normal. Puncture through the canine fossa was followed by the discharge of serous matter. The treatment was afterward continued by irrigation, and the patient made a complete recovery. The author believed this to be a case of mucocele due to obliteration of the ostium maxillare, but the symptoms and history leave no doubt that it was a cyst of the maxillary sinus.

A case of "hydrops" of the maxillary sinus in a girl aged thirteen years is reported by Cassalette.[7] The reading of this case leaves little doubt that the symptoms were due to a cyst of the maxillary sinus. Charles H. Knight[8] reports a case of cyst of the maxillary sinus, this being of interest as it also presents the majority of the symptoms ascribed to "hydrops antri" or "mucocele." The patient, a man aged twenty-nine years, complained of no pain, the only symptom being an obvious deformity in the left malar region, the mass pushing the upper lip forward and the dilatation extending as far as the lower margin of the orbit. There was no malformation of the roof of the mouth, and the nasal fossa on the affected side was quite normal. On incision, it was found that the wall of the cyst was so firmly adherent to the bone that the lining membrane of the antrum seemed to constitute the cyst wall. About two ounces of thin, slightly turbid fluid were evacuated. A director was passed with some difficulty from the antral cavity into the nasal fossa through the ostium. No suppuration developed, and four months after the operation there had been no recurrence.

In concluding this article I will give the clinical history of a case which recently presented itself in my practice, of a cyst of the maxillary sinus, in which all the characteristic features ascribed to the old cases of "mucocele" of the maxillary sinus were found. The patient, a man aged forty-two years, applied in February, 1899. He complained of severe pain in the region of the left cheek and pressure on the eyeball. The pain had existed for several days, but for the past twenty-four hours had been so severe that the patient was entirely unable to sleep or lie down. The fulness of the left side of the face and throbbing were still violent when the patient was examined, although some relief could be obtained by holding the parts with his hand. Pain on pressure was very severe and

radiated over the whole area of the superior maxilla. The pain was especially localized in the region of the second bicuspid on the left upper side, the tooth having been extracted fifteen months before. When removed, this tooth was found to be diseased. Since then there had been occasional pain on the left side of the face, but not of a grave character, and there had been no swelling at any time. The symptoms indicated pressure from the left antrum of Highmore. The transillumination test exhibited no difference in the amount of light transmitted on either side, showing that the pressure was not due to a solid tumor. Had the cavity been filled with purulent matter, as in empyema, there would probably also have been a noticeable decrease in the light on this side, although, as we know, transillumination is not always a reliable test. The case thus presented all the symptoms of the older cases of "hydrops" or "mucocele." As a result of examination, a diagnosis of cyst of the antrum was made. The symptoms being very severe and the patient declaring emphatically that he would be unable to stand the suffering another night, it was decided to make an exploratory puncture in the cavity without further delay. The tissues in the site of the extracted tooth having been cocainized, a small trephine was passed through the alveolar process into the cavity. This was followed by a negative result. A probe, however, on being passed through the opening met with a resisting membrane. When this was punctured a viscous, non-fetid secretion was evacuated, the patient immediately expressing a sense of relief. A small cannula was then passed into the cavity, but all efforts to force a solution through the ostium maxillare were unavailing. A light packing was placed in the opening in the alveolar process, and an appointment was made for the following morning for a more radical operation. The next day the patient was anæsthetized and a large opening made in the canine fossa. The cyst membrane was then removed with a curette, but with considerable difficulty, as it was adherent in many places. After the cavity had been thoroughly curetted, the solution was again passed through the antrum, this time finding its way through the ostium maxillare into the nasal passage. The cavity was carefully packed with five-per-cent. iodoform gauze, which was removed twenty-four hours later, when it was irrigated with a mild boracic-acid solution and again packed. After this treatment was continued for three days, the irrigation only was practised, and a week later the patient was sent home with instruction to syringe the cavity with warm boracic-acid solution twice daily. A month later the patient was again seen and appeared practically well. The fistula had almost entirely closed. At no time had there been any marked fetor. Occasionally, when the cotton which closed the fistula to prevent the entrance of foreign matter was left in position too long, a slight odor developed, but disappeared with the next washing.

The case illustrates the difficulty of making a diagnosis between cyst of the antrum and the so-called "mucocele." Had the walls of the cyst been adherent at the point at which the antrum was first punctured, or had the trephine passed through the wall into the cyst cavity, the illusion that it was a mucocele with obliteration or obstruction of the ostium maxillare would have been very strong. Had a spontaneous opening taken place into the nasal cavity and the retained secretion infected with pathogenic micro-organisms, the differentiation between cyst and empyema would have presented the greatest difficulty.

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## THE EVILS OF THE RITUAL PRACTICE OF CIRCUMCISION.

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ALTHOUGH a great deal has already been written concerning circumcision, yet nothing has been done to eradicate the evils of its practice on Hebrew children. I do not intend in this article to attack circumcision as a religious rite, but simply to draw the attention of the profession to the evils existing in its performance. I am surprised that so little has been written concerning this important subject thus far. From time immemorial, it has been practised by almost the entire Semitic race, and especially by the Hebrews since the time of Abraham.

It is perhaps unnecessary for me to point out its advantages, for they are too well-known even to the laity; very frequently even the uncircumcised adult is forced to resort to it in order to prevent the development of inflammatory conditions in the redundant foreskin. And to-day we have many advocates of universal circumcision, on the ground that prevention of disease is easier than its cure.

History records that the Hebrews escaped great epidemics more readily than the other races with whom they lived. "Different causes have been assigned for this higher vitality of the Jewish race, and it were wise to seek for these causes, since that race which presents the strongest vitality, the greatest increase of life, and the longest resistance to death must in course of time become, under the influence of civilization, dominant. We see this truth indeed actually exemplified in the Jews; for no other race has ever endured so much or resisted so much. Persecuted, oppressed by every imaginable form of tyranny, they have held together and lived, carrying on intact their customs, their belief, their faith for centuries, until, set free at last, they flourish as if endowed with new force. They rule more potently than when Solomon in all his glory reigned in Jerusalem. They rule, and neither fight nor waste."[1] It is claimed by some historians that circumcision is a great factor in causing the differences that exist between the Jewish race and other races. The Scriptural law reads as follows: "This is my covenant, which ye shall keep, between me and you and thy seed after thee: every man child among you shall be circumcised. And ye shall circumcise the flesh of your foreskin, and it shall be a token of the covenant betwixt me and you."

In Turkey, the uncircumcised is regarded as impure and the Arabs practised circumcision long before the days of Mohammed. Many savage tribes also practised circumcision as a religious ceremony.

To-day, many Hebrews look upon this law simply as hygienic and discard any religious significance, and of course this is the view held by the medical profession.

Every one will admit that the operation requires a certain amount of surgical skill, and it is not so simple as to warrant its performance by a layman; yet ritual circumcision is always performed by a layman. There is a class of men living among the Jews who are

[1] Richardson: "Diseases of Modern Life."

termed "mohelim," whose function it is to perform this operation. These men possess neither medical knowledge nor surgical skill; they have no idea of the existence of germs, understand nothing about the theory of sepsis and antisepsis, and in a great many cases are even void of personal cleanliness.

Any layman with the slightest pretension to piety may become a "mohel"; and he usually gets a fee which many a young surgeon would only be too much pleased with. I am not surprised that the Jewish community, like any other community, can be imposed upon; but that the medical profession should tolerate men who practise without a license and who are a danger to the community, I cannot understand. Many of the medical practices of midwives, barbers, faith curists, Christian Science healers, and the like have been brought to the attention of the public of late, but not a voice has thus far been raised against these "mohelim." The public scarcely realize the dangers of such an apparently simple operation. They do not know that the child is very apt to become infected with disease and perhaps die from hemorrhage. As a means to stop hemorrhage from the penis, the "mohel" takes it in his mouth and sucks the first blood off directly after the circumcision. The child is thereby exposed to the danger of inoculation with various diseases, among which syphilis and tuberculosis are the most prominent.

Vaccination is by far a simpler operation than circumcision, but if any layman should attempt to vaccinate he would be promptly arrested for illegal practice and fined. Why, I repeat, should this not be the case with the "mohelim"? Circumcision as performed by them is an evil which should be done away with, and doubtless means can be discovered to suppress the abuse without offending religious prejudice.

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## HERNIA OF THE VERMIFORM APPENDIX.

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As surgeons have been prodigal in the donation of their time to the study of inflammatory conditions of the vermiform appendix, it may not be amiss to consider this important part of the economy as it figures in another rôle—the appendix in a hernia. Recently two cases have come under my observation, which I will report:

Case I.—Henry M——, negro laborer, sixty years of age, had for twenty-five years a partly reducible scrotal hernia on the right side. He was seized after a violent coughing spell with severe pain, and noticed that the size of the hernia had perceptibly increased. He continued to suffer for eight hours, when I was called, March 12, 1899, and found him with an anxious expression of countenance, restlessness, and almost continuous retching and vomiting, which, however, was not feculent. The bowels had not acted and the abdomen was somewhat distended. After a brief trial of taxis, under an anæsthetic, without result, I proceeded to perform herniotomy. Opening the sac I found the cæcum and vermiform appendix. The latter was eight or ten inches in length and was firmly adherent to the sac, which accounted for the irreducibility, and the constant stretching was the cause of the unusual lengthening of the viscus. The appendix is usually adherent, as is shown by the valuable statistics of Dr. Coley, in which he reports adherence to the sac in eight out of nine cases. This is easily accounted for when we consider the tendency of the appendix to inflammatory action. The operation was completed after the method of Bassini, and the patient made a good recovery.

Case II.—Mrs. M——, forty-eight years of age, stated that for three years at times she had observed an enlargement under Poupart's ligament which upon manipulation would disappear. On April 5th she noticed a tumor about the size of a hen's egg, which was tender to the touch and became more and more sensitive until the 8th, when Dr. R. S. Hill was summoned and advised that I be called and that an operation be performed at once. I found the patient's pulse 100 and temperature 100° F. She complained of considerable pain and was vomiting occasionally. The bowels had moved freely as the result of two drachms of Epsom salts, administered before either of us saw her. Making an incision upon the tumor, I encountered about two ounces of fluid, and found a strangulated vermiform appendix at the crural ring. The constriction was so great and the adhesions were so extensive that it was necessary to incise Gimbernat's ligament before freeing the appendix. Drawing the healthy portion of the viscus into the wound I ligatured it about a quarter of an inch from the blind gut and removed the diseased part; after cauterizing with carbolic acid, I pushed the stump into the abdominal cavity and closed the wound. The patient made an uninterrupted recovery.

It is interesting to study the methods by which the vermiform appendix finds its way into a hernial sac. According to Mr. W. McAdam Eccles, of London, the appendix may be abnormally lengthened, either congenitally or as the sequel of attachment. Or, the mesocæcum being unusually long, the viscus is permitted to reach the hernial ring. It could easily enter a congenital right inguinal hernia, but it is more difficult to explain its forming its own sac. I believe with Mr. Eccles that it is possible that "the appendix itself may be the producer and the entire contents of a right inguinal or a right femoral sac, and in a few very rare cases of a left inguinal one," but that it is much more probable that the appendix has an accompaniment which causes the hernia; and the former with its inflammatory tendency becomes adherent and irreducible, whereas the latter returning to the peritoneal cavity allows the sac to contract to the size of the contained viscus. Specimen 2,635 in the museum of the Royal College of Surgeons of London shows the cæcum occupying the upper part of the sac of a right inguinal hernia, which would have been reducible but for the attachment of the appendix at the bottom. Mr. Eccles published in 1896, in St. Bartholomew's Hospital Reports, twenty-nine cases of hernia of the vermiform appendix—sixteen inguinal and thirteen femoral. They were all on the right side excepting one, which was a left inguinal. In two of the cases the appendix was accompanied by other viscera. In one of the May numbers of *The Lancet* Mr. Edmund Owen reports a case of strangulation of the vermiform appendix in the sac of a right femoral hernia at St. Mary's Hospital, London, and Mr. Battle a case of irreducible femoral hernia containing the vermiform appendix at St. Thomas' Hospital. Mr. Chavasse, of Birmingham, England, reports a very similar case in one of the June numbers of the same journal. Dr. Catellani, of Padua, Italy, the home of Bassini, reports a case in the *Annals of Surgery*, December, 1898, of a left femoral hernia containing the cæcum and appendix. Dr. Baiardi records ninety-eight cases of hernia of the appendix, and in only two cases was it on the left side. Dr. Briancon published in 1897 in Paris fourteen cases, all on the right side. At the clinic of Professor Colzi, of Florence, out of fifteen hundred and eighty-six herniotomies the vermiform appendix was found in twenty-seven cases. At Professor Tricomi's clinic in Padua the appendix was found four times in four hundred and twenty herniotomies. Dr. Coley says of four hundred cases of children operated

on at the Hospital for Ruptured and Crippled in New York City, the appendix was found in nine cases.

From the above statistics we should be justified in concluding that the vermiform appendix is found in about one and a half per cent. of hernias, and that in not quite three per cent. of these cases the appendix is found upon the left side. The appendix more frequently forms a hernia in children, being found in a little more than two per cent. of hernias. I have been unable to find the report of a case in which the appendix was the sole occupant of a left femoral sac or an umbilical or ventral hernia.

## Progress of Medical Science.

**The Treatment of Astasia-Abasia.**—The author, Rudolph Funke (*Zeitschrift fur diätetische und physikalische Therapie*, vol. ii., 1899), describes in detail a systematic course of treatment which he has employed with success in a large number of cases of this symptom complex. Holding that the affection is both hysterical and neurasthenic in etiology, he concludes that a logical treatment must embrace both gymnastic exercises and psychotherapy. In the latter regard it is of especial importance that the entire course be conducted by the same physician, and that the patient's confidence be obtained from the start and he be convinced that his disease is readily curable. The patient is put to bed and kept there continuously, and while in the horizontal position is started on systematic movements of the limbs and trunk, which are first done by the attendant, and at the word of command repeated by the patient. Care must be taken that the patient does not with his eyes follow the movements of his limbs, by having him concentrate his gaze on some fixed spot. Then follow passive motions carried out with the patient still in the recumbent posture. After a sufficient lapse of time the patient is allowed to sit up and the same procedures are repeated. The change to the erect position is accomplished by the use of crutches, and as the patient gains confidence these are placed in a more and more slanting position so as to diminish the support they give, and finally dispensed with altogether, the physician supporting the patient by his hands in the axillæ. At this point the act of arising from a sitting posture must be practised, the physician acting in unison with the patient and gradually diminishing the assistance given. The various exercises must be regularly practised until they are promptly and accurately performed. In a similar way the abasia is gradually overcome, and after progression in a forward direction has become possible the more difficult exercises of walking backward, climbing stairs, and prompt starting, stopping, and turning at command are drilled in. At this epoch, and not before, the patient is allowed to leave his bed at times other than his hours of exercise. For perfecting the performance of the more finely co-ordinated movements, some form of apparatus, like the dynamostat, which permits of gradual increase in the resistance, is found very useful. In cases of astasia-abasia of the choreiform or saltatory character the treatment is slightly different. The problem here is a double one, viz., to check the disturbing involuntary twitchings and restore the lost power of voluntary motion. The author describes how this was accomplished in one case by having the patient simultaneously with the motion of his legs perform some other act, such as deep breathing, opening and closing the mouth or eyes, moving the arm, etc. Although this at first was very difficult, the result was most brilliant, and a cure was effected in four weeks. Electricity, medication, and massage are all to be employed as adjuncts to the gymnastic treatment.

**A Case of Multiple Sclerosis with One-Sided Tremor.**—P. Remlinger (*Rev. de Médecine*, vol. 19, 1899) reports a case which showed the following cardinal symptoms: There was an intention tremor of the upper and lower extremities, limited to the right side; exaggeration of the tendon reflexes, more marked on the right side; gait markedly spastic; tremor of the lower lip: diminution in sight due to beginning optic-nerve atrophy; slow speech with monotonous and scanning cadence. These symptoms had been developing for the past six years, during which time the limitation of the tremor to the right side was remarkable, being so constant.

**The Eye in Melancholia.**—Dr. A. Athanassio (*Archives de Neurologie*, May, 1899) speaks of a sign in the eye of melancholics which has not been noted to any great extent. He finds that whereas the light reflex is present, the reflex to accommodation is lost—thus the reverse of the Argyll-Robertson pupil. He explains this by assuming in melancholia a state of aboulia in which the patient will not really make the effort to fix the eye on a definite point.

**A Case of Congenital Impotence.**—Belkowsky (*Allgem. Zeitschr. f. Psychiatrie*, Bd. 55, Heft 5) describes the case of a man who, although married for four years, had never been able to perform the sexual act. In spite of the fact that his genitals were normal in development and his general bodily condition was excellent, he was totally devoid of sexual sensations, had never in his life had erections, and only quite lately had he had some nocturnal emissions, accompanied, however, by only imperfect erections. He was totally indifferent to the female sex, but no trace of sexual perversion could be observed.

**Leprosy of the Lung.**—Babes and Moschuna (*Arch. de Méd. expérimentale et d'Anat. pathologique*, vol. 11, 1899) show that in leprosy the lungs may be affected in a manner similar to that found in tuberculosis. In many cases the lungs may be sound and no tubercle bacilli be found; in others there may be a true pneumonic process with the presence of tubercle bacilli, and again in others there may be no tubercle organisms, but they have found the lepra bacillus. They report two cases of leprous pneumonia with peribronchitic nodes. They also report cases of leprous phthisis.

**The Organotherapy of Diabetes by Means of Liver Extract.**—In the treatment of diabetes up to the present time better results have been attained by the use of liver extract than by means of pancreas extract. Gilbert and Carnot (*Lyon Médicale*, February) report on a series of cases in which they were able to produce a decided reduction in the amount of sugar excretion. Linnosier discusses two cases of diabetes in which the liver extract was administered but without appreciable amelioration of the symptoms. Both of these were, however, aggravated forms of the disease.

**Wounds of the Pericardium and of the Heart, and their Treatment.**—As the result of an elaborate study, based upon an analysis of fifty-four cases collected from the literature, Loison (*Revue de Chirurgie*, January–July, 1899) concludes that the symptomatology of wounds of the heart and of the pericardium do not seem more indefinite than those of wounds of the peritoneum or of some of the abdominal viscera. The diagnosis is as difficult and as delicate in the one group of cases as it is in the other, and it demands all the acumen of the surgeon. The prognosis is not always fatal, as the statistics show. Treatment is not entirely hopeless, as the results of surgical intervention at the hands of numerous operators in a number of cases demonstrate.

# MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM WOOD & CO., 51 Fifth Avenue.

New York, August 26, 1899.


## LABORI'S WOUND AND THE QUESTION OF BULLET EXTRACTION.

THE discussion bearing upon the probable outcome of Labori's wound with the bullet remaining embedded in the muscular tissues of the spine has revived the old question of active surgical interference in such cases. While it must be admitted that there are many controlling circumstances which must determine the particular treatment in individual instances, there are also general principles of management which are quite well established and which necessarily determine the course to be pursued in the large majority of such injuries.

The widely accepted surgical view, that it is always safer and better to remove such missiles when such a course is possible, does not admit of adverse argument. A bullet is thus considered always out of its place when lodged in the human body. The fact that it may in a very small proportion of cases become encysted and give no immediate trouble does not in any sense militate against this general proposition. It should never be a question of taking chances in the latter direction when the ball can be safely reached. With the radiograph to determine the exact position of the foreign body, there is no longer any excuse for aimless incisions or dangerously septic probing.

The main risks which have existed in former operations for extraction are thus eliminated with a corresponding guarantee of sure and speedy healing of the resulting wound. In view of these facts the surgeon who is content to take an ultra-conservative course often assumes unwarrantable responsibilities in attempting to guard against subsequent troubles which more radical procedures might have successfully averted.

His conclusions as to ultimate results are based on a palpably wrong assumption that the primary wound is aseptic. Such a condition is, however, so exceptional that it may be regarded as the merest accident. Not only the bullet itself may be infected, but portions of clothing which are so often carried with it are quite likely to be. Even if the latter is not the case, woollen and other fragments never become enveloped in protecting tissue, and always serve to maintain an open sinus which constantly invites direct infection.

The size of these foreign substances has nothing whatever to do with the degree of wound poisoning which may result from their presence in vital tissues. Oftentimes the smaller the splinter of bone, for instance, or the more diminutive the portion of clothing, the greater the damage, as such disturbing elements are often invisible even to the radiograph, and their existence is frequently unsuspected. All this is the strongest possible argument for a wound that can be guaranteed to be perfectly aseptic from the start by the primary and absolute removal of every suspected influence to the contrary.

The comparatively simple character of the original injury, while it might give the best possible reasons for making assurance doubly sure in eliminating all chances of future trouble, is of itself no indication that the ultimate results of possible complications may not be out of all proportion to ordinary expectations. If the wound tract is septic in the slightest degree, there is no end of the trouble which may result to the neighboring tissues by burrowing abscesses, erosion of bone from pressure, and contiguous infection by the formation of inaccessible pus pouches, together with the other preliminaries of an inevitable pyæmia. This was illustrated in the melancholy case of President Garfield, wherein the ultimate results of widespread suppuration and constant pus-soakage of the spongy portion of the perforated vertebra were clearly and painfully apparent. The danger of the latter condition was never before more pointedly demonstrated, nor more clearly proven to be beyond remedy when once established, than by the autopsical relations of cause and effect. The possibility in Labori's wound of the bullet opening an infected track in the substance of the wounded dorsal vertebra is certainly not beyond reasonable calculation so long as the ball is allowed to remain where it is. While very often it requires a great deal more courage to advise against an operation than to perform it, it is nevertheless equally true that when a radical procedure can be adopted which promises immunity from subsequent dangers with a minimum risk, it is a fortunate circumstance for the surgeon when succeeding events prove that he has not erred in making an exception to a general and accepted rule of action. From such a point of view the profession will watch the outcome of this now famous case with more than ordinary interest.

## THE OPERATIVE CURE OF ASCITES DUE TO CIRRHOSIS OF THE LIVER.

ONE must often attempt to relieve symptoms when hope of cure is out of the question. There are no known remedies that are capable to any notable degree of restraining the progress of cirrhosis of the liver when once begun; but it has been shown that relief from one of the most troublesome symptoms of this disorder can be afforded by surgical operation directed to the esablishment of an adequate collateral circulation for the omental and peritoneal vessels. Cases in which such a result was thus secured have been reported by Drummond and Morison (*British*

*Medical Journal*, September 19, 1896), and one has also been reported by Weir in the MEDICAL RECORD for February 4, 1899. Further evidence, both clinical and pathological, of the successful accomplishment of the object in view is presented in a recent communication by Morison (*The Lancet*, May 27, 1899), who reports the case of a man forty-two years old, who presented himself on account of abdominal distention of rapid development.

The patient had had three attacks of left-sided pneumonia, and was accustomed to take not more than a pint of beer at dinner and supper, and occasionally a glass of whiskey. On examination signs of a large collection of free fluid in the abdomen were found present, while the liver dulness could not be distinguished, and the spleen was so much enlarged as to fill the left iliocostal and lumbar spaces and to bulge forward the left flank. The abdomen was opened midway between the umbilicus and the ensiform cartilage for exploratory purposes, and the liver was found to be hard, hobnailed, and somewhat diminished in size, and the spleen enlarged to at least six times the normal. A second incision was made three inches above the pubes, and a glass drain introduced into the recto-vesical pouch. About three gallons of fluid escaped through the upper opening and through the tube. After emptying the peritoneal cavity and drying it with sponges, the anterior surface of the liver, the outer surface of the spleen, the exposed coils of intestines, and the parietal peritoneum were all firmly sponged, and the omentum was attached by sutures widely to the parietal peritoneum lining the anterior abdominal wall. The whole of the upper wound was closed by deep and superficial sutures, and the glass drainage tube was left projecting and firmly gripped below. The further surgical course of the case was uncomplicated, but the patient became much depressed mentally, although he was in good health two years after the operation.

A patient who had been previously operated on for ascites complicating cirrhosis of the liver, developed after two years a ventral hernia, which became aggravated by cough, and she sought operation for its relief. The woman recovered from the immediate effects of the operation, but in a short while she became restless and complained of pricking pains and numbness in the arms and legs. On the following morning, after a restless night, the patient was distinctly jaundiced and complained still more of the numbness and pain. Jaundice and restlessness increased, and on the second day after the operation the woman became comatose and died, deeply jaundiced. At the autopsy the whole of the abdominal viscera and the parietes excepting the skin were removed *en masse*, and the vessels injected from the trunk of the portal vein. The liver, the spleen, and the intestines were attached to the parietes, chiefly by numerous band-like adhesions, many of which seemed each to contain little except a blood-vessel, which in several was four inches in length. The omentum also was firmly adherent to the anterior abdominal wall by strong bands, and in all of these adhesions innumerable injected vessels could be readily seen passing from the omentum and viscera through the parietes. Many of these vessels were as large as a normal radial artery. The subperitoneal plexus of vessels formed a dense large network.

As a result of his experience in these cases, Morison reaches the conclusion that (1) ascites due to cirrhosis of the liver can be cured by the establishment of an efficient anastomotic circulation. (2) Adhesive peritonitis produces adhesions between the abdominal contents and its parietes in which new blood-vessels form. If there is any demand for these vessels they remain permanently. (3) The operation described seems to be the safest and most certain method of producing adhesions. (4) It is no longer advisable to treat the ascites due to cirrhosis of the liver by repeated tappings if the patient is otherwise sound and in fair general condition. After one or two tappings have failed, operation offers the best chance of prolonged and useful life.

## THE PHYSICAL DEVELOPMENT OF JAPANESE WRESTLERS.

ALTHOUGH the American is willing to concede to the Japanese the possession of a mental capacity almost if not quite equalling that of the majority of white races, he is apt to form a somewhat slighting opinion of him as viewed from a physical standpoint. The specimens met with in this country do not tend to convey a favorable impression of their athletic powers. After, however, reading an account of the physical measurements of some of the most prominent Japanese wrestlers, a more respectful attitude regarding the muscular development of these little men will probably be taken. The *Jiji Shimpo* has recently published a table giving the measurements of six of the foremost Japanese fighters. From this table it is gathered that the most bulky of these modern gladiators weighs at the age of twenty-two years about three hundred pounds; height, five and a half feet; girth of chest, fifty-eight inches, lung capacity, four thousand four hundred and fifty cubic centimetres; upper arm, eighteen inches. Another one weighs over two hundred and eighty pounds; height, six feet five inches, girth of chest, forty-eight inches; lung capacity six thousand cubic centimetres; upper arm, sixteen inches. The smallest of these fighting men weighs more than two hundred pounds, measures in height five feet seven inches, while in lung capacity he exceeds them all. There are few wrestlers or pugilists in this or any country who attain to these dimensions, and those who have seen some of the best exponents of Japanese wrestling are willing to back them when pitted against the pick of the European or American experts, as it is said that they are as skilful as they are powerful.

**Gift of an Ambulance.**—A lady resident in Sing Sing, whose name is withheld at her own request, has presented through Dr. W. A. Miner an ambulance with all its equipment to the Ossining Hospital of that place. It is patterned after those in use in Central Park, in this city.

## THE ETHICS OF CONSULTATION IN THE LABORI CASE.

It is a deplorable fact that almost every medical or surgical case which in consequence of the position or importance of the patient is the subject of newspaper comment has its dark background of additional sensation in the shape of a professional scandal of some sort. There is seemingly a craze for notoriety on the part of some of the outsiders which focusses its venom of envy on those who are doing their best to perform strictly professional duties in a difficult and responsible case. The latest manifestation of this propensity has been evident in the full and disgusting public ventilation of the unseemly surgical quarrel over the particular treatment which Laborı should receive. The aggravation of the wrong from an ethical standpoint is the assumption of right on the part of a friend of the patient, also a surgeon, to make an unsolicited professional visit, apparently on the ground of personal concern for the sufferer, and force his professional advice upon the gentleman in charge of the case. As is quite natural under the circumstances, the regular surgical attendant resents the unwarranted interference with his vested rights, and a stormy interview follows, in which sarcasm, innuendo, and insult have the freest possible interchange. No more typical doctors' quarrel founded on radical disagreement as to respective privileges could have found its way into the history of any public scandal. In the course of the pardonably animated protest of the real surgical attendant it was openly charged that the volunteer consultant was rather carelessly throwing himself in the way of extensive newspaper notoriety, an opinion which was abundantly substantiated by subsequent events.

## News of the Week.

**The Pasteur Institute.** — The annual report published by the *Annales de l'Institut Pasteur* states that during the past year, 1898, 1,465 persons underwent treatment, of whom 4 only died. Of the 1,465 persons inoculated 141 had been bitten by persons experimentally proved to be mad, 855 by animals declared to be mad, and 469 by animals suspected of being so. With regard to nationality 1,353 were French and 132 foreigners, the latter consisting of 56 from British India, 25 from England, 21 from Switzerland, 3 from Greece, 2 from Egypt, and one each from Spain, Turkey, and Austria, other countries, notably Italy and Russia, having institutes of their own.

**The Independence of the University of Berlin.**— The German Government has made persistent attempts to secure the dismissal of Dr. Leo Arons, a privatdocent in electricity at the University of Berlin, for the reason that he is a Social Democrat in politics. The faculty of the university has recently formally tried the accused, but as no instances of improper teaching were shown, the arguments turned solely on the right or wrong of Social Democracy. The Berlin University decided that the fact that an instructor belongs to the Social Democratic party was no reason for his dismissal, and, though an appeal has been taken to the minister of education, the faculty of the university still stands by its member.

**The New York Society for the Prevention of Cruelty to Animals** removed last year from the streets of this city 25,466 diseased, starving, and homeless dogs and 62,474 cats. Of these 1,511 lost dogs were restored to their owners; the others were killed by immersion in illuminating-gas. The lost animals are kept forty-eight hours, awaiting possible identification by their owners, and those unclaimed after that time are destroyed.

**Yellow Fever** is reported to be spreading rapidly at Tuxpan, Mexico, fifty deaths having occurred since the beginning of the outbreak. The Marine-Hospital service has been notified of the appearance of a case of the disease at Port Lima, Costa Rica. One of the United States marines stationed at Havana has died at the naval hospital there of yellow fever, and the entire marine battalion, consisting of forty men, has been sent north. The men arrived at this port a few days ago, without impediments of any kind, and were quarantined to await the expiration of the usual period of incubation.

**Too Much Chicago.**—The editor of *The Illinois Medical Journal*, the official organ of the Illinois State Medical Society, in commenting upon the programme for the semi-centennial meeting to be held in Springfield in 1900, says that it "should not contain the names of too many Chicago men. Of course every man in Illinois believes in Chicago, but it is not the entire State. The medical men in Chicago have ample opportunity to disport their knowledge. Some of them do not hesitate to do so, almost *ad infinitum* and in some instances *ad nauseam*. They should curb their impetuosity when away from home. They should let the others have a chance. Strange as it may seem, they may learn something if they are attentive."

**Service in the Hospital Corps.**—An effort is being made to secure as many enlistments as possible of qualified men for the army hospital corps. Service in the hospital corps is considered desirable because of the higher pay as well as of the class of work to be done. The corps consists of stewards, acting stewards, and privates, who receive $45, $25, and $18 a month respectively, with twenty per cent. added in time of war. The private of the line receives about $13, with the same percentage of increase in time of war; and even the sergeant-major of a regiment is paid about $10 less a month than a hospital steward.

**Calomel and Lemon Juice for Snake Bites.**—A certain Dr. Corillano Dutra, of the state of Matto Grosso, Brazil, has sent a sworn statement to the Academy of Medicine of Rio de Janeiro affirming that he cures persons bitten by any of the venomous reptiles of Brazil, by means of thirty grains of calomel and one ounce of lemon juice, repeated every two hours until three doses have been taken. He claims

to have effected cures by this remedy even when the patient was seemingly moribund. The credence which might be accorded, with reservations, to this statement is somewhat rudely shaken, however, by a further assertion by the same Dr. Dutra. He says that a few grams of corrosive sublimate tied to some part of the body will prevent any snake from biting the person thus guarded, and if the snake should be followed up and forced to bite, the bite will be innocuous.

**Liberal Bequest.**—By the will of the late Benjamin D. Masham of Vineland, N. J., the sum of $100,000 is devised to the New Jersey Training-School for Feeble-minded Children on the death of his widow.

**High-Altitude Insanity.**—A man from Wisconsin, accused of attempting to poison a resident of Colorado Springs, has been acquitted on the plea of insanity, several physicians testifying that his insanity was due to the high altitude of the town.

**Condemnation of Animal Suspects.**—The board of health of Altoona, Pa., has ordered all stray cats, dogs, and other pet animals to be killed. This action is taken because those animals are suspected of assisting in the spread of smallpox in the city.

**Punishment of Rebellious Students.**—In consequence of the student insurrection which occurred in all the Russian universities, except those in Finland, last year, it has been decided by the government that hereafter any university or high-school student who creates or instigates disorders shall be forcibly drafted into the Russian army, and compelled to render from one to three years' service.

**Antivaccinationists in England.**—The Leicester Guardians, consisting of thirty-five men and five women who were elected under a pledge to oppose in every possible way the enforcement of compulsory vaccination, were recently brought into court for refusing to appoint a vaccination officer as the law provides. The court mandamused them to compel them to appoint a public vaccinator, and the "martyrs" returned from London to Leicester cheered on their way at every station by the plaudits of enthusiastic but indignant sympathizers.

**Medical Education in Kentucky.**—The State board of health of Kentucky has issued a circular giving notice that it will hereafter refuse to recognize, as a basis for certificates to practise medicine, diplomas from any medical college which does not, in good faith, comply with the requirements of the American Medical College Association, the American Institute of Homœopathy, and the American Eclectic Medical College Association, respectively, as to both preliminary education and a four years' course of study. This means that no school that graduates three-year students will be recognized in this State hereafter. The board provided an examination for three-year graduates of the present year, as many students had attended such schools in ignorance of the advanced requirements, but the result was unsatisfactory, a large number of the examinations indicating incomplete preliminary education as well as imperfect medical training. This standard for the State of Kentucky was made and promulgated in 1891, to take effect this year.

**A New Sterilizer.**—A new preparation composed of chlorate of potash and sulphuric acid has been introduced by Professor Bergé, of Brussels University. He claims for it that when brought into contact with water the chloric acid of the mixture becomes decomposed into oxygen and what he calls "poleozone," which he says is the most energetic oxidizing agent and bactericide known. Fishes and plants, he alleges, live well in water impregnated therewith, but it at once destroys all microbic life.—*The Medical Press and Circular.*

**The Yellow-Fever Germ.**—According to press despatches from Washington, the bacteriologists of the Army Medical Museum do not accept the conclusions of the Marine-Hospital commission, published in these columns last week, regarding the Sanarelli bacillus. These despatches quote Surgeon-General Sternberg as saying that "Drs. Reed and Carroll are now preparing a report of their extended researches, which have been going on in the Army Medical Museum during the past two years. This report will be published in due time, and will give full details of the experimental evidence upon which they base their conclusion that Sanarelli's bacillus is a variety of the bacillus of hog cholera. It appears to me at the present time that, like the colon bacillus and bacillus X, the bacillus of Sanarelli is present occasionally and accidentally in yellow-fever patients, and that its etiological relation to this disease has not been established."

**The Italian Society of Internal Medicine** will meet in tenth annual session in Rome on October 23d to 26th, under the presidency of Dr. Guido Baccelli. The subjects of the set discussions are chlorosis and the pathology of the pancreas. There will also be reports on the progress during the year of therapeutics and diagnosis by Drs. Boeri and Riva Rocci. Foreigners who wish to make application for associate's tickets (10 lire) may address Prof. L. Lucatello, 5, Via Università, Padua.

**Marriage of the Subjects of Venereal Disease Forbidden.**—A law recently passed by the Michigan legislature forbids the marriage of any person suffering from gonorrhœa or syphilis, and provides that any one so diseased who may marry shall be guilty of a felony punishable by a fine of not less than $500 or more than $1,000, or imprisonment in the penitentiary for a term not exceeding five years, or by both fine and imprisonment. A wife or husband may testify against her or his guilty spouse, and the privilege of medical secrecy is also abrogated in such cases.

**Food Inspection in Philadelphia.**—The subject of food adulteration was brought to the attention of the July grand jury at Philadelphia, which made a special presentment on the subject, saying that "the adulteration of food is a matter of such vital importance to

every member of the community that the strongest measures should be taken to prevent and punish the crime." Special attention was called to the fact that it is not always the retailer who is at fault, but that very frequently the adulteration is made by the wholesaler or manufacturer. The Pennsylvania law prohibits the use of borax, boracic acid, salicylate of sodium, and salicylic acid as preservatives in any article of food, and this provision of the adulteration act is relied upon in many instances to secure convictions, these preservatives being frequently used by milk dealers. The Pennsylvania oleomargarine law is also quite severe, the retail dealer being held responsible even if he himself bought oleomargarine in the belief that it was butter.

**Typhoid Fever in an Almshouse.**—A number of cases of typhoid fever have occurred in the Warren County (N. J.) almshouse, several of the nurses and other officials and some of the inmates having been attacked. The number of persons in the institution is quite large, and heretofore the general health has been very good.

**The International Congress of Dermatology and Syphilography,** which has its own permanent organization, has for the next meeting united with the Thirteenth International Congress of Medicine, of which it will form an independent section in Class II.

The work of the congress in dermatology will be comprised in four discussions, as follows:

1. Parasitic Origin of Eczemas—By Kaposi of Vienna, Unna of Hamburg, Jadassohn of Berne, J. Galloway of London, Brocq of Paris, assisted by Bodin of Rennes and Veillon of Paris.

2. Tuberculides—By Boeck of Christiania, Colcott Fox of London, Campana of Rome, G. Riehl of Leipsic, and Darier of Paris.

3. Alopecia—By Malcolm Morris of London, Lassar of Berlin, Mibelli of Parma, Pavloff of St. Petersburg, and Sabouraud of Paris.

4. Leucoplasia—By Behrend of Berlin, J. J. Pringle of London, and Perrin of Marseilles.

In syphilography the discussions will be:

1. Syphilis and Associate Infections—By Neisser of Breslau, L. D. Bulkley of New York, Ducrey of Pisa, and Hallopeau of Paris.

2. Hereditary Syphilis—By J. Hutchinson of London, Tarnowsky of St. Petersburg, Finger of Vienna, and L. Jullien of Paris.

3. Causes of Generalized Infections in Blenorrhagia—By Taylor of New York, Lassar of Berlin, Tommasoli of Palermo, J. E. Lane of London, and Balzer of Paris.

**Prosecution of an Illegal Practitioner.**—Dr. (?) A. M. Petrella, of Brooklyn, was arrested recently for the second time for alleged illegal practice of medicine. He is an Italian, who came to this country a year ago and settled in Brooklyn, displaying a sign on his house with his name and the letters M.D. He had no license from the State board of examiners, nor was he registered, and was arrested for illegal practice. For some reason he was acquitted, but was warned not to practise medicine without being properly registered. He did not get registered, and was arrested again a few days ago on the complaint of a dissatisfied patient. His plea was that, being a graduate of the University of Naples, he should be permitted to practise here without submitting to another examination.

**Foot-and-Mouth Disease** prevails in Egypt, a recent statement placing the number of cases of the disease reported for the month ending August 15th at eighteen hundred and twenty-seven.

**The American Pharmaceutical Association** will meet on September 4th and the following days at Put-in Bay, Ohio. The association is reported to have a membership of about eighteen hundred.

**The "Epidemic" of Infantile Paralysis** at Poughkeepsie has subsided. One of the cases, that of a boy about five years old, resulted fatally, and a section of the spinal cord is to be examined in order to determine the true nature of the disease.

**Dr. John McG. Woodbury** of this city, now a surgeon in the United States army, has been assigned to witness the manœuvres of the sixth German army corps at Silesia on September 23d, and to report upon the practical operation of the German military medical service.

**Smallpox in Texas.**—As a result of the bad sanitary condition, following the recent disastrous floods in the Brazos valley, an epidemic of smallpox has broken out. Many negroes in Bastrop, Brazos, Robertson, and other counties are down with the disease. The State board of health has taken charge of the situation.

**A New Hospital Building.**—The Beth Israel Hospital Association filed plans with the building department of this city recently for a six-story and basement brick fireproof hospital building, to be erected on the northwest corner of Jefferson and Cherry streets. The building will be one hundred and seventy-eight feet in ground area, and its estimated cost will be $100,000.

**Mosquitos and Malaria.**—Major Ross, the discoverer of the life cycle of the proteosoma of birds in the gray mosquito, and the head of the expedition sent out by the Liverpool School of Tropical Diseases to study malaria in Sierra Leone, has sent a despatch to Liverpool announcing the discovery of the special mosquito concerned in the dissemination of malaria in that region. He asks that the British government send a scientific force to work in conjunction with him.

**Uniform for Army Nurses.**—The new uniform for United States army women nurses, according to instructions recently issued by Dr. Anita McGee, assistant surgeon U. S. A., will consist of a waist, with adjustable cuffs, and an apron of white linen, worn with a skirt and necktie of army blue galatea. A jacket of the galatea style is also provided, to be worn when desired. Caps are not to be used. Chief nurses are entitled to wear, in place of the apron, a sash of red silk, knotted around the waist. Each nurse may have

the uniform made as best suits her convenience, but the material and cut are to be as prescribed. The badge of the nurses' corps will be a special form of a Greek cross of dark enamel, edged with gold.

**The Plague** is apparently spreading gradually in various directions, Europe being threatened from several sides. At Oporto forty-nine cases occurred between June 4th and August 21st, of which number sixteen terminated fatally. The government has decided to isolate the city by means of a sanitary cordon. Dr. Jorge, the director of the Bacteriological Institute at Oporto, has become the object of popular disapproval because he had the courage to assert that the plague existed in the city when the authorities wished to conceal its presence. A mob gathered near his house and was dispersed only by active efforts of the police, and he was also assaulted by a member of the Chamber of Deputies. The disease was brought to Oporto from India on a ship loaded with rice. It is reported that several cases of plague have occurred at Palermo and at Naples, and it is also believed to have broken out in the government of Samara in Russia. Several cases of suspected plague have occurred at Magude, a short distance from Lourenzo Marquez, Delagoa Bay. There is little danger of the disease being brought to this port from Oporto by immigrants or in cargo, but if it is true that rats are active in the spread of the disease, there would probably be some danger in allowing a vessel from an infected port to dock here, even if there were no cases of the disease among either passengers or crew at the time of arrival.

**Navy Department,** Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending August 19, 1899. August 15th.—Assistant Surgeon F. R. Bogan detached from the *Wabash* and ordered to the *Scorpion*. Assistant Surgeons G. D. Costigan, M. S. Elliott, F. L. Pleadwell, D. N. Carpenter, D. S. Morgan, J. C. Pryor, promoted to the rank of lieutenants, junior grade, from July 1, 1899. August 17th.—Surgeon L. B. Baldwin ordered to be examined by the naval retiring-board, Washington, D. C., September 12th, and then home and to wait orders. Surgeon L. W. Atlee detached from the *Bennington* and ordered to the *Solace*. Passed Assistant Surgeon H. D. Wilson detached from the *Castine* and ordered to the *Solace*. Assistant Surgeon W. M. Wheeler detached from the *Baltimore* and ordered to the *Solace*. Assistant Surgeon J. C. Thompson detached from the *Baltimore* and ordered to the *Castine*. Assistant Surgeon D. G. Beebe detached from the *Monadnock* and ordered to the *Bennington*. Assistant Surgeon T. M. Lippitt detached from the *Solace* and ordered to the *Baltimore*. Assistant Surgeon F. M. Furlong detached from the *Solace* and ordered to the *Oregon*.

**Death of Prof. von Bunsen.**—Robert Wilhelm Eberhard v. Bunsen, the famous chemist, died at Heidelberg on August 16th. He was born at Göttingen on March 31, 1811, and took the degree of doctor of philosophy at the university there in 1830. He afterward studied in Berlin, Vienna, and Paris. In 1852 he was appointed professor of chemistry at Heidelberg, which place he held until he died, although he had not lectured for some time. Although a chemist, it was in physics that his greatest discovery (that of spectrum analysis) and inventions (the Bunsen burner, the Bunsen pump, the Bunsen battery, and the spectroscope) were made. In 1883 he was elected one of the eight foreign associates of the French Academy of Sciences.

**Obituary Notes.**—Dr. Samuel B. McLeod, of this city, died after a brief illness, on August 23d. He was born in New York in 1831 and was graduated in arts from the University of Pennsylvania, and in medicine from the College of Physicians and Surgeons, Medical Department of Columbia College, in the class of 1852. After a year spent in study abroad Dr. McLeod entered the United States navy, serving as assistant surgeon. He resigned at the end of two or three years and began practice in this city. He was a prominent member of the New York County Medical Association and was for five years its president. He was also for one term president of the New York State Medical Association and of the Medico-Legal Society. He was consulting physician and surgeon to the New York Lying-in Asylum and consulting physician to the Northern Dispensary, and was also formerly a surgeon of police. He is survived by a widow and two sons, one of the latter a practising physician.—Dr. William D. Hartmann died at West Chester, Pa., on August 16th, at the age of eighty-one years. He was graduated from the medical department of the University of Pennsylvania in 1839, and continued in practice almost up to the time of his death. He was a recognized authority in the natural sciences, especially conchology, entomology, geology, and mineralogy, and his collection of shells was especially rich in the genera of partula and achinella.—Dr. William A. Jacobs died at Centre Hall, Pa., of pneumonia, on August 16th. He was a graduate of the medical department of the University of Pennsylvania in 1875. He had previously served in the Civil War as second lieutenant of Company G, One Hundred and Forty-eighth Pennsylvania Volunteers. He was for six years a member of the Centre County pension examining-board.—Dr. Alexander Craig died in an apoplectic attack at Columbia, Pa., on August 17th, at the age of sixty-one years. He was graduated from Jefferson Medical College in 1865, and was for thirty years surgeon to the Pennsylvania Railroad Company.—Dr. J. Pembroke Thom, of Baltimore, died in that city on August 21st, after an illness of several months, at the age of seventy-one years. As a young man he entered the United States army, serving in the Mexican War. He afterward took up the study of medicine, was graduated from Jefferson Medical College in 1851, and entered the medical service of the navy. He entered the Confederate army at the breaking out of the Civil War, but resumed the practice of medicine in Baltimore at its close. He was speaker of the Maryland House of Delegates in 1884.

# Reviews and Notices.

La Guerre Gréco-Turque: Résumé historique et stratégique, accompagné de Notes médicales et largement illustré. Par Dr. Edmond Lardy, Chef d'Ambulance de la Banque Impériale Ottoman en Thessalie, etc. Neuchatel: Attinger Frères. 1899.

This is an historical and statisticai account of the Greco-Turkish war, written by a surgeon who was with the Turkish army in a semi-official capacity. The military and geographical parts of the book are of considerable interest, much more than the medical, which is simply a series of short clinical histories of some of the cases seen by the author.

Retinoscopy (or Shadow Test) in the Determination of Refraction at One Metre Distance, with the Plane Mirror. By James Thorington, M.D., Adjunct Professor of Diseases of the Eye in the Philadelphia Polyclinic and College for Graduates in Medicine. Third edition, revised and enlarged. Forty-three illustrations, twelve of which are colored. Philadelphia: P. Blakiston's Son & Co. 1899.

This well and tersely written little work of eighty-six pages gives evidence of its popularity by having reached its third edition in about two years. The text is well illustrated, it contains nothing that is superfluous, and is devoid of abstruse formulæ. The author's personality is much in evidence, but this does not detract from the value of the work. The volume is intended for college students and post-graduates, and for these it is certainly most excellently adapted.

Defective Eyesight, The Principles of its Relief by Glasses. By D. B. St. John Roosa, M.D., LL.D., Professor Emeritus of Diseases of the Eye, New York Post-Graduate Medical School and Hospital; Surgeon to the Manhattan Eye and Ear Hospital. New York: The Macmillan Co. 1899.

This little work of one hundred and ninety-six pages is devoted to an explanation of the uses of eye-glasses, and why they are of value to many persons, and to a description of some of the methods employed in determining the glasses suitable for the individual case. It is written in a semi-popular vein, the author having designed it for the use of "the student and practitioner in ophthalmology," also for "those educated people, who having a special interest in the subject, wish to know the principles on which the prescription of glasses is based." A number of historical paragraphs embellish the pages of the book. Quite an extensive description of how to use the ophthalmometer of Javal and Schiotz is found, and also an exposition of the author's well-known views on asthenopia. Retinoscopy is not mentioned. The work will perhaps be read with interest, especially by those who are more or less conversant with the author's previous writings on kindred subjects, but we doubt whether there is any long-felt want which it can fill. Like most of its class, it teaches too little for those who want to know much, and too much for those who need to know but little.

Atlas of the External Diseases of the Eye, including a Brief Treatise of the Pathology and Treatment. By Prof. Dr. O. Haab, of Zurich. Authorized translation from the German; edited by G. E. de Schweinitz, A.M., M.D., Professor of Ophthalmology in the Jefferson Medical College, Philadelphia. With seventy-six colored plates and six engravings. Philadelphia: W. B. Saunders. 1899.

This volume of two hundred and twenty-eight pages forms an excellent companion book to Professor Haab's "Atlas of Ophthalmoscopy." The first seventy-eight pages are devoted to an explanation of the methods of examining the eye, which are given in minute detail. Diseases of the lacrymal apparatus, eyelids, conjunctiva and cornea, sclera, iris and ciliary body, lens, vitreous body, globe, and orbit are described, and the etiology, diagnosis, and treatment given. All are quite fully and beautifully illustrated by forty lithographic plates and six figures in the text. The drawing and coloring of the plates are excellent, and they are with very few exceptions remarkably true to nature. The only thing that could be objected to in the work is the apparent attempt to do justice to a large subject in a small volume. The work is excellently suited to the student of ophthalmology and to the practising physician. The enviable status of the author and of the editor, in the field of ophthalmology, guarantees the excellence of the work. It cannot fail to attain a well-deserved popularity. The moderate price puts it within the reach of all.

Su di un Nuovo Metodo di Autoftalmoscopia, Per il Dott. Pedro de Obarrio. Traduzione del Dott. A. Neuschuler. Pavia, 1899.

The autophthalmoscopy described in this short pamphlet consists in so arranging a lighted candle in a darkened room that, by means of a small plate of glass with parallel surfaces properly manipulated, the observer may bring into view the image of the light as formed on his own retina, with false projection into space.

New York Eye and Ear Infirmary Reports. Vol. VIII. New York: The Knickerbocker Press. January, 1899.

This journal, which aids to individualize the work done at the institution from which it emanates, contains twelve articles by as many members of the surgical staff and a brief summary of the hospital statistics. The departments of ophthalmology, otology, and laryngology are represented.

A Practical Handbook on the Muscular Anomalies of the Eye. By Howard F. Hansell, A.M., M.D., Clinical Professor of Ophthalmology, Jefferson Medical College; Professor of Diseases of the Eye, Philadelphia Polyclinic and College for Graduates in Medicine; and Wendell Reber, M.D., Instructor in Ophthalmology, Philadelphia Polyclinic and College for Graduates in Medicine. With 28 illustrations and one plate. Philadelphia: P. Blakiston's Son & Co. 1899.

This volume of one hundred and eighty-two pages is devoted principally to a discussion of the functional anomalies of the eye muscles. The text is divided into four parts: Part I., Anatomy and Physiology of the Extrinsic Muscles of the Eye; Part II., Ocular Palsies; Part III., Heterophoria and Heterotropia; Part IV., Operations on the Eye Muscles. The book is designed for the use of beginners in ophthalmic work, but it is well worthy of perusal by all who are interested in the subject of anomalies of the muscles of the eye. The consideration of the subjects treated of in Parts I., II., IV., and in the second chapter of Part III., is brief, but clear and concise. The chapter on heterophoria gives evidence of a careful study of the subject, and expresses conclusions arrived at by personal experience in the treatment of this condition. Methods of diagnosis and of the treatment of the various anomalies are quite fully discussed, and values of all are given without the bias of the hobbyist. The work is a valuable contribution to this branch of ophthalmology.

An Experimental Research into Surgical Shock: An Essay Awarded the Cartwright Prize for 1897. By George W. Crile, M.D., Ph.D., etc. Philadelphia: J. B. Lippincott & Co. 1899.

We have in this volume a description of an extended series of experiments and the author's conclusions on the phenomena of surgical shock. The experiments are described in detail, with many diagrams to explain various conditions of blood-pressure, pulse, respiration, and other physiological factors. To the average reader the most important parts of the essay are the conclusions. The author believes that surgical shock is due to a vasomotor breakdown or impairment, and that there are several extraneous conditions which contribute to its development. Hemorrhage is of great importance; temperature, posture, and the region of the body operated upon, are also to be considered. These experiments have shown that chloroform is much more apt to kill than ether, and that animals will die under the continuous administration of an anæsthetic, when it is merely given to the surgical degree. The region of the body operated upon does not appear to make much difference in reference to shock, except that in general shock increases as we approach the diaphragm, and that in the region of the gall-bladder and pylorus it seems to be especially marked. The male genitals offer an exception to this rule, for injuries to them cause severe shock. The author's treatment for shock is posture, saline infusion, and the use of small repeated doses of strychnine subcutaneously, with other subsidiary measures.

# Society Reports.

## INTERNATIONAL CONGRESS OF GYNÆCOLOGY AND OBSTETRICS.

*Held in Amsterdam, August 8, 9, 10, 11, and 12, 1899.*

(Special Report to the MEDICAL RECORD.)

*First Day—Tuesday, August 8th.*

**The Opening Ceremonies** took place at 3 P.M. in the aula of the university, and were of a general nature.

PROFESSOR TREUB, the president, delivered the inaugural address, which was, in the main, a welcome to the various members and delegates, with a short reference to the field of work proposed.

DR. MENDES DE LEON, general secretary of the committee of organization, followed in somewhat the same strain. He announced that the number of members present at the congress was, so far, one hundred and fifty-five. Also that an invitation had been received from the British Gynæcological Society to hold the next international congress, 1902, in London. The various delegates then, in turn, expressed the thanks and conveyed the greetings of the countries they represented. In the evening an official reception was tendered the members of the congress by the municipal council at the Hôtel de Ville.

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*Second Day—Wednesday, August 9th.*

**An Instrument for Developing the Breasts.**—DR. MENSINGA, of Flensburg, demonstrated a new instrument devised for the treatment of undeveloped mammæ. Its principle was that of massage by means of the frequently repeated slight pressure of an ivory knob, fastened, like a dentist's curette (or hammer for putting in gold filling), to a sort of dental machine.

**Shortening of the Broad and Round Ligaments in Retroversion.**—M. DELAGENIÈRE, of Le Mans, read a paper with the above title. He remarked that in the operative treatment of retroversion these operations should be regarded as auxiliary to others, such as salpingo-oöphorectomy, or colpo-perineorrhaphy. If the retroversion was reducible, the operation of choice should be extraperitoneal; if irreducible, intraperitoneal. In the extraperitoneal operation, the uterus should be curetted; the cervix amputated, if necessary; the uterine arteries tied, if the organ was enlarged or there were small fibromata; repair of the vagina; a perineorrhaphy or a colpo-perineorrhaphy; and finally, Alexander's operation. The intraperitoneal operation should remove adhesions, treat lesions of the adnexa, and finally correct retroversion by shortening the broad or the round ligaments. Only the round ligaments should be shortened when there was no prolapse; but when the uterus seemed to be sunk in the pelvis, the broad should be shortened. He reported a personal experience of thirty-three operations, of which fifteen were extra- and eighteen intraperitoneal. In the extraperitoneal operations Alexander's operation and curetting were done in all; in fourteen the cervix was amputated; in eleven perineorrhaphy, in two anterior colporrhaphy, and in two ligature of the uterine arteries were done. In the intraperitoneal, the broad ligaments were shortened in nine, and the round in nine. In all, the adnexa were removed on both sides. Immediate results were excellent in all; the remote results were good in all that he had since seen.

DR. JACOBS, of Brussels, said that in three of his cases pregnancy had occurred, and had been normal; after involution the uterus had returned to the corrected position.

DR. C. A. L. REED, of Cincinnati, said that abdominal section, which for shortening the broad ligaments was in any case necessary, was also his operation of choice for the round ligaments, because in nearly all cases there were accompanying lesions of the adnexa which needed treatment by the abdominal route. His results were very satisfactory. He declared himself against the various fixation operations. The only method which had stood the test of experience in securing permanent anteversion was Alexander's.

DR. VINEBERG, of New York, had, in order to shorten the round ligaments, devised an anterior vaginal incision, through which the uterus could be brought out. In forty operations the uterus had remained forward permanently, except in two or three cases. Four subsequent pregnancies had been normal. The advantages of this over Alexander's operation were: less pain subsequently; no external scar; no danger of hernia; possibility of a good inspection of adnexa.

DR. ALEXANDER, of Liverpool, said he reserved his operation for cases in which the uterus could be brought forward easily by sound or finger. Failures were probably due to not pulling out the ligament far enough.

**Treatment of Fistulæ, Post-Operative and Spontaneous, in Gynæcology.**—DR. DOYEN explained at some length an operation devised by him for various fistulæ. The description of this operation was too long and complicated to be given in this report.

**Demonstration of a Forceps for Intestinal Anastomosis.**—DR. LAPLACE, of Philadelphia, demonstrated the forceps lately devised by him for this purpose.

**Total Abdominal Hysterectomy in Uterine Cancer.**—DR. REYNIER, of Paris, read a paper with the above title. This operation (formerly recommended by Freund) permitted, he argued, a more thorough inspection and removal of lesion than the vaginal route. In particular, the vaginal mucosa could be more extensively and surely removed. The limits of the operation, as in cancer elsewhere, were very definite. Infiltration of the bladder or rectal wall was a contraindication. The prognosis was good if the broad ligament was only slightly involved. He advised prophylactic saline injections twenty-four to forty-eight hours before operation, the general condition being usually poor. In the operation, he began by marking out his lower incision in the vaginal wall. In the broad ligament, when he had to leave cancerous tissue in too extensive cases, he left on forceps *à demeure*, believing that there was thus less danger from secondary hemorrhage than in the employment of the ligature or of the angiotribe. In other points his operation offered nothing unusual.

DR. DOYEN, of Paris, thought that Dr. Reynier had operated cases too far advanced. If the glands or the broad ligaments were much involved, operation was contraindicated. The possibility of complete removal was the only justification for operations for cancer.

DR. JACOBS, of Brussels, agreed that the abdominal route was the only proper one for a radical operation. It was necessary to clean out the pelvis in all cases, and to dissect away all lymphatic and cellular tissue very widely. His first ten cases were followed by rapid recurrence. A second series of twenty-three cases, better selected, had resulted in twenty-two cures without recurrence so far, but with one death from infection. These had all been done in the past one and one-half years, too short a period to estimate the curative value of the operation. But as in eighty-one cases done per vaginam there had been forty-

three recurrences within one year, he considered the abdominal route a great improvement.

Dr. Jonnesco, of Bucharest, remarked that cleaning out of the pelvis was very long and difficult, and in cachectic cases was useless. In such he preferred the application of ligatures to all the larger arteries, with the view of causing atrophy, followed by curetting. This was a good and harmless palliative operation.

Dr. Jessett, of London, laid it down as a general principle that there were very few operative cases which could not be done per vaginam. His experience extended to one hundred and forty cases. It should be remembered that coincident thickening of the broad ligament might be of an inflammatory nature and not malignant. Cases, from an operative point of view, should be classified according to their situation: (1) The os; (2) the inner part of the cervix; (3) the fundus. Those of the second group were the most unfavorable for operation, on account of early extension. Those of the third class were especially encouraging, involvement of glands being usually late.

Dr. La Torre, of Rome, believed in the abdominal route, but limited operation to cases in which the lesion was early. In a case of vaginal excision he had seen recurrence in the scar.

Dr. Janvrin, of New York, said that for the last fifteen years he had operated mainly by the vaginal route. He believed that when, so far as could be ascertained, the lesion was confined to the cervix, or to the fundus, or to the endometrium, and there was no involvement of the ligaments or the glands, the vaginal operation was the best. When the disease had progressed beyond these limits, the abdominal operation was to be preferred, because it was more thorough. At the same time there was great lack of reliable statistics as to results in operation by this route in the class of cases indicated.

Dr. Reynier summed up. He agreed with Dr. Doyen and Dr. Jacobs that extensive cases should be left alone; but the difficulty of clinical diagnosis should be remembered, and surprises on opening the abdomen were frequent. Therefore the difficulty in regard to hemorrhage from friable cancerous tissue was of practical interest.

**The Clinical Significance of Retrodeviations of the Uterus.**—Dr. Heinricius, of Helsingfors, read a paper with the above title. After enumerating the various symptoms usually ascribed in text-books to retrodeviations of the uterus, the speaker proceeded to show that no one of these (bleeding, sacro-lumbar pains, dragging pains, dysmenorrhœa, sterility, compression symptoms, etc.) nor any combination was characteristic. He had often seen so-called compression symptoms (vesical and rectal) in the presence of a retrodeviation which mechanically could not possibly have caused them; and he believed they were usually nervous reflex manifestations, due to the malposition of an important organ. He would conclude that retrodeviations had no causative effect in the production of the symptoms usually ascribed to them, which were dependent probably on coincident conditions; and he believed that operation for the malposition *per se* was unnecessary.

Dr. Ziegenspeck, of Munich, agreed with the preceding speaker, and cited illustrative cases, *e.g.*, one patient in whom retroflexion had persisted, but the symptoms had disappeared under treatment of complications, endometritis and oöphoritis. He disagreed, however, with his remark concerning non-operation, believing that the retrodeviation should be operated, inasmuch as it was liable to cause a certain amount of torsion of vessels, and, consequent upon this, stagnation of the blood current, hypersecretion, increased liability to infection, and thus endometritis.

Dr. Goldspohn, of Chicago, urged operation as a rule. He compared the retrodeviated uterus to a reducible hernia. It should be operated because it tended to become complicated.

Dr. Engström, of Helsingfors, was strongly in favor of the essayist's view. In seven hundred cases of retroflexio uteri mobilis in the past four years, he had treated only two per cent. for the retroflexion *per se*.

**Operation for Stenosis of the Os.**—Dr. Ziegenspeck, of Munich, read a paper with the above title. He believed that gradual blunt dilatation was still the best treatment. With discission and Kehrer's stellate incision, recurrence of the stenosis frequently occurred. He based his own operation on the principle of the Y-shaped incision and V suture line. He chose, as site, the middle of the anterior and posterior lips of the cervix, because lacerations were most commonly lateral. He had done the operation only three times, keeping it as a last resort. In the first case, pregnancy had occurred soon afterward after long sterility. The other two cases he had lost sight of.

**Total Abdominal Castration in Affections of the Adnexa, whether Septic or Non-Septic.** — Dr. Jonnesco, of Bucharest, read a paper with this title. He would insist on the advantage of the abdominal route over the vaginal. It had been claimed that the vaginal operation was a complete one. This was not so. He had frequently observed that a healthy uterus had been removed, and diseased adnexa left. He thought that in half the cases the operation was incomplete, abdominal section being later necessary. The adnexa being septic and the uterus apparently healthy, should the uterus be left? No. It should be also removed, because (according to Wissner's statistics of over one thousand cases) the results in over one-half the cases were unfavorable, and the uterus had to be removed subsequently. This operation had scarcely any greater mortality than oöphorectomy alone. His own series showed, in the first series of thirteen, a mortality of four. Since then he had had twenty-nine cases without a death. He would also advise the same operation in non-septic ovarian lesions for cases in which the ovarian cyst was firmly adherent to the uterus. If left the uterus soon became infected.

Dr. La Torre, of Rome, urged conservatism. He had made impartial statistics, which showed that those in whom the total operation had been done were much worse off, as regards subjective symptoms, than those in whom the uterus had been left.

Dr. Reynier, of Paris, said that he also had early shown the incompleteness of the vaginal operation. Yet in suppurative cases it was to be preferred because it involved less risk of a fatal issue. If the uterus was infected, of course it should be removed. Otherwise he preferred leaving it, as in that case menstruation persisted to a slight extent, a thing usually appreciated by patients.

Dr. Straatz supported the views of Dr. Jonnesco.

Dr. Hartmann, of Paris, said that so far from the total operation being more dangerous than the removal of the adnexa alone, it was, on the contrary, more benign. His personal statistics gave forty total operations with one death. Those of another surgeon had given seventy-two cases with two deaths.

**Intra-Uterine Implantation of the Ovary.**—Dr. A. Palmer Dudley, of New York, read this paper. He remarked that although ovarian transplantation had been successfully done by Glass, of Utica, and Robert Morris, of New York, implantation of the ovary into the fundus of the uterus had never, so far as he knew, been performed. The case report concerned a woman, aged twenty-one years, who suffered from an acute double pyosalpinx, with pyuria and

albuminuria. She was a prostitute, and had had a miscarriage at the second month shortly before she came to him viz., May 24, 1899. The uterus was curetted and washed out with bichloride 1:1,000. Then laparotomy was done, and the tubes were removed. The fundus was laid open by a vertical incision; the ovary was cut from its ligament, washed in saline solution, doubled up, and fastened by a silk suture into a spot in the fundus prepared for it by cutting out a small wedge. The uterus was then closed, and a small gauze drain used. The patient was carefully watched, and the ovary was certainly not discharged through the vagina. Menstruation had occurred one week before the operation; it came on as usual three weeks after the operation, but was not painful. The pyosalpinx was found to be gonorrhœal. She was discharged in good condition thirty days after the operation. Being seen again on July 28th, her condition was found to be very good; she had no pain on menstruation; no leucorrhœa; no pain on intercourse. On examination the uterus was found normal in position and size. Menstruation had recurred on July 9th, not so profuse as formerly, but without pain. It would be interesting to see if conception would occur; but in a prostitute such was unlikely. He concluded that plastic work of this nature was justifiable and not dangerous, inasmuch as it enabled the patient to escape premature menopause with its reflex phenomena.

Dr. Dudley also presented a paper entitled "A Further Report upon Conservative Surgery on the Uterine Appendages," reprinted from the *American Gynæcological and Obstetrical Journal* for October, 1898.

**New Palliative Treatment of Cancer of the Uterus.**—Dr. Jouin, of Paris, read a paper with the above title.

(*To be Continued.*)

## THE BRITISH MEDICAL ASSOCIATION.

*Sixty-Seventh Annual Meeting, Held at Portsmouth, August 1, 2, 3, and 4, 1899.*

(Special Report for the Medical Record.)

### GENERAL SESSIONS.

*Second Day—Wednesday, August 2d.*

(Continued from page 286.)

**The President-Elect.**—The council recommended that the next meeting of the association be held at Ipswich in 1900, and that the president-elect should be Dr. W. A. Elliston of that place. The recommendation was unanimously adopted, and Dr. Elliston was declared elected.

Dr. Elliston thanked the members for bestowing on him the honor. To be the head of that association, which was, he believed, the largest scientific society in the world, with seventeen thousand members and branches in every part of the British Empire, was sufficient to satisfy the ambition of any member. He was aware of the responsibility of the position in which he was placed, and he pledged himself to be true to the interests of the association and the profession at large during his year of office. On behalf of the ancient borough of Ipswich, he assured the members that they would find there in 1900 a reception worthy even of the British Medical Association.

**Address in Medicine.**—Sir Richard Douglas Powell, Bart., M.D., F.R.C.P., then delivered the annual address in medicine. Thinking over the best way to fulfil the task which he was honored by the request of the council to perform, it had occurred to him that a few remarks on the developments of medicine from one in the current of practical work might be more interesting and appropriate than any more exhaustive discussion upon some one topic. Such remarks must necessarily be incomplete and fragmentary, reminding the hearers of what they already know in detail, suggestive of the trend of medical opinion to-day, and perhaps reviewing some of the changes in doctrine and practice within recent times. As in the past, so in the future, medicine, whether as a philosophy, as a science, or a beneficent calling, promised ever to find employment for the most cultivated, the most practical, and the best-ordered intellects of the time. At no previous period in its history could its branches and offshoots give better promise of bearing fruit for the good of humanity to those who should cultivate them with industry and scientific zeal. We were certainly better equipped for exact diagnosis now than ever before, and possessed a larger and more precise knowledge of a greater number of diseases. It was probable that the introduction of photography into clinical medicine, and the more general use of bacteriological examination and surgical exploration, might, for a time at least, dim the prestige of auscultation and palpation in diagnosis. It should not be so. Happily we already saw a revival of the appreciation of the pulse in practical medicine; except in clinical wards and the physiological laboratory the sphygmograph may be said to be already past. The late Sir William Jenner classified the thermometer with the stethoscope in clinical medicine, and but a few years before he did so the instrument was looked at askance by the greatest of physicians. It was as important in bedside medicine to-day as the barometer and compass combined were in navigation. A better knowledge of the habits and vital history of the micro-organisms, upon whose doings pyrexial phenomena so largely depended, informed us that their initial attack and greatest activity were at the lower ranges of temperature, and that the higher ranges, the results of such activity, were more or less inhibitive to their well-being; so that, given a febrile disease, we must accept without necessarily interfering with a temperature normal to it. The clinical study of anomalous fevers had gradually convinced us that in their development and full activity specific poisons might overlap one another in the same illness; a rational treatment of specific diseases must be guided by the recognition of these superfactors. Tubercle in tissues at rest and protected from impure atmospheric contamination tended to obsolescence; our antiseptic treatment and our pure-air methods were mainly operative against such secondary infection. Time did not permit the speaker to do more than allude to the wonderful accession to preciseness in diagnosis as well as in successful treatment that had become possible of late years from the developments of surgery under Listerian methods. It must be confessed that bacteriology in its application to diagnosis and treatment in practical medicine was yet in its infancy; but it was an infancy full of promise, the complete fulfilment of which none of those present would live to see. The bacterial origin of tubercle, anthrax, diphtheria, erysipelas, septicæmia, typhoid, malaria, influenza, had been revealed to us almost within the memory of the youngest here, and had already been, in many instances, fruitful in suggesting measures of prevention and treatment. It was a matter for congratulation to see the departments of research and clinical observation approaching to closer communion in our great hospitals, a co-operation which could but be to the great advantage of the physicians, and, he ventured to think, scarcely less so to the research expert. He was in no way com-

petent to discuss the question of serum therapeutics from the bacteriological side. It was already an immense achievement if we had acquired the knowledge that every infection required a separately prepared serum for its treatment. While the possibility of neutralizing by appropriate treatment the specific poison in certain diseases would relieve practitioners of some anxiety, it could not fail, on the other hand, to add much to the tension of their labors by requiring an earlier diagnosis, and by the great care needed to avoid accidents in the use of delicate organic fluids prone to contamination and decomposition. It seemed possible that we might look in the near future for considerable development of preventive serum treatment in the prophylaxis of endemic diseases. Thirty years ago Sir William Jenner, in an address to the Epidemiological Society, declared the transmission of tuberculosis from parent to child to be one of the best-established facts in medicine. The susceptibility to become tuberculous ran in families—and this, he confessed, remained with him (Sir Douglas Powell) an unshaken belief. We could not, of course, prevent consumptive people from marrying; there were exceptional conditions under which they might rightly do so, but the advice of the family physician should be steadfast in discouraging such alliances, which were unfortunately often prolific. Tuberculosis was more prevalent among married than single people. Pulmonary consumption was comparatively rare before puberty, infantile mortality being almost exclusively from bowel consumption through milk infection. Tuberculosis was nearly twice as frequent among male as among female infants. The records of the officials and servants of one of our largest consumption hospitals taken out for fifty years, including a period precedent to the use of any special preventive measures beyond those of ordinary sanitation, showed a death rate not in excess of that of the ordinary population. While, therefore, on the one hand advising every ordinary measure of cleanliness, avoidance of dust, and proper disposal and disinfection of sputum, we might, and indeed must, avoid all exaggerated statements calculated to alarm the public as to the contagion of phthisis.

It was remarkable that two at least of the most deadly of disease microbes, tetanus and anthrax, should be normal inhabitants of the soil, and yet how comparatively scarce these diseases were, and, as regards one at least how communicable! With regard to tuberculosis he would make this final remark: that while we might hope, on the one hand, by further careful sanitation, by destroying and diminishing the careless distribution of bacillary dust, and by withdrawing from human consumption tuberculous foods, still to effect a considerable inroad upon the remaining fourteen per ten thousand mortality from consumption, we could not afford, on the other hand, to withdraw or relax precautions dictated by observations sound in themselves, although in some regards capable of amended explanation, or we might have to make some deductions from the two-thirds diminution in mortality already achieved. In his belief there was a mephitic laboratory beyond special control.

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*Third Day—Thursday, August 3d.*

**The Address in Surgery.**—Prof. Alexander Ogston, of Aberdeen, delivered the annual address in surgery. After referring to the new era in surgery due to the influence of Lister and his teachings, the orator devoted the main portion of his address to a review of the condition of the medical departments of the army and navy. He pointed out that it was reasonable to expect that they should efficiently perform their functions in time of peace, and be fully prepared for the eventualities of war. With regard to the army medical service, oft-repeated experience had taught us to conduct expeditions in the jungles and swamps of West Africa, the Nile deserts, or in the Himalayas in a way no other power could rival or excel. But could we infer from this that we were in a condition to deal with a war against a great power, in which large numbers of wounded—thousands instead of tens—would fall to be treated? Even at present in time of peace the work of the medical department was carried out partly by the aid of civil practitioners, whose other occupations rendered them unfit for being effective and satisfactory army medical officers. But the maintenance of the army in health in peace was not what the country expected. The chief end of all departments of the army and navy involved preparation for war, and unless that end was fulfilled the department was only a pretence of what it ought to be. The ordinary routine duties in time of peace formed so great a contrast to what was to be expected in a European campaign that comparison was hardly possible. These routine duties afforded the army or navy surgeon no chance of acquiring the knowledge and skill that would be then required of him. He pointed out that practical familiarity with the details of antiseptic surgery, the methods of modern cranial, thoracic, and abdominal surgery involved years of constant practice and study. The axioms of Senn, of Chicago, were quoted: (1) That in theory and practice military surgery was equivalent in every respect to emergency practice in civil life. (2) That the wounded soldier was entitled to the same degree of immunity from infection as a person in civil life suffering from the same injury. (3) That all formal operations in war must be performed where the wounded could receive the full benefit of aseptic and antiseptic precautions. (4) That operative interference was indicated in all penetrating wounds of the skull. (5) That all gunshot wounds of the chest should be healed under strictest antiseptic precautions. (6) That laparotomy in penetrating gunshot wounds of the abdomen was indicated in all cases in which life was threatened by hemorrhage or visceral wounds, and the general condition of the patient was such as to sustain the expectation that he would survive the immediate effects of the operation.

Statistics proved that of all wounds in battle 7.4 per cent. were in the brain, 7.5 per cent. in the chest, 4.7 per cent. in the abdomen, or 20 per cent. in all. In the next campaign there would therefore be a great field of usefulness for properly qualified surgeons. The great danger of sepsis in gunshot wounds was referred to, and Dr. Ogston believed that in the gunshot wounds of soft parts and the extremities a much larger proportion of lives and limbs might be saved than hitherto. He showed that in peace our surgeons had naturally no training to fit them for war. Except a few connected with Netley and Haslar, most officers had hardly once in their lives had an opportunity of carrying out an important operation on the head, thorax, or abdomen. How could they then undertake laparotomy for a gunshot wound of the abdominal contents? Under the existing system no junior army medical officer had an opportunity of practising modern surgery, so that few if any were capable of that class of surgical work which the country would expect of them in time of war. Also Netley and Haslar hospitals, limited to soldiers and sailors, did not offer the necessary varied material for surgeons and physicians to cultivate their art. And besides these there was an almost total absence of hospitals and lazarettos of a kind fitted to afford any facilities for the study required of medical officers.

The contrast between the medical and other scientific corps, such as the artillery, engineers, and telegraph

corps, was pointed out, those latter being in peace elaborately trained to their duties in war-time. "Even the care that has been bestowed on the development of the ambulance will result only in wounded men being now brought, on the best surgical principles, to surgeons rendered as unfit to treat them as it is possible for a bad system to make them." In the medical services, after obtaining their commissions, officers were denied any further opportunity of studying the scientific and recondite problems in which constant application was necessary. Not only surgical, but medical and sanitary work was required of medical officers in time of war. The army medical corps ought to be made a complete and perfect entity, fully equipped with everything needful, and regularly trained like any other department. An example was given of how the army medical service worked, in an expedition of eleven thousand men, sent under Sir Gerald Graham to the Eastern Soudan, and landed on the Red Sea littoral in 1885. In the bearer companies the men were from Aldershot, the carts and harness from Woolwich, the mules and muleteers from Spain, dhoolies and dhoolie bearers from India, camels and camel drivers from Aden. The wagons arrived in one ship, the harness in another, the mules in a third, and all at different times. When the ambulance wagons were landed along with several carts, the pieces were mixed up and the men had to fit them together as best they could. When the mules and harness turned up, it was found that while the wagons were made for one kind of draught, the harness was made for another, and so on. And the officers, non-commissioned officers, and men knew nothing of each other. For the medical part of the expedition, the stores came without storekeepers, and without proper outward indications of what the packages contained. Chaos reigned, and had there been any engagement on the day the forces landed, not a bandage would have been forthcoming for the wounded. Each field hospital should be completely furnished and frequently practised in its duties. Every corps should be ready to act, as in other departments, the moment it took to the field, and not have to learn its duties when the day of trial came on a campaign.

In the navy he considered work had to be carried out under arrangements that seemed deliberately calculated to render the practice of antiseptic surgery impossible—rooms without antiseptic materials, irrigators, or sterilizers, and with a limited armamentarium of instruments mostly provided at the expense of the medical officers, and no proper diagnostic instruments or apparatus. In the event of any naval engagement of magnitude the wounded on board our ships of war would have to be attended to in a small dark room, unprovided with any save the rudest appliances and a few cots, where at most half a dozen men could be handled, and which was moreover in many vessels as much exposed as any other part of the ship to the fire of the enemy. Were such a fighting-bay rendered untenable, the wounded, however great their need, could be attended to only by being lowered, slung in a vertical position, down the narrow hatchways where the shot was brought up from the magazines to the guns, and even these would not be available during the heat of action. Everything on board ship that could destroy life was of the highest perfection; everything that could save it of the rudest description and behind the age. In the care of a gunshot wound through the abdomen, the only chance of recovery was laparotomy performed within twelve hours, but on board none of her majesty's fleet was there any possibility of performing such an operation; there were neither accommodations, nor instruments, nor accessories. Or were twenty per cent. of the men of a battleship disabled in action, the wounded among them could not receive the attention due to them. He suggested the construction under the water line, shielded by the turtle-back armor-deck, of a sufficiently large well-lit space, fitted up with all that was required for wounds, compound fractures, and operations on the main cavities of the body. On the smaller vessels matters were worse still—no surgeon and no surgical appliances. On torpedo-boat destroyers there were no materials for making splints. If not a surgeon, at least several men fully instructed in first aid should be carried on these smaller vessels.

As to the lines of remedy, in continental countries in which universal military service existed the most eminent civil surgeons were at disposal in time of war, held rank in the army in peace, and received promotion like those actually serving. An endeavor might be made to attach a number of our most eminent surgeons to the Royal Army Medical Corps by giving them military rank and titles, with special privileges and emoluments. The attempt, however, to get civil practitioners to volunteer when war broke out would fail, since the graduates thus obtained did not belong to the experienced surgeon class, but were simply superior dressers. He pointed out that in Germany every medical man who had served in the army possessed a fixed military rank, and was liable to be called upon again if needed. Those who had not served in the army received an annual inquiry from the war office as to their willingness to serve in case of war. Each medical man was allotted in time of peace the military post he would occupy when war broke out. The university professors held high military rank, and were required to give annual courses of instruction to army and navy medical officers. Such well-known surgeons as Bergmann, Bruns, Trendelenburg, and Mikulicz had to teach these classes during the Easter holidays. In time of peace the most promising surgeons and assistant surgeons of the army were sent to do duty for a year at a time in large public hospitals, also to attend annually special courses in anatomy, surgery, and operative surgery. The senior medical officers had to serve in rotation in large military hospitals, in which cases of all kinds, not merely military, were treated. They might be sent to attend courses of bacteriology, or be furnished with funds for travelling to other countries and studying their medical and sanitary arrangements. The state provided all instruments and appliances, and every hospital had a complete armamentarium provided for it. Russia possessed six large and three hundred small hospitals. The St. Petersbury military hospital received medical, surgical, gynæcological, ophthalmic, and other diseases, and consisted of five separate clinics or infirmaries. About forty-five thousand patients were treated per annum. The staff consisted of thirty-four professors, seventy privatim docentes, and forty-seven assistants. Everything to assist advanced work was present, such as *x*-ray rooms, photographic rooms, electrical rooms, immersion lenses, centrifuges, etc. Russia had three thousand surgeons in her army, and any showing ability and powers of work might apply for orders and be ordered to return to study in the hospitals for a period of two years. In France post-graduate courses for medical officers were conducted by professors at the different universities.

The speaker suggested the formation of a section of the British Medical Association for naval and military surgery only. Information as to the state of the services should be laid before the War Office and Admiralty. Medical provision should be made for three complete army corps; and the whole service should be organized as a body of independent units capable of being combined or acting alone as required. Above all, provision should be made for the proper instruction of officers in war duties. Study leave was of no use

so long as the service was undermanned. One year at least in every five should be devoted to this. Officers on study leave should be sent to act as assistants, residents, house surgeons, and physicians in our hospitals and medical schools. The hospitals and lazarettos at home and abroad should be multiplied, improved, and nourished into new life and activity. They were the heart of the services, and no more deadly injury had ever been done than by starving and neglecting them. As to the navy: for the succor of the wounded in time of war, fast, unarmored steamers, flying the Red Cross flag, fitted up with wards, sterilizing and apparatus rooms, operation theatres, dressing and anæsthetic rooms, should be provided and officered by a staff of surgeons and attendants. In fact, so far as possible a good civil hospital should be imitated. The military authorities were under the impression that any deficiencies could at any time be compensated by the power of money in engaging civil aid. This was absolutely erroneous. The civil aid at present employed at many stations was of inferior quality, and could not be made use of in war to any extent. The medical men who filled these substitutive posts, as well as those who would volunteer to aid in active service, were not the skilled and trained class who could be entrusted with the difficult surgery of gunshot wounds. The fatal error of imagining that the army medical corps could be supplemented by civil aid had already done infinite harm, and had been made a constant pretext for hindering the development of the services and producing the defects mentioned above; and were such a proposal made regarding any other scientific department, *e.g.*, the Royal Engineers, the absurdity would at once be perceived.

The Stewart prize for research in the origin and prevention of epidemic diseases was awarded to Surgeon Frederick James Abercrombie Dalton, R.N., for his original investigations in beri-beri.

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*Fourth Day—Friday, August 4th.*

The last general meeting of the association calls for no special report, the principal business transacted consisting of votes of thanks to all and sundry who had contributed toward making the conference the great success it undoubtedly was.

**Resolutions of Sections.**—The President reported the following resolutions from the Sections:

Resolution passed in the Section of Psychology:

*Resolved*, That the Section of Psychology respectfully suggests that the council of the association be asked to consider the advisability of procuring early legislation for the well-to-do inebriates, and to refer the question to the various branches of the association for their opinions.

Resolutions passed in the Section of Medicine:

*Resolved*, That the council be requested to communicate to the War Office that it is the opinion of this section that the physical examination of candidates for the army should precede the educational.

*Resolved*, That the council be requested to communicate to the war office that it is the opinion of this section that soldiers ought not to serve in the tropics before the age of twenty-two.

*Resolved*, That the physical standard for admission to the public services requires reconsideration, and that the council be also requested to communicate this resolution to the War Office, the Admiralty, and the other governmental bodies interested.

Resolution passed in the Section of Ophthalmology:

*Resolved*, That the Section of Ophthalmology of the British Medical Association begs to express its profound belief that it would prove of great public benefit if the board of trade could see their way to include in their regulations the twelfth recommendation of the Royal Society's committee: "That in case of judicial inquiries as to collisions or accidents, witnesses giving evidence as to the nature or position of colored signals or lights should themselves be tested for color and form vision," and suggests its application in every case of judicial inquiry upon accidents at sea.

Resolution passed in the Section of Tropical Diseases:

*Resolved*, That the council of the British Medical Association be asked to convey the thanks of the association to the Right Hon. Joseph Chamberlain, M.P., Her Majesty's secretary of state for the colonies, for the interest he has shown in forwarding the study and teaching of tropical diseases in Great Britain, and especially for the active part he took in establishing the School of Tropical Medicine, London.

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SECTION OF TROPICAL DISEASES.

*First Day—Wednesday, August 2d.*

**The President's Address.**—The president, Dr. George Thin, delivered an address on "The Etiology of Malarial Fever." It was but twelve months ago, he said, at the meeting of this section at Edinburgh, that Dr. Manson first announced Major Ross' discovery that birds could be infected by the direct bite of mosquitos whose blood contained the "proteosoma," and further that not all mosquitos, but only certain definite species, were endowed with the power of infection. From these observations the scientific investigations of the etiology of malarial fever dated. While Ross was working in Calcutta the Italian observers Grassi, Bignami, and Bastianelli were not idle. They practically, by carefully made experiments, confirmed all Ross's observations and conclusions. In Italy some districts were markedly malarial, while others were entirely free from it. By bringing mosquitoes from these several districts, it was shown that it was only when certain kinds of mosquitos from infected localities bit a human being, that malarial feverish symptoms developed. The Anopheles claviger was found to be the variety of mosquito which most persistently figured as the medium of transmission and infection. The development of the parasite of malaria in the body of anopheles seemed to be identical with the development of the proteosoma in the gray mosquito of Ross. If the mosquitos were placed in a temperature of 14° or 15° C. after they bit, no development of the parasite took place in their bodies. At 20° to 22° C. the parasites developed slowly, but at 30° C. more quickly. Seeing that the anopheles was the carrier of malaria, its habits and geographical distribution became a matter of the highest importance. The Anopheles claviger was widely diffused in Europe. It occurred in Scandinavia, Austria, Germany, Russia, and in Italy and the adjacent islands. The anopheles at one time, if not now, existed in England. In the United States of America several varieties of anopheles were also met with. Dr. Thin then proceeded to deal at considerable length with the opportunities afforded in this country for the study of tropical diseases, and claimed for Netley Hospital that it possessed the greatest facilities in that direction.

**The Rôle of Insects, Arachnids, and Myriapods in the Spread of Diseases due to Parasites.**—Dr. George H. F. Nuttall, of Cambridge, read a paper of which the following is an abstract: First: The rôle of insects in the spread of bacterial diseases. (1) Passive rôle—The domestic fly and allied species were chiefly to blame in this respect. Incapable of "biting," they might from the nature of the food they seek carry pathogenic bacteria in their bodies or within their alimentary canal and deposit them on lesions of skin or mucous membrane, or on food. It was possi-

ble, nay, probable, and in many cases scientifically proved, that anthrax, plague, cholera, typhoid fever, frambœsia, and Egyptian and "Florida" ophthalmia were so diffused. (2) Active rôle—Blood-sucking flies might play a part in propagating bacterial disease. Clinical writers reported that cases of anthrax, septicæmia, pyæmia, and erysipelas arose in certain instances from bites of flies; but experimental evidence was all against this statement. Experiments made by the speaker on animals with plague, anthrax, mouse-septicæmia, and chicken cholera all gave negative results.

Second: The rôle of insects, etc., in the spread of diseases due to animal parasites, insects, etc. While serving as intermediary hosts they might play—(1) a passive rôle, when they were devoured by a host of the parasites they contained; (2) an active rôle, when, as in the case of the tick in Texas fever, and various mosquitos in malarious affections of man and animals, they inoculated a host by means of their proboscis. (3) In filarial diseases an intermediary position was played by the mosquito, as it infected itself by sucking the blood of the definitive host. Insects, etc., without serving as intermediary hosts may play—(1) a passive rôle, when they transport eggs of animal parasites and deposit them in food, *e.g.*, eggs of tænia solium, trichocephalus, ascaris lumbricoides; (2) an active rôle, by carrying the disease from one animal to another and inoculating the parasite, *e.g.*, tsetse fly.

**A Case of Bilharzia Hæmatobia.**—Mr. C. P. Childe, F.R.C.S., stated that he had a woman under his observation who was suffering from all the symptoms of bilharzia infection. It was rare to meet with the disease among women, no doubt owing to the fact that they were seldom exposed to it as men were; but this patient, a white girl, aged sixteen years, had up to two years ago resided in Natal, where she frequently bathed in a pool of fresh water. Mr. Childe was of opinion that the parasite gained entrance to her body either by the skin or urethra, and asked whether any known drug or treatment could be suggested as a remedy.

Dr. Manson discredited the suggestion that the bilharzia gained entrance by the skin or by the urethra, and Colonel MacLeod said that, although drugs were useless to cure the disease, many persons suffering from bilharzia had reached old age.

**Filarial Periodicity.**—Dr. Patrick Manson read a paper on this subject. The singular phenomenon of the embryo filarial parasites appearing in a countless swarm in the cutaneous circulation during the night and disappearing from it during the day, he said, suggested the questions: (1) What was the object of it? (2) Was it constant? (3) What became of the young filariæ during the day? The answer to the first question was in all probability that the nocturnal appearance of the filariæ at the surface of the body was an adaptation of the habits of the parasite to those of the mosquito, its intermediate host. The answer to the second question was distinctly in the affirmative—filarial periodicity is constant. The third question, "What became of the filariæ during the day?" Dr. Manson was enabled to answer by a recent experience. A man suffering from filaria nocturna in his blood committed suicide by poisoning at 8:30 A.M. The hour is important, as about the time he died (he died almost instantaneously) the filariæ had retired from the peripheral circulation for the day. At the post-mortem examination seventeen filariæ Bancrofti were found in a varicosed lymphatic mass occupying a large part of the pelvis and abdomen. A hurried microscopic examination made at the time gave the following results: In the margin of the lung, a pulmonary artery and a pulmonary vein, embryo filariæ were met with in enormous numbers. A large number were found in clots of blood in the left ventricle of the heart and in the aorta. A few filariæ were found in the coronary artery and vein, in the right ventricle of the heart, and in a middle cerebral vein. No filariæ were seen in the bone marrow, in the spleen, and in the liver. Subsequent examinations of the blood films after fixing and staining had almost similar results. The number of filariæ in the blood expressed from the lung was prodigious, as many as thirty or forty being visible in some fields of a $\frac{1}{6}$-inch objective. Dr. Manson concluded from these observations that filariæ nocturna during its temporary absence from the cutaneous circulation was present in the large blood-vessels, particularly the arteries, and a few in the capillaries of the muscles, brain, kidneys, and heart muscle, but that the vast majority were lodged in the blood-vessels of the lungs. By what mechanism the filariæ maintained their position in the blood stream of vessels such as the aorta and carotids it was impossible to say.

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*Second Day—Thursday, August 3d.*

**Psilosis or Sprue; Its Relations (Etiological and Pathological) to Other Forms of Tropical Diarrhœa, and Its Treatment.**—Dr. George Thin opened the set discussion on this subject by reading a paper entitled, "Notes on Psilosis or Sprue." The marked signs and symptoms of sprue Dr. Thin stated to be irregular and abnormal motions; there being, first, diarrhœa, varying much in severity, frequency, and persistence, disordered digestion, and progressive emaciation. Dr. Thin divided cases of sprue into four groups: (1) In sprue patients from the far East (Eastern Archipelago), the mouth, tongue, and throat symptoms were early prominent, with supervening diarrhœa. (2) Patients who contracted sprue in India exhibited copious, watery stools from the first; the mouth and tongue symptoms not developing until a later stage of the disease. In sprue patients from the far East, mouth and throat symptoms were very great, long before the disease had led to much debility or emaciation. The reverse was the case in sprue patients from India suffering from diarrhœa alba, a white flux; for with them "mouth" symptoms were usually synchronous with advanced malnutrition and emaciation. (3) A form of chronic diarrhœa occurred in elderly persons or in persons of long residence in the East. It was characterized by looseness of the bowels, gradual thinning of the epithelial covering, and considerable rawness of the tongue. (4) In persons who have been in the East intestinal symptoms might develop long after they have returned to Britain. In reference to the pathology of the disease little was known. There was a general atrophy of tissues and organs, and there was a special connective-tissue development—a true sclerosis—of the submucosa of the intestine, more especially of the ileum. The cause of this irritation was unknown, but that the irritation may be sufficient to produce an enteritis was shown at the post-mortem of a patient who died from a very acute attack before emaciation had occurred. The ulcerations described by Bertrand and Fontan as occurring in the intestine Dr. Thin was inclined to consider of secondary consequence. As regards etiology, sprue appeared to be a specific disease associated with residence in certain parts of the world and absent in others. The poison, whatever it is, altered the secretion of the small intestine and allowed the food bolus to retain its acidity; it destroyed the coloring matter of the bile, and seemed to develop freely when farinaceous and animal foods were given. The poison appeared to be starved out by limiting the patient's

diet, and when the food consisted exclusively of milk, and in some cases by an exclusive diet of meat juice.

Dr. Henderson, of Shanghai, said that in 1868, when he began practice in Shanghai, no distinction was made between cases of chronic diarrhœa and the cases now known as "sprue." In Shanghai two types were met: first, patients of long residence in the East, who, during it may be twenty or more years, had enjoyed good health. In them a morning diarrhœa gradually developed, and a sore mouth, intermittent in character, supervened. In the second class were patients who after only five or six years' residence might become the subjects of sprue. In these patients there was a previous history of bowel complaint occurring for the most part during the hot weather. During one of the occasional attacks of intestinal flux the mouth became sore and the diarrhœa was established. The diarrhœa and sore mouth went hand-in-hand in sprue. Dr. Henderson stated that he had seen the mouth lesions remain after the stools had become solid as the result of treatment, but he had never seen sore mouth precede diarrhœa. Death in sprue was brought about by a process of gradual starvation. Post-mortem evidence showed that there was diminution in size and weight of nearly all the organs and tissues of the body. The liver was especially small, but perfectly healthy when cut into; the atrophy of the mucous membrane was apparent throughout the whole alimentary canal. It was impossible, of course, to say whether this was due to starvation or to the effects of the original cause of the disease. Independently of treatment by diet, milk diet more especially, Dr. Henderson had found a preparation made by boiling together simaruba bark three ounces, cinnamon bark one ounce, in three quarts of water until reduced in bulk to one quart, when one and one-half ounces of brandy were added, to be very efficacious. The dose of the mixture thus prepared was a wineglassful three or four times daily.

Dr. Watson, of Portsmouth, reported the case of an English lady who contracted an intestinal flux in India. Shortly after her arrival in India she had a sharp attack of dysentery. During the commencement of the next summer the patient developed distinct symptoms of sprue, *i.e.*, within fifteen months of her arrival in northern India. The characteristic stools developed while living at a low hill station in India. On a milk diet the symptoms disappeared, only to recur, however, when a more varied diet was resorted to. On leaving India on account of her condition she enjoyed perfect health on the voyage home, but two months after reaching England the disease recurred. By milk diet and rest in bed all symptoms again disappeared, but during a stay in South Europe (San Remo), whither she had gone to pick up, a relapse occurred. Subsequently the tongue became inflamed, raw, and tender, and it would seem that true sprue had set in.

Mr. James Cantlie, of London, stated that in the treatment of sprue and, in fact, in almost all cases of intestinal flux, he had ceased to administer milk. He trusted to a meat diet, commencing, if need be, with raw meat juice or scraped beef, exhibited frequently, even every half-hour if the patient was very weak. Later, when the severe symptoms disappeared, finely minced beef, lightly and rapidly cooked, in quantities of five ounces at a time, were to be given thrice daily. A plain calf's-foot jelly to allay the feeling of hunger was allowed the patient between meals and during the night. Rest in bed, a wet pack applied to the abdomen twice daily for two hours at a time, and fixed by a large binder (bath towel) tightly bound round the abdomen, were useful and essential parts of the meat-diet treatment. By a milk diet a stool of deceptive hardness was induced. It was pale, non-fecal in character, and was composed of cheesy masses of condensed curd of milk. A meat diet brought down a markedly bilious stool, helped to exercise the hepatic functions, and thereby increased the size of the atrophied liver. Milk relieved the symptoms, but by meat alone could a cure be effected.

Captain Lamb, of the India Medical Service, said the tendency of milk to form curd in the intestines might be thwarted by adding citrate of soda (1:400) to the milk.

Major Giles, of the India Medical Service, doubted if he had ever seen a case of sprue in northern India which answered in all points to the disease described by medical men practising in China. He had seen many cases resembling the one described by Dr. Watson, but the general opinion in India was that they were merely hill-diarrhœa. The speaker believed that "hill diarrhœa" was a condition in which the hepatic function was suspended, and that it was brought about by the treacherous chills of the hill climates in India, although it was in no way confined to the hill stations.

Dr. Manson said that sprue was met with anywhere in the tropical and subtropical zones, and he had seen cases from China, Japan, the West Indies, India, etc. It would appear that in the case of sprue and associated ailments we were dealing, not with a single disease, but a group of diseases, caused, it might be, by a variety of factors, as in the case of dysentery. Sprue was perhaps an example of disease attacking an organ or organs which had been exhausted functionally by the demands of climate. Dr. Manson stated that he had seen a case of sprue in which mouth and throat derangements were alone met with, diarrhœa not developing until some time subsequently. He did not consider that any one line of diet or any drug could be considered a specific in sprue; but that a diet consisting solely of milk, of milk with fruits such as bananas, of meat alone, or of a mixed character, should be employed as the condition of the patient would seem to justify. Rest, and above all warmth, were essential factors in the treatment of sprue.

Dr. Mullick, of Bombay, stated that he had never seen sprue among natives of India. From experience gained in England in two cases of sprue he had observed great benefit accrue by using koumiss as a diet instead of milk.

Inspector-General Turnbull, of the Royal Navy, in reply to a question by the chairman, Colonel MacLeod, said he had never seen sprue occur on board any of her majesty's ships; he had met, however, with a few cases of sprue in naval hospitals at home in men who had served on the China station. Dr. Turnbull described a case in which the meat diet recommended by Mr. Cantlie was attended by excellent results.

Dr. Sambon, of London, did not consider the differences mentioned in the seat of the lesions peculiar to sprue as of sufficient importance to justify dividing the disease into two classes. The geographical distribution of sprue seemed to point to its being a distinct disease. The specific germs probably became parasitic at an early period, but it was when low health or metabiosis supervened that the disease manifested itself.

Dr. Rho, of Italy, said that French observers in Cochin-China affirmed that minute ulcerations and erosions occurred in the lowest part of the ileum and the whole length of the colon. The same authorities also declared that traces of blood were always found in the stools of sprue patients at the beginning of the disease, and they regarded sprue as a residual of a chronic dysenteric state. He said that the condition of the intestine met with in sprue resembled the condition of the stomach found in Reichmann's disease, which was

characterized by dilatation of the stomach, sclerosis of the wall, and great secretion of very fluid mucus (gastro-succorrhœa).

Colonel MacLeod remarked that in Northern India the disease recorded by medical practitioners in China could scarcely be said to occur. Hill diarrhœa resembled in many points the signs and symptoms met with in sprue, but the "mouth" symptoms were never of the characteristic nature described by observers in China.

Capt. W. J. Buchanan, of the India Medical Service, contributed a paper to the discussion on sprue, in which he stated: (1) That primary or protopathic sprue was common among natives of India; (2) that secondary sprue following on dysentery and acute entero-colitis or enteritis was common; (3) that incomplete or arrested sprue was probably very common; (4) that the condition known as "famine diarrhœa" was essentially the same in its symptoms and ultimate results as sprue; (5) that in many cases of chronic relapsing dysentery a condition strongly resembling sprue was met with, and that characteristic frothy pultaceous diarrhœa alternated with the dysentery.

Dr. Thin, in reply, remarked that there was no evidence that the liver was diseased in sprue, or that the shrinking depended on anything more than the persistent diarrhœa and general wasting. The white stools passed with a milk diet did not consist of undigested milk. Milk in the earlier stages was the best diet; but in the later stages of the disease a meat diet was efficacious.

A discussion arose concerning the treatment of sprue by santonin as recommended by Dr. Bigg, of Hankow, but several speakers declared they had employed it without benefit.

**Suprahepatic Abscess.**—Mr. James Cantlie, of London, read a paper on the symptoms, pathology, and treatment of a disease which he defined as follows: "By a suprahepatic abscess was meant the formation of pus between the layers of the broad ligament of the liver, having as boundaries the peritoneum circumferentially, the liver below, and the diaphragm above. The affection might be unattended by hepatitis, dysentery, or any other abdominal ailment. It was characterized by a sudden onset, symptoms of fever, cough, and some respiratory distress and lung congestion, and, when allowed to pursue a spontaneous course, usually terminated by the pus finding its way through the diaphragm and lung to a bronchus from which the purulent matter was expectorated. Mr. Cantlie objected to the term "liver abscess" being employed as the name for a definite lesion. He believed hepatic abscesses could be scientifically grouped under three headings: supra-, intra-, and infrahepatic, differing in etiology and pathology. Suprahepatic abscess commenced as a lymphangitis of the vessels between the layers of the broad ligament of the liver, the result of chill; an inflammatory effusion speedily ending in pus caused an area of dulness on percussion between the liver and right lung in the neighborhood of the right nipple line. The dull area was shaped like an inverted saucer or cup on the upper margin of the liver, with its highest point usually internal to the right nipple line. The pus, when withdrawn by an aspirating needle before the abscess burst, was invariably sterile. Mr. Cantlie considered an abscess in this situation to be of non-dysenteric origin, and affirmed that the discussions which have so long been associated with the question of the dysenteric or non-dysenteric etiology of hepatic abscesses were thus explained. He thought it improbable that abscesses arising from ulcerative lesions in the intestine could present a sterile pus, and was of opinion that the supra-hepatic abscess was the true "non-dysenteric" and "sterile pus" abscess. As regards treatment, Mr. Cantlie recommended early aspiration as a prophylactic and as a means of diagnosis. When pus was found, tapping through the thorax by a trocar and cannula, and drainage by a large-sized india-rubber tube, as recommended by Manson, were attended by better results than when incisions were made to reach the seat of the abscess.

Dr. Manson remarked that the sterility or apparent sterility of liver-abscess pus might be explained by the micro-organisms having died out. The amœba coli was often missed when pus from the liver was examined, from the fact that the amœba did not occupy the centre, but lay on the wall of the abscess, and should be searched for in the discharge from the drainage tube some days after the operation.

Dr. Sambon refused to recognize that pus from the liver could be primarily sterile. A collection of pus must have been caused by some kind of irritant. When an amœba was not found it was probably because it had been destroyed; in fact such a phenomenon might be expected as the result of phagocytosis.

Captain Lamb stated that not only were abscesses containing sterile pus found in the situation described by Mr. Cantlie, but also in the liver substance itself.

Dr. Rho, of Italy, stated that supra-hepatic abscess was not a disease of tropical countries specially. Both supra-hepatic and supra-splenic abscesses were met with in temperate climates, and they depended upon some chronic disease of the intestine of an ulcerative nature.

Dr. E. Charles, of Falmouth, attached great importance to the presence of a leucocytosis as a means of diagnosis in suspected cases of liver abscess. He inclined also to the opening of hepatic abscess by way of the abdominal wall rather than by the thorax.

Dr. Henderson, of Shanghai, spoke strongly in favor of the metal drainage tube recommended by Dr. MacLeod, of Shanghai, as being in less danger of getting nipped between the ribs, and thus being occluded, than was the case with india-rubber tubing.

**Dysentery as a Terminal Symptom of Disease in the Tropics.**—Capt. W. J. Buchanan, of the India Medical Service, contributed a paper calling attention to a form of dysentery which supervened in the later stages of many diseases in India. He said: "As will be seen from the following twenty-eight cases, this 'terminal' dysentery (as I call it) frequently supervenes in the last stages of many chronic diseases; it is a certain symptom of impending death, and may commence even three or four days before that event takes place." Of the twenty-eight cases given in detail all the patients had been in hospital for some other severe illness. The dysentery in most cases was of a low gangrenous type, and in some of a more acute nature. Captain Buchanan believed the condition was essentially a degenerative process and more allied to noma or gangrenous ulceration of the buccal membrane than to any one of the many more pronounced types of dysentery.

Dr. Manson, in his remarks on the paper, said that these cases illustrated the fact that in healthy conditions, when resistance was normal, one of the germs of the many forms of dysentery, as probably of cholera and other disorders, might be present in the alimentary canal and not cause any pathological effect, but when the individual was depressed the parasites might become pathogenic.

Mr. Sambon said that the parasites in dysentery, as in black-water fever and sprue, etc., might be latent for months and years in the system, but under favorable conditions—low health, metabiosis—they might suddenly manifest themselves in typical attacks of their respective diseases.

Colonel MacLeod mentioned the special prevalence of terminal dysentery in leper asylums, but it

was also common in lunatic and other asylums in Europe. It was especially common in certain dwellings, and, like beri-beri, yellow fever, etc., might depend upon environment. It would seem that "terminal" dysentery was a preventable disease, which, like hospital gangrene, we might hope to get rid of.

**Hæmoglobinuric Fever and Paludism.**—Surgeon W. H. Stalkartt, of the Royal navy, read a paper on this subject, in which he stated that men on board ship on the West and East coasts of Africa were seldom if ever attacked by black-water fever; again, that on the Zambesi and Shire rivers there was a practical immunity of the troops. The disease occurred only after prolonged exposure in regions where the fever was endemic. Besides intertropical Africa black-water fever was met with in Sicily, Sardinia, tropical and sub-tropical America, New Guinea, and in the Indian Archipelago. In Australia and in many districts of India the disease was unknown. The speaker related a case of black-water fever in which quinine was given as a precautionary measure against malaria, and in which black-water fever did not recur. He stated that the circumstances which bore strongly against the hypothesis of black-water fever being malarial were the limited distribution of the malady and its non-occurrence in certain highly malarious regions. He regarded black-water fever as a distinct disease, possibly malarial in nature, and did not believe that it was ever due to quinine poisoning.

Dr. Manson grouped the arguments for and against black-water fever being malarial as follows: (1) Arguments for regarding black-water fever as being a malarial disease: (*a*) It occurred in highly malarial districts; (*b*) the malarial parasite was often found in the blood; (*c*) the disease occurred in persons who had had many attacks of malaria; (*d*) prolonged residence and consequent malarial saturation were usually antecedent to an attack of black-water fever. (2) Arguments against regarding black-water fever as malarial: (*a*) Its limited geographical range as compared with malaria; (*b*) the malarial parasites were not always found, and even when found they were not always of the same kind; (*c*) it was not certain that the fevers preceding attacks of black-water fever were really all of the true malarial character; (*d*) cases had occurred within a short period of a person's arrival in a region where the fever was endemic; (*e*) the epidemic seasons of malaria and black-water fever did not always correspond; (*f*) the disease was not amenable to quinine.

Colonel MacLeod stated that although he was acquainted with cases resembling black-water fever in India, the symptoms developed as a sequence to malarial fevers, but they were not to be confused with the true black-water fever met with in Africa.

Major Giles, I.M.S., said that the cases of malaria complicated with black-water fever met with in India were not attend by a pronounced mortality as in Africa, and it would appear that the resemblance did not extend beyond the alarming symptoms common to both, and that the diseases were really quite distinct.

Dr. Rho regarded Sambon's theory of black-water fever as the most satisfactory, having in its favor all the arguments which by analogy we could get from the hæmoglobinuria of cattle or Texas fever. Several Italian observers, Tomaselli, Murri, and others, had ascertained the fact that in some malarial subjects a very few centigrams of quinine could give rise to an access of fever with hæmoglobinuria.

Mr. Rees, of London, stated that the seasonal differences of black-water and malarial fevers were most marked at one station on the Niger, where, as the malarial curve decreased, the black-water fever curve gradually increased. He said that his experience was against the idea that hæmoglobinuric fever was due to quinine poisoning. Quinine was taken largely in Nigeria as a prophylactic, and those who adhered to quinine most carefully seemed to escape black-water fever. Mr. Rees stated that he had known cases of black-water fever contracted within two or three months of arrival in Africa, and he was not of opinion that it was either malarial or due to quinine.

Dr. Thin remarked that in addition to the case he had recently published, in which a man who died of black-water fever was found to have the parasite of malaria in the blood-vessels of his brain and pigment in the spleen and liver, he had examined portions of liver and spleen in another case and found pigmentary deposit in these organs sufficient to indicate an acute malarial attack.

Dr. Mould mentioned that a patient under his care in hospital for a sprained ankle developed black-water fever. He had had no quinine for three weeks and no malaria.

Dr. Porter had seen in Liverpool cases of black-water fever from the West Coast of Africa. He asked whether the fevers met with in Colon, Jamaica, Honduras, and Brazil were not of the same nature. He regarded black-water fever not as a distinct disease, but merely as a symptom.

**Thermic Fever (So-called Siriasis), with Special Reference to Its Alleged Microbic Causation.**—Colonel MacLeod, of Netley, discussed Dr. Sambon's view of this question, namely, that so-called thermic fever was not due to heat *per se*, but to a microbe called or recalled into existence and activity by excessive heat under certain circumstances, climatic, local, and personal. The name "siriasis," revived by Dr. Sambon and adopted by some, did not advance our knowledge or nomenclature. The word, derived from Sirius, the dog-star, would seem to imply that sunstroke is more common during the "dog-days" (July 3d to August 11th), but such is not the case, at any rate in India. No positive evidence had been advanced regarding the existence of a special microbe in cases of thermic fever. It had been shown indeed by Stiles that the injection of blood, taken from subjects of the disease, into a healthy person did not induce any pathological disturbance, therefore excluding the presence of either infective microbes or toxins in the circulating blood. Dr. Sambon's reasoning, that a microbe is present, was by a process both of analogy and exclusion liable to fallacy, and the constructive evidence he thus arrived at was very feeble. There is one analogy, however, he had neglected to draw, namely, the analogy of the effect of reduced temperature or cold. The chilling of the body was as dangerous as the heating, if not more so. Almost all the arguments advanced by Dr. Sambon could be employed here, *i.e.*, the phenomena caused by over-chilling were peculiar and definite, as were those of over-heating: the incidence of cold stroke had some resemblance to the incidence of epidemic disease, being in some instances single or sporadic, in others multiple, simultaneous, or quickly successive; hygienic and dietetic conditions affected heat conservation as well as heat depression; the duration of attacks, many or few, grouped or otherwise, was precisely limited by the duration of excessive cold in one case and excessive heat in the other. The parallel was almost perfect, and yet no one thought of invoking a microbe to explain the effects of cold. Dr. Sambon's argument by exclusion, the speaker continued, was also very weak. It took this form: excessive heat, solar and artificial, could be endured *per se* by the human organism with impunity, therefore something in addition was necessary to render it noxious. Now, Colonel MacLeod said, experiments prove that animals exposed to great heat died with symptoms resembling sunstroke in man. These Dr. Sambon set

aside as inapplicable in man, but without reason or fairness. Dr. Sambon further maintained that cases of heat stroke, as distinguished from heat fever—of exhaustion, syncope, and shock—were excluded on the ground that they were due to defect in the subject rather than to the potency of heat influence. This was not the case, as perfectly healthy people suffered from sunstroke. The speaker took the view of sunstroke put forward by Hertz and Wood. He also pointed out that just as hepatic exhaustion succeeded hepatic stimulation, so continued exposure to heat impaired the power of resistance to heat, and one of the principal sequelæ of heat stroke was an incapacity to endure or resist heat.

Dr. Sambon said that the idea that siriasis was explicable only by microbic action was gaining ground daily, and he had every confidence that not only would his opinion be confirmed, but that the microbe would be found. In fact, Wood of Philadelphia had described a microbe, and experimental proof was alone wanting to settle the point definitely.

Major Giles said that the fact that sunstroke had a geographical distribution supported Sambon's theory. He had seen soldiers in Natal working at a temperature which in other countries would in all probability have induced sunstroke. In Natal, however, sunstroke was unknown.

Dr. Watson said his experience was that men exhausted from want of food, and who took an excess of alcohol, were most liable to sunstroke.

Dr. Manson said that some organisms thrived at high and some at low temperatures; but it must not be assumed that because sunstroke occurred at high temperatures, a high temperature was the cause. The organism, if such there was, affected only certain parts of the world. This consideration was alone a very important one, and favored Dr. Sambon's idea.

Dr. Thin considered that direct sunlight as distinguished from simple heat had much to do with the causation of sunstroke. He thought that in many instances sunstroke was at least partly due to the direct effect of light through the eyes.

Dr. Rho said that he would divide sunstroke into two classes: the first, real sunstroke, occurred sporadically with no very high temperature; the second was epidemic in nature and accompanied by hyperpyrexia. The former was probably due to fatigue and toxins of the body; the latter, as contended by Dr. Sambon, was probably infectious and due to microbic infection.

Lieutenant-Colonel Boileau and Dr. Parker also joined in the discussion.

Lieutenant-Colonel MacCartie, of the India medical service, contributed a paper appertaining to the discussion on sunstroke, in which he stated that soldiers were more liable to heat apoplexy than any other class, because of the nature, texture, and quantity of their clothing, and because, owing to their uniform, their clothes were so buttoned up and strapped down that the air could not circulate about their bodies. He had seen men in mufti in India marching alongside soldiers in uniform, and although carrying heavier loads than the soldiers, they came in fresh and fit at the end of the march, whereas their brothers in uniform were utterly exhausted and some of them suffered from heat apoplexy.

**Antivenin.**—Surgeon O. W. Andrews, of the Royal navy, read a paper which dealt with wellnigh the whole subject of antivenin, and included a detailed account of a series of experiments performed by Major Semple, Major Lyons, and Staff-Surgeon Andrews. The composition of venom, Dr. Andrews pointed out, had been investigated by Dr. C. T. Martin, who said that venom consisted of coagulable proteid and non-coagulable proteid, and that the coagulable proteids might be regarded as albumoses rather than as globulins, the albumoses being those known as hetero-, proto-, and deutero-albumose. The venom of snakes was not a simple poison, but was composed of at least two distinct poisons: one of them, having the power of producing hemorrhagic extravasation and intravascular clotting, was destroyed by heating a solution of venom to 85° C., but there was another or others not destroyed by heating to the temperature of boiling water (100° C.). Heating to 102° C. for twenty minutes completely destroyed all toxicity of venom. Calmette maintained that the action of antivenine serum was in no way a chemical reaction but a physiological process, by which the white blood corpuscles were stimulated to carry on intracellular digestion, which he regarded as a variety of phagocytosis. M. Calmette considered that the venin is destroyed only within the leucocytes, and if the amount of serum injected before, with, or after the venom had been sufficient to impregnate the leucocytes so that they could carry on this process of digestion, the animals would resist lethal doses of venom, in the same way that animals vaccinated against specific diseases resisted them. The dose of serum required to protect a man against a lethal dose from the most venomous serpent was from 10 to 20 c.c., but additional security would be afforded by increasing the dose to 30 c.c. or even 40 c.c.; no ill effects attended the injection of the serum.

Mr. Rees said that he could confirm a statement made by Dr. Andrews, namely, that one of the two toxins of venin produced intravascular clotting. He had seen two fatal cases in Nigeria in which marked thrombosis of the large veins of the bitten limb had occurred.

**Malarial or Climatic Neuralgia, and Its Treatment.**—Dr. A. S. Faulkner, of the India medical service (retired), presented a paper with this title, in which he said that the symptoms of the affection, referable especially to the nervous system, were: the regular periodicity of the attacks; acute, if not excruciating pain in the set of nerves implicated (usually the facial), the pain being characterized by being confined only to the one set of nerves but shifting from one nerve to another in that set. At first the pain was accompanied by a slight rise of temperature followed by copious perspiration at the height of the attack, which was indicated when the pain had reached its acutest stage. Palpable throbbing of the arterial system, in connection with the affected nerves, was always evident, and a feeling of nausea or actual vomiting took place. The attacks were followed by marked general depression and subsequent lassitude. Quinine properly administered was a specific in the treatment of such cases.

**The Geographical Distribution of Undulant (Malta) Fever.**—Captain M. Louis Hughes, of the British army medical service, read a paper on this subject. The geographical limitation of the endemic prevalence of this fever appeared to be, he said, primarily a question of temperature. In Europe, north of the annual isotherm of 55° F. (about latitude 46° north) only imported cases were met with, which did not start endemic foci affecting others. South of this line the endemic prevalence of the disease became of increasing importance until we reached the annual isotherm of 60° F., where the disease was found to be firmly established, and especially prevalent in those months during which the mean temperature was at or above 60° F.

**Malarial Eye Affections.**—Major M. T. Jarr, of the British army medical service, read a paper, of which the following is a brief abstract: Conjunctivitis: At least three different varieties of conjunctivitis had been found connected with malaria, viz., (*a*) in-

termittent ophthalmia; (*b*) conjunctival injection due to neuralgia of the fifth cranial nerve; (*c*)) epidemic conjunctivitis.

Keratitis: The forms of keratitis ascribed to malaria were: (*a*) dendritic keratitis; (*b*) keratitis profunda; (*c*) vesicular keratitis (herpes corneæ).

Major Jarr also mentioned a case of iritis, one of cataract, and another of monocular ciliary spasm associated with aphasia, all of which were distinctly malarial in origin.

The section was well attended, and the interest taken in the debates and discussion was most marked. The proceedings terminated with a vote of thanks to Dr. Thin, the president, and to Fleet Surgeon J. Tyndall, R.N., and J. R. S. Robertson, M.B., the honorable secretaries.

(*To be continued.*)

## Correspondence.

### OUR LONDON LETTER.

(From our Special Correspondent.)

MORE ECHOES FROM PORTSMOUTH—THE ADDRESSES—THE SPEAKERS—THE REFORMS—MUSEUM.

London, August 1., 1899.

The Portsmouth holiday is over, and its various delights form the chief topic of conversation with those who have returned. To listen to some of them you would suppose they went only for the excursions and entertainments. But others, as if to neutralize that impression, talk only of the solid work in the sections. Others, again, are full of the addresses and set discussions. If I gather up a few of the impressions made on friends and communicated to me, you can take any contradictory statements as those of different persons.

All seem agreed that the meeting was a success. It was not so numerously attended as last year's gathering, but then the academical attractions of Edinburgh would account for that. The sections were not overcrowded, but good discussions seem to have been held. The arrangements for the press and for visitors were much superior to those of Edinburgh, the names of the speakers being displayed so that any one entering late could see at once what was going on. Of the addresses the president's was by far the most attractive. In fact, Dr. Cousins showed himself to be an exceedingly able speaker, and though he had his notes before him he scarcely ever looked at them. Yet the address was full of facts and figures. Apart from this his genial presence everywhere contributed greatly to the pleasure and success of the meeting. At the dinner he was in great form, and his hospitality every day seemed unbounded. As some one said, his presidency must have cost him "a pretty penny."

The address in medicine is always regarded as an important function. This year it was undertaken by Sir Richard Douglas Powell, whose reputation raised great expectations and attracted a large audience. Unfortunately, his voice was unable to fill the room, and many could not catch a word. Your reporter told me it was most difficult to follow what he said, even in a favorable position. He, however, made an abstract which shows the address was worthy of the occasion. Sir Richard read it all, and leaning over his manuscript of course increased the difficulty of his being heard.

The address in surgery, by Professor Ogston, excited great interest among the military and naval members, inasmuch as it constituted a grave indictment of the department calling for the serious consideration of government. Some of the newspapers have taken up the subject, and are enlightening the public on the danger, in case of war, of the cramped state of the medical services. Professor Ogston is, of course, accustomed to public speaking and able to make himself heard. He was very energetic. The day was oppressively hot, and at one time he paused for a moment to throw off his university gown in which he had commenced the address, no doubt much to his relief and certainly to the amusement of many.

In the section on tropical medicine Dr. Thin made a powerful appeal for the opening of Netley Hospital to those about to practise in the colonies, and went so far as to put his view in the form of a resolution, which, however, the section did not adopt.

At the second general meeting after the address in medicine there was a stampede into the fresh air, only some thirty or forty members remaining to discuss the policy of the journal and the conduct of the council, as well as other subjects of reform. Resolutions, of which notices had been given, were moved, and acrimonious discussions ensued, but no advance was made, and the meeting was adjourned. At the next meeting there was still no time to discuss these resolutions, and some of the proposers were not even present, so that their motions could not be debated.

The museum was located rather unfortunately, the ventilation being imperfect and the heat very oppressive. The usual exhibits were shown, and this advertising department appeared as flourishing as ever.

### LETTER FROM BERLIN.

TUBERCULIN TEST FOR INFECTED COWS NOT INFALLIBLE—MILK STERILIZATION—ANTITOXIN METHODS IN BERLIN.

Berlin, July 24, 1899.

Five years ago, through the courtesy of the director of the Kaiser und Kaiserin Friedrich Kinderkrankenhaus, Professor Baginsky, I was fortunate enough to study the value of antitoxin in diphtheria. Again it is interesting to look back and note the present improvements and changes which experience has made necessary.

Professor Baginsky is essentially a man of painstaking detail in all matters pertaining to the clinical and microscopical and bacteriological diagnosis of diphtheria. In fact, no diagnosis is made *intra vitam* without the use of all known means of securing the same. Thus the objective and if possible subjective symptoms are used as mere guides, and the real crucial tests are secured by utilizing the urine, the blood, fæces, sputum, membranes—in fact, any and all secretions, and, as additional factors, excretions. Professor Baginsky insists on giving due weight and consideration to every point and utilizing every method of combined clinical and laboratory aid to arrive at an intelligent understanding of each case. The fatal termination of a case is the beginning of a real comparison of post-mortem and *intra-vitam* findings. Each and every organ is carefully studied, sections are made and stained, and bacteriological examinations made of the blood found in the heart, spleen, etc., pus, lymph—in fact, any special pathological findings are examined, which means the devoting of such extra means to the end of elucidating all possible points toward the completion of the history of the case.

Berlin in general has different regulations from those of America. Here the public schools will reopen about August 12th, after having been closed since July 12th, so that the children have a vacation of about one month.

I visited the large dairy of Grube, in Victoria Park,

and was favored with a view of one of the largest milk establishments in Germany. All cows are given dry fodder, are kept scrupulously clean, and subjected to a careful tuberculin test. I was very much interested to learn that one large batch of one hundred cows (Swiss breed) was examined with the test, and eighty-five gave positive tuberculin reactions. Further inquiry elicited the following very interesting information, which when I transmitted it to our director, Professor Baginsky, he was not willing to indorse. A great many cows, in fact almost all, react with the tuberculin test "when tubercle is present," but—and here is what I regard as vital—some cows, although tuberculous as proven by a post-mortem, did not show any reaction.

Again: cows that were not tuberculous, *i.e.*, in which no positive evidence of tubercle in the shape of lymphatic glandular swellings could be found, gave very strong reactions; so that we cannot yet absolutely say that none but tuberculous cattle will react.

Another point, and one which it is well to note, is that milk is subjected to much less steaming than formerly. The length of time for this process was from thirty to forty-five minutes; now it has been reduced to ten or fifteen minutes. Experience showed that the albuminoids of milk, and chiefly the casein, were rendered very indigestible, but by reducing the time of steaming they were made more digestible. By subjecting the milk to this reduced time of steaming a great many bacilli, chiefly the "hay bacillus," are not destroyed, but they can be easily killed afterward by "cooling" the milk, and more especially by first cooling it and then putting it on ice.

At the coming "Naturforscher-Versammlung," which takes place at Munich September 18th, the subject of intubation in private practice will come up for discussion, together with a series of questions pertaining to the technique, indications, after-treatment and medication, and dietetic management. It may be of interest to note that, responding to an invitation from Professor Baginsky to contribute my experience, I have given my own from private practice, including a series of consultation cases which I have had since the advent of antitoxin. It is a striking fact, in Germany at least, that never more than now is antitoxin used in the treatment of both mild and severe diphtheria. It is not as it was in former years, and the diphtheria pavilion is not now dreaded. Professor Baginsky's mortality—including cases in which the patients were moribund, virtually doomed before being sent to the hospital, and those that were really hopeless and sent away so that the physician might be spared the odium of a fatal case of diphtheria on his shoulders, and all cases of diphtheria with and without intubation in which operations have been performed—is about nine per cent.; formerly it was above forty per cent.

LOUIS FISCHER, M.D.

**One Hunterian Oration.**—In 1826, Sir Charles Bell describes the Hunterian oration in the following words: "As to the Hunterian oration I know not what is to become of it. It is given in regular succession by the seniors of the college. To-day Sir Anthony Carlyle delivered it. I heard him at the public dinner of the hospital boast what he would do. I saw the moment I entered that he would fail. He had a large volume of manuscript before him, suited to a course of lectures rather than to one discourse; as many shell-fish as you can see in an oyster shop; and he had the folly or the wit to make the oyster the subject of the Hunterian oration. He began with supercilious confidence, and after many interruptions finally broke down after an hour and a quarter's delivery amid the noises and hisses of the audience."

# Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending August 19, 1899:

| | Cases. | Deaths. |
|---|---|---|
| Tuberculosis | 181 | 138 |
| Typhoid fever | 61 | 17 |
| Scarlet fever | 61 | 2 |
| Measles | 106 | 7 |
| Diphtheria | 136 | 25 |
| Laryngeal diphtheria (croup) | 7 | 5 |
| Cerebro-spinal meningitis | 0 | 6 |
| Chicken-pox | 5 | 0 |

**Hygiene in Florence.**—A writer in the London *Morning Post* writes as follows concerning the unhygienic state of Florence: "Having been detained by illness in Florence, I feel it is a duty to English visitors to this most glorious city, 'the City of Flowers,' to make known its sanitary condition, which can only be described as pestilential. There is no wholesome drinking-water and there are no drains. There is a most unsatisfactory system of cesspools for each house, and these are emptied at mid-day by carts, the effluvium of which is hardly to be imagined. Even as I now write I have to keep the windows closed, as there is an array of these disgusting carts engaged on two houses opposite. Fevers and other diseases occur daily in consequence of the existing state of things. Yet the educated Italians allow this condition of affairs to continue. We have heard lately of great changes contemplated, but reforms are not made. No visitors should enter the city without knowing the risk they run. I trust I may be the means of saving others from my own unfortunate experience."

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended August 18, 1899:

SMALLPOX—UNITED STATES.

| | | Cases. | Deaths. |
|---|---|---|---|
| Florida, Jacksonville | July 29th to August 12th | 9 | |
| Kentucky, Louisville | August 3d to 10th | 3 | |
| Massachusetts, Everett | July 29th to August 5th | 1 | |
| New York, New York | August 8th to 12th | 1 | |
| Ohio, Cleveland | August 5th to 12th | 4 | |
| Pennsylvania, Altoona | August 5th to 12th | 2 | |
| Washington, Spokane | July 29th to August 5th | 1 | |
| Tacoma | July 29th to August 5th | 1 | |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Arabia, Aden | May 1st to 30th | .. | 1 |
| Belgium, Antwerp | July 22d to 29th | 3 | |
| Brazil, Rio de Janeiro | June 30th to July 7th | 39 | 27 |
| China, Hong Kong | June 24th to July 15th | 2 | 1 |
| Greece, Athens | July 22d to 29th | 11 | 3 |
| India, Bombay | July 4th to 15th | .. | 15 |
| Mexico, Mexico | July 23d to 30th | 9 | 7 |
| Progreso | July 15th to 22d | 2 | 1 |
| Colombia, Panama | July 21st to August 1st | .. | 1 |
| Russia, Moscow | July 15th to 22d | 7 | 4 |
| Odessa | July 22d to 29th | 4 | 1 |
| Warsaw | July 8th to 20th | .. | 3 |
| Straits Settlements, Singapore | June 24th to July 1st | .. | 2 |
| Turkey, Smyrna | July 14th to 23d | .. | 1 |
| Uruguay, Montevideo | July 8th to 15th | 1 | |

YELLOW FEVER.

| | | | |
|---|---|---|---|
| Brazil, Bahia | July 16th to 21st | 9 | 1 |
| Rio de Janeiro | June 30th to July 7th | .. | 3 |
| Colombia, Panama | August 1st to 8th | 2 | 1 |
| Cuba, Havana | July 27th to August 3d | .. | 9 |
| Santiago | July 22d to 29th | 8 | 3 |

CHOLERA.

| | | | |
|---|---|---|---|
| India, Bombay | July 4th to 18th | .. | 1 |
| Calcutta | July 1st to 8th | .. | 4 |
| Japan, Yokohama | July 15th to 22d | .. | 1 |

PLAGUE.

| | | | |
|---|---|---|---|
| China, Amoy | July 8th to 15th | .. | 275 |
| Hong Kong | June 24th to July 15th | 306 | 305 |
| Egypt, Alexandria | July 1st to 16th | .. | 7 |
| India, Bombay | July 4th to 18th | .. | 115 |
| Calcutta | July 1st to 8th | .. | 7 |

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 56, No. 10.
Whole No. 1504.

NEW YORK, SEPTEMBER 2, 1899.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### PSYCHOTHERAPY; OR, SUGGESTION AS A CAUSE AND CURE OF DISEASE.[1]

BY H. H. SEELYE, M.A., M.D.,

PRESIDENT HAMPSHIRE DISTRICT MEDICAL SOCIETY; VICE-PRESIDENT EX OFFICIO MASSACHUSETTS MEDICAL SOCIETY.

CONFORMING to the established custom in our society gatherings, of reading papers on subjects that have particularly interested or engaged the attention of the writer, I have determined to touch upon a branch of medical science which seems to me, as a rule, to receive too little consideration from the busy practitioner in his routine work. This is the part that suggestion plays as a causative and curative agent in disease.

I desire here to state expressly that I do not mean to discuss the broad subject of hypnotism as generally understood, but rather the outlying field of influences acting on the mind when no conscious abnormal change has been produced in the patient. I choose to confine my remarks to this limited sphere, because of the frequent opportunities for observation of its phenomena in my own experience, while I have never seen occasion nor felt the necessity for the application of complete hypnosis.

Before proceeding further in this discussion, it will be necessary to elucidate to some extent what may be considered to be the essential difference between mere suggestion and true hypnosis. Hypnotism depends largely on suggestion, and by some, especially the disciples of Liébault and Bernheim representing the Nancy school, it is supposed to be the only essential element in inducing the state. But in hypnotism there is the conscious and free subjection of the will and all the mental and physiological functions of the subject to the desires of the hypnotizer. Hence it is frequently asserted that a person cannot be hypnotized unconsciously or against his will. Suggestion, on the other hand, may frequently, and altogether unconsciously, play its part in producing symptoms or modifying bodily functions, without the patient, or even sometimes the operator, being in the least aware that any unusual or unperceived forces are at work. Again, in hypnosis there is such complete surrender of the subject's personality, that he is unable to resist performing any act suggested, whether it is to be carried out immediately or performed automatically in the future, when apparently freed from the operator's influence, that is, in the so-called "post-hypnotic" state; while suggestion, on the other hand, may be accepted or rejected at the will of the subject, and is most apt to work successfully if the patient is unaware that the suggestion has been intentionally made with the expectation of a given result. Thus appropriate ideas, artfully suggested, will often arouse the latent subconscious mind to perform wonders in undoing disorders wholly or partly caused or aggravated by unconscious fears or anticipated evils.

[1] President's address read at the annual meeting of the Hampshire County Branch of the Massachusetts Medical Society, at Northampton, Mass., May 11, 1899.

For the purpose of explaining the possible mode of action of suggestion, hypnotism, and allied phenomena, modern psychology has propounded the tentative working hypothesis of our possessing a sort of double personality, acting on and through the brain and nervous system. These two personalities, living in harmony and usually working in unison, and acting and reacting on each other, may be designated as the conscious, and the subconscious or subliminal; or as the objective or physical, and the subjective or hidden and immaterial mind. The objective or conscious personality is the one we are all so well acquainted with, and is, in our waking hours, acutely responsive to all outside influences, as well as to ideas mentally conceived, and receives impressions and transmits impulses in accordance with the conscious will of the individual. But the subjective personality and subconscious mind work unobtrusively and incessantly, through both our waking and sleeping hours, and are at all times in a state of receptivity to influences exerted through the senses from the world without, and presumably also to less material forces and impulses originated in, or transmitted through, the physical brain cells and nervous ganglia. It is this form of mental activity that is manifested in dreams and in the vagaries of the somnambulist, that enables us to awake at a stipulated hour, and that recalls names and facts we vainly strive to remember, but that suddenly come to us later on when thinking about something else. It is this same power which, with no conscious thought or effort on our part, regulates the involuntary functions of breathing, heart action, digestion, and the automatic activities of all the bodily organs. While responsive to stimuli from the conscious physical personality, it on the other hand often directs or modifies the ideas and actions of the latter. It is as though there were two individuals of similar temperaments living as neighbors in the same house, at times working apart, and at others in harmony together. Each may do things and know of matters concealed from the other, but each may call upon the other for assistance when required. Each attends to its own affairs, but at times seems to delight in befooling or deceiving the other, or in acting eccentrically, to the surprise and wonder of its neighbor. While co-workers in the general management of the house, viz., the body, each works in its own way and as suits its own pleasure.

It is by recognizing this hypothetical interrelation of two personalities in one individual, that we can explain most of the phenomena induced by suggestion. An idea becomes implanted in the mind by either a known or an unknown process, and there it is taken up by the subconscious personality, and worked over and developed, till its effects appear in some easily recognized results, involving, it may be, some part of the body or its functions. Conviction or belief that a certain effect is to follow a given act is helpful and conducive to this unconscious transformation, but conscious belief is not always essential, provided that the subconscious ego is convinced, and so stimulated to activity. Thus many of the physiological, pathological, and curative phenomena we so frequently observe, and which at times seem almost inexplicable, may be accounted for by alterations of metabolism and nutrition produced by

the subconscious expectations aroused by suggestion. For instance an ignorant child is told to work some ridiculous charm on a wart, and after a time, to his astonishment, he notices that it is gradually disappearing, though he has consciously given little or no attention to the matter since the first. But the subconscious personality, easily convinced of the efficacy of the act, has been steadily at work, concentrating energy and modifying nutrition in the diseased epithelial cells, till the cure is wrought. On the other hand, a small benign growth may appear in a woman's breast, on the face, or elsewhere, and soon the idea of possible malignancy suggests itself. Without getting skilled advice the patient keeps the matter to herself, broods over it, and watches its progress, and the result here likewise is increased stimulation of the morbid process already begun; expectation and fear result in realization, and at last true malignancy develops.

These are examples of the often-noticed effects of the mind on the body. Conversely the physical condition reacts as markedly on the mind; and the man, as a whole, is healthy and well balanced only when a sound mind inhabits a sound body. Thus, if one is subject to attacks of indigestion, sluggish bowels, or biliousness, the effect is mental despondency and low spirits; if the body is weary from overwork, the mind is paralyzed and demands sleep. If it rains or storms, the nervous system reacts to it, and we are cross or depressed. If the sun shines and the birds sing, and all nature seems glad, we are happy and rejoice with her. So, when the influence of the subconscious mind is dominant, it affects the bodily functions for better or worse, and when, on the contrary, the physical and material personality asserts itself preeminently, the spiritual subconscious individuality appears almost dormant. Hence it is that the high-strung, nervous, mentally developed man of genius often lacks in physical development; and, on the other hand, the man whose brutal or animal parts are predominant rarely experiences the inward light and mental illumination of the spiritually inclined scholar.

While essaying thus a plausible explanation of the manner in which suggestion may produce its effects on the mind and body of the patient, my main object is rather to draw renewed attention to the many ways in which this power often acts, or may be induced to act, to the advantage or detriment of the sufferer. The essential fact for success seems to be, that either consciously or unconsciously, there must be in the mind of the individual a desire, a longing, a hope, a faith, or an expectation, that a certain condition will in time prevail. Surprising as it may seem, it is however the unconscious belief, usually, that works most powerfully, and often this is directly contrary to the conscious and expressed opinion of the subject. And here suggestion may be made either to strengthen or weaken this subconscious impression, as directed by the operator, for the good of the patient. Granting this theory of unconscious cerebration and expectant attention, due to suggestion, to be correct, we have now an adequate explanation of the many authentic cures of both functional and chronic organic disorders wrought by homœopathists, osteopathists, hydropathists, electropathists, masseurs, faith curers, Christian scientists, religious enthusiasts, blue-glass cranks, and by all the other fads that from time to time rage and flourish successfully for a while, only to give way at last to some other new and wonderful method of cure. While not belittling the real value of the many rational scientific uses of active drugs and sanitary and hygienic measures, I desire especially to emphasize the added therapeutic value of the mental attitude of the patient toward the physician and his curative measures, as a very important item in the rapidity and thoroughness of the cure. Every observant doctor must have had his own experiences confirmatory of this fact, and it remains for me only to relate a few instances in my own practice illustrating the truth of this hypothesis.

Case I.—Gracie J—— was a young girl of eighteen years, of delicate nervous temperament, earning her own living by work in a hat factory. Her general health was good. One day, while suffering from a headache, she bought at a drug store some so-called "headache powders," knowing nothing of their composition, which was probably chiefly acetanilid. At bed-time she took one, and retired for the night. She was soon relieved and fell asleep. In the morning, at the usual waking hour, her girl room-mate found her still soundly sleeping: and fearing the stupefying effect of the unknown powder she tried to arouse her, which, after some effort and with fright expressed in her voice and manner, she soon succeeded in doing. Gracie opened her eyes in surprise at this unusual method of waking, and doubtless noting at once the frightened expression of her companion and her startled cry of, "What's the matter with you, Gracie? Can't you speak?" she seemed forthwith to become literally paralyzed with fear, and found herself unable to move hand or foot, or to utter a word. Her room-mate's added fright and startling announcement that the powder had poisoned her and she was certainly paralyzed, and the summoning of the rest of the excited household, only added to the intensity of the girl's belief in the actuality of her helpless condition. Fuel was added to the flames when a hasty summons brought to her bedside a local homœopathist, who assured the family that the effects were due to the powder, which he later, on analysis, found to be an active poison. In his anxiety and ignorance of the true nature of the case, he visited the girl nearly every hour throughout that day, with the natural result that she remained in the same condition, and the family and friends became discouraged, and wished for a change of doctors. Having been summoned about 6 P.M., I found the room full of anxious friends watching the girl, who was acutely awake and mentally active, but lying flat on her back unable to talk, swallow, or use any muscles save those of the eye, which, you will remember, she had found responsive at the moment of waking, before becoming aware of the paralysis. Could suggestion have been more artfully employed for evil than here? Knowing that there was no pathological condition that could produce such an assemblage of symptoms, it took but a moment of observation and reasoning for me to divine the true state of affairs, and to commence the cure by the use of counter-suggestion. So, after requesting the family to withdraw for a few minutes, I explained confidently to the patient that the reason of her remaining in her present condition was a failure on the part of the homœopathist to recognize the cause of the symptoms and to apply the proper remedies, but that, understanding thoroughly her disorder, I could assure her of a prompt and rapid recovery. Then, having gained her confidence, I began using remedial measures in themselves inert, applying them, and at the same time so commenting on them as to attract her attention to, and concentrate her nervous energy on, successive paralyzed parts; till in turn she speedily recovered her voice, was able to swallow, moved her head, then her hands, arms, legs, and body, and in less than five minutes from beginning counter-suggestion she was walking about the room and out into the hall, shouting to the astonished family that she was cured and all right. There was soon restored confidence in her ability to use all her natural powers, and a call from me the next morning showed no farther need of my services than a prescription for a general tonic, as a future "brace-up." The cure was wrought entirely by suggestion, without the patient's being at

all aware of the efficient cause of her recovery, which she, as intended by me, attributed to the intelligent use of very powerful drugs and local applications. To the query, what would have happened in this case had it been persistently treated homœopathically or otherwise under a continually erroneous diagnosis, I will say I believe that, finding soon that she was not really dying, and believing thoroughly in the efficacy of the small, frequently repeated doses administered, her attention would undoubtedly have been kept constantly, but unconsciously, fixed on the expectation of an ultimate cure, and so after a time there would have been a slow but steady and sure recovery, to the gratification of the patient, the glory of the attending physician, and the fattening of his pocketbook.

Certain features in the above case make prominent three facts to which I wish to direct your attention. First, the power of suggestion in causing as well as in curing disease. Second, the proneness of physicians to overlook or ignore suggestive influences as possible causes or factors in producing symptoms. Third, the fallacy of always attributing any unusual or unexpected complications to the good or ill effects of the remedy last administered.

Case II.—This is illustrative of the successful methods of the Christian Scientists, faith curers, osteopathists, and that class of fakes. Mr. C. P——, twenty-eight years of age, a farm laborer, came one day to my office with his head drawn around to one side and bent down toward the shoulder, and complaining that he had awakened that morning with intense pain and lameness in the muscles on that side of his neck at every effort to turn his head the other way. He also said, that he had once before had just such an attack, and was under treatment for two weeks before he was relieved and able to go to work. It proved to be a typical case of wry neck. I asked him if he would be surprised if I should send him from my office cured after a few minutes of treatment. This aroused his attention and credulity, and he laughingly replied that he did not think I could. I assured him, however, of prompt relief, and began making local applications and rubbings, which I told him would draw the pain out and scatter it. At the same time I encouraged him to move his head first slowly, and then violently, remarking constantly that the pain was lessening; till, within five minutes he found he could turn and twist his head as freely as ever, in any direction, without the slightest pain. The Christian Scientists would, in time, have produced the same effect, by telling him that pain does not exist, it is purely subjective and immaterial, and if you thoroughly believe in its non-existence you can feel none. The fact, however, really is, that the subconscious, subjective personality can be, and is, easily deceived, and as readily convinced by suggestion, even against the reason and the expressed belief of the conscious self.

Case III. was of a similar character, except that the motor, rather than the sensory, nerves were affected. A refined lady aged about twenty-eight years, a professor's wife, called at my office one forenoon, bemoaning the sudden loss of her voice, which she particularly desired to have the use of that evening, as she was to receive at a students' promenade concert. She had been exposed to a draught the previous day and had developed a slight laryngitis. She could not speak above a whisper. I encouraged her to expect immediate relief, and assured her of the powerful efficacy of a harmless application which I made externally over the region of the vocal cords. I, in a few minutes, had the satisfaction of hearing her speak in her usual tone of voice, as she talked with me, even when I purposely withdrew to an adjoining room. She had no return of the difficulty, and conversed fluently and easily all that evening. In this case there was a passive relaxation of the vocal cords, which required the stimulus of an increased exertion of nervous energy to restore their tone, and the measures I employed merely aroused, subconsciously, the vital forces and focussed them on the refractory organ.

Case IV.—While spending a summer vacation at one of a group of hotels on the shore of a lake in northern New York, I was summoned one evening to a neighboring hotel to see a young man aged twenty-five years, a guest, who was said to be suffering from the effects of a sunstroke. He had been lying out that afternoon, with the thermometer in the nineties, under the shade of a tree. On returning to the house he had complained of an intense headache. Soon after he fell unconscious, and then began to have violent spasms, requiring the united strength of half a dozen men to hold him and keep him from injuring himself. He continued to be at times delirious, and then for a while apparently comatose, and again the spasms would recur. A young medical student, who was supposed to be the only physician in the neighborhood, worked over him for several hours, with no amelioration of the symptoms. Finally some one spoke of the presence of a doctor in an adjacent hotel, and I was sent for. After a hasty consideration of the history, surroundings, and symptoms of the case, I arrived at the diagnosis of acute cerebral hyperæmia from heat prostration, giving rise to fear of sunstroke; the symptoms of which the subconscious personality proceeded to imitate to the best of its knowledge and belief. In other words, the condition was what is usually designated as acute hysteria from fright. By at once assuming a confident attitude, and assuring the bystanders, in the hearing and for the benefit of the apparently unconscious patient, that there was no danger and he would soon be all right again, I proceeded to suggest, through my talk with them, the course and sequence which the symptoms would immediately take. Strengthening these impressions by the use of measures in themselves inoperative but asserted to be most energetic, I in a few minutes was able to arouse the patient, quiet his excitement, restore his reason and his powers of co-ordination, and to see him walk upstairs to his room, and soon after fall into a quiet, normal sleep, from which he awoke the next morning well, and little the worse for his experience. Had the mental element in this case remained unsuspected, and the man been left to himself, the object of a frightened but sympathetic crowd of guests, the spasmodic movements and hysterical excitement, with alternating periods of coma, would doubtless have lasted till the sufferer's nervous energies had become completely exhausted, and a long illness might have ensued. In biblical times he would have been said to have been "possessed with a devil," which was at last "cast out" miraculously.

Case V.—This was an illustration of a persistent impression inducing a patient to believe in the existence of a disease which, unbeknown to him, may have been for a long while cured. J. B——, aged fifteen years, a schoolboy, refined and intelligent, had an attack of acute inflammatory rheumatism, with fever, and swelling in the arms and legs, which gradually improved under treatment with the salicylates. After a week or so the symptoms had nearly disappeared except a slight lameness in the right ankle, and he was so far recovered that I ceased to visit him, and dismissed him from my mind. About a month later I met his mother on the street, and inquired if J. was well and again attending school. I was surprised to learn that he had not yet been out of the house, but that the pain in the right ankle had persisted and gradually grown worse, so that for the past two or three weeks he had been limping about with the aid of a crutch. I at once called to see him, and found

him unable to set his foot to the floor and put any weight upon it without wincing, and entirely unwilling to trust it in walking. Examination showed no swelling or local tenderness, and I found I could manipulate the foot in ways that would have been very painful had there been any real inflammation in the joint. I was therefore forced to the conclusion that the pain was entirely subjective, and due to the timidity of the patient and his belief in its reality and persistency. By suggesting its prompt dissipation, as a result of local applications and supposedly skilful massage, I was enabled within five minutes to present him to his mother cured, free from pain, dancing, hopping, running, and laughingly assuring her that he should have no further use for his crutch. He has never since had a twinge of rheumatism. The next day he was out of doors, and on the following day returned to his school duties. Could professional masseurs have done better, and do not many of their remarkable cures owe their success largely to the suggested belief in the efficiency of the agent so confidently and energetically employed?

Case VI. well illustrates the vagaries of the neurotic or hysterical temperament. A little girl, A. C——, nine years of age, living about five miles away in the country, was attacked with symptoms leading her medical attendant, since deceased, to suspect infantile paralysis, or some unrecognizable organic spinal disease. From the waist down she gradually became paralyzed, and after losing the power of her feet and legs the bowels became sluggish, and the bladder ceased to act, so that catheterization became necessary. The child had been confined to the bed for several days when I was called in consultation. After a brief study of the symptoms and an examination of the reflexes, and assuring myself of the normal action of the kidneys, I came to the conclusion that here fear and suggestion had been at work, and the doctor's solicitude in watching for the progressive symptoms of paresis had induced subconsciously the very condition expected and feared. With the permission of the attending physician I at once began to invoke the assistance of counter-suggestion, and after gaining the confidence of the little patient it took but a few minutes of energetic manipulations and assurances of relief to have her out of bed, make her empty her bladder voluntarily, rush out of the room to her parents, who greeted her with the cry, "A miracle, a miracle!" and then run a foot-race with her little brother out of doors. Less than ten minutes' suggestion had sufficed to remove permanently all symptoms of the dreaded disease. The old doctor was nearly as much astounded as were the family and friends, and could scarcely induce himself to believe in the actuality of the cure; and for some time after he continued his solicitous attentions and visits, to the detriment, but not serious relapse, of the patient.

Now comes the sequel! Ten years after these events, I was summoned by another physician to see in consultation a young lady of nineteen years, living in the same vicinity. I failed to recognize the house, family, or young woman, as old acquaintances. She had been suffering for a number of weeks from an irritable stomach, and finally she could retain no food, but vomited persistently mucus, bile, and blood. For some days past she had been unable to retain even a swallow of water. Ulcer of the stomach seemed the logical and accepted diagnosis. While examining the patient she remarked to me that I had doctored her once before, ten years ago, and asked if I did not remember the little girl I cured of paralysis. In an instant the case took on a new light, and its cause and treatment flashed upon my mind with the force of conviction. I had often read of hysterical vomiting, even of blood. And here it was! If suggestion worked so efficiently ten years before in the cure of the girl, would it not act equally well here in the woman? After explaining my belief to the attending physician, with his assent I placed a few drops of a placebo in her mouth, assuring her that in a few moments she would find her stomach in a retentive state. Soon a swallow of water was taken and retained, and then the first bit of bread or solid food she had eaten for many days. We waited half an hour for it to come up. But suggestion had won the day, and for some time after she ate quite freely and retained everything. For future treatment I recommended that the doctor should employ only tonics, with the aid of so much suggestion as his self-confidence would warrant him in employing. After a period of improvement, however, his faith and courage, and her confidence in him, gradually waned, and she at last relapsed into chronic invalidism, and he became disheartened and left her to her fate. This was pre-eminently a case for the so-called "mind curers," and for them alone. Who will say that the sect is not endurable, if they could be made to confine their method of treatment to its proper sphere?

Case VII., and the following one, are examples of a class of patients that I frequently encountered, though usually with less marked symptoms, during my eighteen months' hospital service in New York, before entering upon private practice. Early in my professional career I became impressed by the great influence exerted by the interrelations of the mind and the body, and subsequent experiences have in no degree lessened these convictions. In both of these cases not only the voluntary, but some of the involuntary functions as well, seemed susceptible of modification by suggestion.

The patient, Hannah B——, aged thirty years, was brought in an ambulance to the hospital about five o'clock one afternoon, without any history. She was comatose, totally insensible to all stimuli, breathing stertorous, heart action feeble, with pulmonary œdema well developed, and convulsions occurring every three or four minutes. The bladder was emptied by the catheter of one pint of normal urine, and physical examination revealed no lesion of any organ. Her temperature was normal. On the whole, the picture presented was that of a moribund case of acute uræmia. As everything taken into the stomach was immediately vomited, stimulants, sudorifics, antispasmodics, and cathartics were freely administered subcutaneously and by rectum, with inhalations of chloroform during the convulsions, and she was cupped and poulticed, while perspiration was further encouraged by packing in wet hot blankets. For a period of several hours of constant medical attendance there was no appreciable improvement, but toward midnight she became more quiet and slept naturally, so that from that time till morning she was left to the care of the nurses. The two following days she seemed convalescent and required little attention. While making my regular morning rounds on the third day, knowing now that she had no kidney lesion, and having been assured by the nurse that she was doing well, on coming to her bed I merely asked a few questions and made a rather superficial examination, and was about to pass on, when she called me back and began a long story of symptoms and ailments to which I had no time to listen; so, ordering a mustard paste to be at once applied over the chest, I abruptly withdrew. This apparent lack of attention seems to have provoked her, and when a few minutes later the mustard began to draw and the nurse positively refused her request to remove it, she became quite angry and rebellious. The result was, that before I had left the ward the nurse hastily approached me and informed me that H. B—— seemed to be dying. On crossing over to her bed I was, to say the least, surprised to see the patient in almost

precisely the same condition as when she had been brought to the hospital. To the experienced eyes of three doctors and three trained nurses present, she seemed undoubtedly in a dying condition. She could not be aroused, was insensible to pain from pin-pricks or pinching; the reflexes were abolished, the heart action was feeble, the respirations were rapid, and, most remarkable of all, there was unmistakable and pronounced pulmonary œdema, large and small mucous râles being plainly audible throughout both lungs. I was momentarily dumfounded, and racked my brain to recall any known disease or disorder that could produce such an array of alarming symptoms in a person ten minutes before seemingly in comfortable health. Urinary examination had excluded uræmia, and there was no one-sided paralysis, with irregular pupils, nor drawing of the facial muscles as in apoplexy. Hysteria at once forced its claims upon me; and although I had never read or heard of a case in which not only the voluntary but also the involuntary functions had been so quickly and so profoundly modified, I became convinced that this was the actual explanation of her condition. Her chagrin and anger at the slight attention paid to her complaints by the doctor and nurse had produced so great a mental revulsion as to throw her off her balance, and to place her completely under the sway of the subconscious *ego*. Feeling now sure of my diagnosis, I determined to use counter-suggestion in a most active form; and believing that, while the functions of the objective personality were in temporary abeyance, the subjective individual was acutely awake and responsive to outside impressions, I appealed to its attention by ostensibly directing all my suggestive remarks, not to the patient, but to the neighboring doctors and nurses. I sent one of them for a harmless remedy, which I began using with apparent caution in minute doses, meanwhile assuring the attendants, with a warning sign, that it was a most powerful drug, and that within five minutes the patient would either be dead or well on the way to recovery. Then speaking confidently, I observed that the eyes would first open, then the mouth would move and consciousness return, next the use of her hands, arms, legs, and voice would follow, in never-failing succession, and that the œdema would gradually clear up and the pulse become stronger; and as these effects promptly followed each suggestion, by encouraging the now conscious and surprised patient to use her various muscles, as the danger was now passed, I succeeded within five minutes from the beginning of this mental treatment in restoring her to a perfectly normal condition, to the astonishment of all concerned as well as myself. It had taken from seven to eight hours of active medication, two days before, to bring about no better results than were here duplicated by a few moments of suggestive therapeutics.

Case VIII.—The final specific case I will mention has several points in common with the last, and occurred some time later in the same hospital ward. Mary W——, twenty-three years of age, was brought by an ambulance from a tenement-house with no history, but suffering from a sore throat and great hoarseness, coupled with some apparent obstruction in the larynx, interfering with free respiration. She was too weak and voiceless to give any account of herself. Her respirations were rapid and labored, and the air passing through the narrow laryngeal opening whistled as in a severe case of membranous croup. There was no fever, nor, except for this obstruction and slightly swollen submaxillary and cervical glands, any other bad symptom. After admission the respiration gradually grew more and more difficult, till we began to be alarmed. Our visiting physician, and later the reputed best diagnostician in the city, were called in. Examination of the larynx showed them nothing but a congested, narrowed, and spasmodically closed orifice. There was a difference of opinion among the consultants as to whether it was a case of true croup, or merely the spasmodic form of acute laryngitis. About noon, as the diagnosis was in doubt, and membranous croup, being a contagious disease, was not allowed admission to that hospital, I notified the city board of health. Soon after two of its medical members appeared, and, while hedging as to diagnosis, permitted us to retain and treat the case in that ward. As the day advanced, and treatment by counter-irritation, hot applications, and inhalations of chloroform and steam from the croup kettle, with such internal medication as was indicated, produced no improvement, and as the patient gradually became unconscious and cyanotic, the only chance for life, as a last resort, seemed to be an operation for tracheotomy. This I was authorized to perform if at any time during the ensuing night a crisis seemed imminent. As midnight approached the patient seemed comatose and about to expire. I summoned the hospital staff in consultation, and it was decided to operate immediately. During the preparation of instruments and dressings, the dangers of the operation and chances of recovery had been freely discussed, in the presence of the patient, by the six or eight doctors and nurses attending. Then, standing at her head, I made my first incision through the skin over the thyroid cartilage. As the knife blade cut into her, I noticed a slight twitching of the girl's eyelids and an almost imperceptible wincing, as if she felt and feared the cutting process. A second attempt to expose the subcutaneous tissue was accompanied by a slightly more pronounced movement of shrinking. At once dropping the scalpel, I quietly remarked to the onlookers that I had just learned something new about this case, and I believed I could produce a more prompt and satisfactory cure by other means than an operation. Then asking for a powerful faradic battery, with the aim of bringing suggestion to play on the subconscious mind of the patient without her suspecting it in the least, I went on to describe how I had found evidence that there was here merely an obstinate spasmodic contraction of the laryngeal muscles, which would doubtless quickly yield to the external application of electricity with a violent jerky making and breaking of the current. I then began to move the electrodes about, over and on opposite sides of the larynx, constantly increasing the intensity of the electrical action, and causing irregular but strong contractions and relaxations of the cervical muscles. I soon called their attention to the fact that the laryngeal spasm was relaxing, the whistling sound becoming less marked, the respirations slower, deeper, and easier, the eyes were opening and consciousness returning, while vocal sounds were becoming possible. And as coincidently with these suggestions the patient aroused and struggled to get away from the annoying application, I was unrelenting in my punishment, and increased its severity, till she audibly begged me to desist, assuring me that she now felt perfectly well, and surprised at her unfamiliar surroundings.

We found later that this young woman had been a frequent inmate of other hospitals, and our conclusion was that she had taken advantage of her opportunity, at some time, to observe a case of membranous croup, the symptoms of which she unconsciously reproduced while suffering from a so-called hysterical attack. And it was only when fear of actual death or some great deformity had powerfully appealed to the subconscious personality, that the malevolent power was relaxed, and it was finally inveigled to believe in the truth of statements, however absurd, suggested by one whose authority and methods it had learned to respect.

Having now endeavored to entertain you with the relation of a few of the most typical cases that have come under my own observation, in which the power of

suggestion, intelligently and almost exclusively used, has produced remarkable physiological, pathological, and therapeutical results, it would seem unnecessary to attempt further to strengthen my thesis by referring to the many other ailments such as headache, neuralgia, insomnia, indigestion, chorea, neurasthenia, hysteria, hypochondria, insanity, and certain minor surgical operations, that may be alleviated, arrested, or hastened to a cure by the rational employment of this influence as an adjuvant to our drugs and other well-recognized modes of treatment. For while cases are comparatively rare in which purely suggestive treatment alone is desirable or sufficient, yet it can almost invariably be advantageously employed, to a greater or less degree, to aid and increase the effectiveness of those older and better-established methods of cure on which we are so accustomed to rely. If, then, this recital of personal experiences shall stimulate some to a freer recognition of the part suggestion unconsciously plays in causing and aggravating diseased conditions, and shall invite them to the faithful and conscientious employment of all the healing powers with which nature has endowed us, the object of this hour's imposition on your attention will have been achieved.

## THE ETIOLOGY OF SCARLET FEVER.[1]

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CHICAGO, ILL.

Numerous efforts have been made in recent years to discover the specific causative factor of scarlet fever. The most notable experiments along this line were those of Crajkowski, Klein, and Edington. Klein in a large number of cases isolated a streptococcus which he regarded as the causative factor; this germ is also considered by a number of French observers to be the cause of scarlet fever. Crajkowski in 1895 reported that he found, in fifteen cases in which he examined the blood of scarlet-fever patients, a diplococcus present in comparatively small numbers. This diplococcus does not stain by Gram's method, and in general stains feebly, and quickly loses its color. Cultures were obtained in bouillon and upon solid media, but not on gelatin. The development is said to be slow and the colonies resemble small drops of dew, not more than one-third to one-half millimetre in diameter. It is pathogenic for mice but not for rabbits. Crajkowski does not claim that the etiological relation of this diplococcus to scarlet fever has been demonstrated. Edington isolated a number of microorganisms from the scales of scarlet-fever patients, among them a coccus which he named micrococcus capsaformis and a bacillus which he considered the specific organism of the disease. Numerous other germs, mostly bacilli, have been described as occurring in the scales of scarlet-fever patients, but their relationship to the disease has never been satisfactorily proven. In this connection a report by Behla published in the *Centralblatt fur Bacteriologie* interested me particularly; Behla did not describe any germ, but he noticed that some pigs belonging to a peasant, in whose family there were several typical cases of scarlatina, developed a scarlet rash. In order to see whether there was any connection between the scarlet fever in the peasant's family and the rash in the pigs, Behla took some blood from one of the children having scarlet fever and inoculated a healthy pig with it, after a few days a scarlet rash appeared around the edges of the inoculation wound, followed by desquamation.

During the winter of 1897–98 the writer had occasion to examine a large number of cultures taken from the throats of persons suffering from various forms of angina. These cultures, numbering from seven hundred to eight hundred during the winter, were grown on blood serum. On examining them I noticed that about every twentieth culture showed large diplococci mixed with the other germs present. During the early part of the winter I did not pay any particular attention to them, but toward spring I began to notice that they were most often present in the cultures taken from patients having scarlet fever. During the following summer my time was occupied by other work, and as there were comparatively few cultures to be examined, I dropped the matter temporarily. Last autumn the germ again showed itself in the cultures and in an increasing percentage of the total number examined. I now began making cultures from the scales of scarlet-fever patients on blood serum, but without any very satisfactory results. The same germ which had been noticed in the throat cultures appeared, but I could not isolate it and it did not appear to be constantly present. I have subsequently discovered that it was constantly present, but on account of its polymorphous character it appeared to be a different organism. As I had been experimenting for the last two years with a culture medium composed of glycerin agar, to which about five per cent. of sterilized garden soil had been added, the thought occurred to me that perhaps the results would be better with this medium. And from the results of my experiments in cultivating scales, throat secretions, and blood from scarlet-fever patients on this medium, I arrived at the conclusion that the germ which I am about to describe was probably the specific causative factor of the disease.

**Morphology.**—A diplococcus, polymorphous in character but resembling, as ordinarily seen in slides made from fresh cultures grown on my medium, a very large gonococcus. This biscuit-shaped appearance is best seen in specimens that have been but lightly stained. Tetrads are frequently seen, and probably they denote the beginning division of the organism. In very old cultures grown under favorable conditions it shows as an enormous coccus having a slightly cupped appearance, the dividing line between the two portions of which it is composed being very indistinct in the more deeply stained specimens. By the division of the large diplococcus a number of smaller organisms are formed, which group together and do not appear as diplococci during the very early stages of their growth. In young cultures grown from the blood of a scarlet-fever patient this germ is often seen as a diplococcus, both segments of which are globular. Streptococcus forms are occasionally, though rarely, met with. Usually, unless in spreading the culture on the slide it is rubbed very hard, these cocci occur in bunches of from ten to fifty, which bunching is due to the large amount of glutinous intercellular substance by which they are united. The organism has no capsule, although at one period of its growth it has the appearance of having one, does not show any spores, has no flagella, and examined by the hanging-drop method does not show any independent motion.

**Staining.**—Specimens derived from pure cultures were stained with a number of the aniline stains. With a watery solution of methylene blue very pretty pictures were obtained, especially when only lightly stained. Carbol fuchsin also stains the microorganism well and brings out its characteristics. It also stains with Bismarck brown and Pitfield's flagella stain. Certain of the organisms do not stain so deeply as others, however, some not taking the stain at all. These organisms when found in blood slides are probably the ones that have been described as protozoa by certain investigators. They are decolorized by Gram's stain, though

[1] Read before the section on state medicine, American Medical Association, June, 1899.

not to the same extent as the gonococcus, the larger variety of the germ holding the stain better than the smaller.

**Biological Characters.**—The culture medium on which this germ grows by preference is, as before stated, glycerin agar-agar to which about five per cent. by weight of black garden earth has been added, the medium being rendered sterile by discontinuous heating. On this medium the scales from a scarlet-fever patient are placed with a sterile platinum loop, and the tubes put in an incubator, the temperature of which is kept at about 35° C. In from forty-eight hours to one week small, whitish-gray, semi-transparent colonies will appear along the track of inoculation and around the scale. These colonies are isolated at first, but subsequently coalesce. Their diameter varies somewhat, but in general is about 1 mm. On taking up some of the material of which the colony is composed, with a platinum needle, it is seen to be glutinous, being drawn out in threads like glue. If the culture medium is dry, or if the colonies are old, they lose their viscidity and become darker in color. On blood serum there is a growth, but it is more meagre than on the earth agar, which is especially adapted for growing the germ from the scales and throat secretions; for blood cultures the serum will do almost as well, as no other organisms are present. Respecting the cultures grown from the blood I wish to state that those taken on the first day of the disease as a rule grow fairly well, whereas later in the disease the growth becomes more meagre, so that without a very careful inspection of the culture no growth is apparent. However, on running a sterile platinum loop over the surface of the medium and making an examination of the material adhering to it, the germ will be found present. Depending upon the severity of the disease, it is sometimes necessary to inoculate more than one tube in order to obtain a growth. The poor growth of the blood cultures obtained in the later periods of the disease is in my opinion due to the inhibitory action of the scarlet-fever blood. As an illustration that this theory is plausible I would refer to Widal's test and to Nuttal's experiments. This inhibitory action of the blood on the growth of the germ suggests the presence in the blood of a germicidal and probably also an antitoxic principle, which, to judge from certain experiments that the writer has made, seems to be the case.

On glycerin agar, to which phosphates have been added, it grows feebly and does not show its characteristic features, which caused me to believe for a time that the growth on this medium was due to a contamination. On gelatin I have not been able to obtain any growth. Milk is not affected by these organisms, although they apparently multiply in it. The germ described has been cultivated from the scales in seventy-four cases of typical scarlatina, from the throats in about fifty cases of angina accompanying scarlatina, and from the blood in twenty-two cases of scarlatina.

**Control Experiments.**—(1) In order to ascertain whether the germ was present in the throats of persons who had not to their knowledge been exposed to scarlet fever, I examined thirty-six cultures taken from the throats of as many different persons. The diplococcus was found in eight specimens, but only in very small numbers, while in the angina of scarlet fever it was invariably present in great numbers.

(2) The thought occurred to me that the germ might be a normal inhabitant of the human skin; to eliminate this point I examined scales from twenty-three persons not afflicted with the disease, the scales being mostly those of dandruff, with the result of finding the organism present in three instances.

(3) Examination of the blood of ten persons in a healthy condition, the blood being taken with the same precautions as those observed in collecting it from the scarlet-fever patients, gave an absolutely negative result so far as any growth was concerned.

**Pathogenesis.**—Rabbits and guinea-pigs in good condition were inoculated by subcutaneous injection of a pure culture, by scarification and inoculation of the wounds, and by injection into the abdominal cavity, without producing the slightest results. The negative results of the subcutaneous injections show that the germ is no pus producer, at least not in the species mentioned. Subsequently two guinea-pigs, whose vitality had been lowered by keeping them for a period of about a month in a dark place which was poorly ventilated, were injected with approximately the same amount of a pure culture as was used in the other animals. On the third day after the inoculation the animals began to show signs of illness, the rectal temperature being increased by about 2° F. One of the animals died on the eighth, the other on the tenth, day after inoculation. Post-mortem examination showed a pronounced nephritis in both animals. The cortex of the kidneys on removal of the capsule showed numerous minute hemorrhages; on cutting through the kidney the substance seemed softer and more friable than is normally the case. The pyramids were of a dark-red color, the entire organ appearing congested and œdematous. Culture tubes were inoculated from the kidneys, and a pure growth of the organism described by me was obtained.

The other organs of the animals showed no macroscopical changes. As Behla had shown that swine were apparently susceptible, a number of these animals were inoculated with cultures derived from the scales of a virulent case of scarlatina.

Animal No. 1: Weighing about twenty pounds, in good condition, skin perfectly normal; rectal temperature 101½ F. About 1 c.c. of a culture of the diplococcus was mixed with about 3 c.c. of distilled water and injected into one of the veins of the ear. During the first four days the animal showed no signs of any disturbance. On the fifth day the animal became restless and the rectal temperature rose to 103° F. On the seventh day a pronounced reddening of the skin was noticed, most marked on the abdomen; this lasted about thirty-six hours. On the tenth day the animal began to scale, the scales being most numerous on its abdomen and ears. Cultures made from the blood and scales showed the same organism as was injected. This animal was killed, and on examining its organs the kidneys were found to present a similar condition as was noticed in the kidneys of the guinea-pigs, with the exception that the right kidney showed a small abscess in the cortex. Cultures made from the kidneys again showed the same germ.

Animals Nos. 2, 3, and 4, weighing twelve, sixteen, and nineteen pounds respectively, were inoculated in a similar manner, with similar results in regard to the rash and scaling, the same germ being found in their blood and scales. In the third animal injected the eruption was more of a papular character and the reddening was not so marked.

Animal No. 5, weighing about twenty-five pounds, was injected subcutaneously in the abdominal region, the culture used being the fifth generation of the one used in the previous experiments. There was no reaction, except a rise in temperature of about two degrees on the fourth day after the injection was noticed.

I wish to state that the cultures used in these animal experiments were not isolated by means of "Platten giessen," but I am quite certain that they were not contaminated by other germs, as repeated careful examinations showed. The reason why I did not isolate the germs by means of the process mentioned was on account of the fact that their vitality is easily destroyed by heating, the cultures obtained by isolating

the germ by means of the plate method growing very poorly.

The conclusion that the germ described is probably the causative factor of scarlet fever was arrived at through what I think can be called fairly careful work. Most of the cultures mentioned in this paper were examined every day during the time of their growth, making about four thousand examinations *in toto*. In the majority of the throat and scale cultures the different germs were isolated as far as possible. One point which made the work very difficult was the large variety of organisms which are present in every throat and skin culture, and some of which very closely resemble the organism described by me when seen under the microscope, but which present a different appearance on cultivation. I would like to impress this fact on the minds of those who may wish to make experiments along this line, because otherwise it might occur that the investigator will throw up his hands in disgust when the scales of the first case of dandruff or eczema examined show a germ resembling the diplococcus described. Respecting the blood cultures the objection may be raised that the presence of the organism is accidental, but if the investigator will make control experiments it will be seen that this is not the case; furthermore, the ordinary micro-organisms present on the skin and in the air when dropped accidentally in a culture tube will grow readily in a few days; this germ grows as a rule exceedingly poorly in the presence of scarlatinal blood.

Another point to which I wish to call attention is the change in form which the organism undergoes, and which may lead to mistakes. A few words in regard to the streptococcus in scarlet fever. Streptococci were found in about thirty per cent. of the throat cultures. As a rule they were found in those cultures which were taken late in the disease and when there was a severe angina. In those cultures taken early on the first or second day of the disease they were seldom found. If they are the causative factor of scarlatina, and the throat is the gateway by which they enter the system, it stands to reason that they should be found early. In the blood streptococci were not found in a single instance. In the cultures made from the scales they were occasionally found, but not oftener than in the cultures made from the scales of healthy individuals.

Before concluding I would like to mention briefly a few differential points between the diplococcus scarlatinæ and similar organisms that have been found in the skin and naso-pharynx:

Micrococcus tetragenus subflavus: Flat, dirty-white colonies with shining surface; turns brown at the margins after three or four days.

Micrococcus tetragenus versatilis of Sternberg: Colonies pale yellow, which later become orange colored; grows profusely on ordinary media; is usually present in skin cultures.

Diplococcus coryzæ: Grows readily upon gelatin plates; forms white, glass-like, slightly elevated colonies.

Diplococcus albicans tardus: Much smaller; grows much more slowly; dark yellow growth on gelatin.

Micrococcus cumulatus tenuis: Found in nasal mucus; large single cocci associated in masses; colonies are oval and perfectly transparent.

Micrococcus albus liquefaciens: Liquefies gelatin readily; perfectly white, shining layer on agar-agar.

Diplococcus fluorescens fœtidus: Found in posterior nares; quick growth; brownish-gray layer; liquefies gelatin readily.

Micrococcus of Demme: Found in pustules of pemphigus acutus; colonies milk-white in color, never transparent.

Diplococcus albicans amplus: Not transparent, grow readily on gelatin.

Diplococcus luteus: Motile, yellow layer, later brown.

Micrococcus aerogenes: On agar yellowish-white colony.

Micrococcus agilis: Motile and possesses flagella

Micrococcus candicans: Milk-white colonies.

Micrococcus candidus: Snow-white colonies.

## A PRELIMINARY REPORT UPON THE USE OF PURE CARBOLIC ACID IN THE TREATMENT OF MASTOID WOUNDS AND CHRONIC SUPPURATION OF THE MIDDLE EAR.[1]

By WENDELL C. PHILLIPS, M.D.,

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At a meeting of the Medical Society of the County of New York held February 27, 1899, Dr. Seneca D. Powell read a paper entitled "Carbolic Acid in Surgery," an abstract of which appears in the Medical Record of March 11, 1899. He said that the paper represented the results of his observations at his clinic in the Post-Graduate Medical School during the past fifteen years. About five years ago he had ascertained that in ninety-five-per-cent. alcohol he had an antidote to carbolic acid. He demonstrated before the society that a ninety-five-per-cent. solution of the crystals of carbolic acid could be rubbed freely on the hands and allowed to remain for a few seconds without any unpleasant effect from it, if the hands were then rinsed with alcohol. He said he knew of three cases of carbolic-acid poisoning in which alcohol had been successfully used internally. Many of the results to be described had been obtained by using carbolic-acid solution of the strength of one-half drachm to the ounce. In mammary, tuberculous, and other abscesses, granting that there is suppuration resulting from microbic action, our treatment to be effective must be capable of destroying these microbes. In these abscesses no difficulty need be experienced in controlling the suppuration if carbolic acid was properly used. The cavity must be thoroughly cleaned out by irrigation, followed by curetting; after this has been done the cavity should first be filled with strong carbolic acid and the acid evacuated, then filled with alcohol and the alcohol evacuated, and finally the cavity should be washed out with water. By this method he frequently succeeded in converting a foul pus cavity into a clean granulating wound in from twenty-four to forty-eight hours. Tuberculous abscesses should be swabbed out every day until healthy granulations were obtained. It was a mistake to suppose that ulcers and wounds would not granulate under such treatment. Bone abscesses were also amenable to its treatment.

Dr. D. B. St. John Roosa had used this treatment for two years past in mastoid abscesses, and had spoken highly of it. He had used it in cellulitis of the hand, lymphangitis, and empyema. He had recently evacuated two quarts of pus from a case of empyema, and had filled the cavity with a solution of carbolic acid of the strength of one-half drachm to the ounce. A piece of gauze had then been inserted into the opening, and the dressing had not been changed for a week or more. By this time there was practically no further discharge. He had used it in cystitis and erysipelas.

In the discussion following, Dr. A. M. Phelps said that he had verified in his own practice almost every claim made by the reader of the paper. In washing out tuberculous joints with carbolic acid there resulted a great deal of exudation, but the cases invariably

[1] Read at the fifth annual meeting of the American Laryngological, Rhinological, and Otological Society, Cincinnati, Ohio, June 2 and 3, 1899.

went on to convalescence, except when there was bone disease beyond the reach of the acid.

Dr. Powell also said that he had found carbolic-acid solution most useful in treating ivy poisoning, and had used it in many cases of injuries to the fingers, yet he had never seen any necrosis which seemed to be fairly attributable to its use.

Following the line of thought outlined in Dr. Powell's paper, I have for the past three months made use of pure carbolic acid in the treatment of mastoid wounds, chronic suppurative otitis media in which necrosis existed, and in the sinuses so often found in mastoid wounds, which are so difficult to heal. This treatment has proven very helpful.

I have prepared the carbolic acid by adding simply enough water to the crystals to hold them in solution; and at first the applications were all made by means of the cotton probe. Later on it was found that especially in the attic cases it was difficult to get the carbolic acid into contact with the tissues. In order to overcome this difficulty I had a spray apparatus made, with the tube so finely drawn that I was able to introduce it into the aural canal and spray the acid into the attic and middle ear. This method has been found to be very useful and effective. In nearly all the cases in which this method of treatment has been adopted the suppurative process has almost immediately commenced to subside.

Time will not be taken to give many detailed histories of cases, and it is understood from the title of this paper that it is to be but a preliminary report, and it is given to the members of this association that they may also, if they feel inclined, adopt this method of treatment and test it for themselves. That it has a helpful effect in necrosed conditions of the bone there can be no doubt. In several of my cases which had resisted all methods of treatment rapid healing followed its use. While others, and especially the middle-ear suppurations, are not fully cured, yet the improvement has been so marked that the patients have expressed themselves as heartily pleased with its use. It causes pain and discomfort for a few minutes, but the alcohol is more painful than the carbolic acid. It is advisable, if possible, to avoid using an excess of carbolic acid, thus obviating the necessity for using too much alcohol. Up to this time I have observed no ill effects, no inflammatory reaction, and no extension of the disease resulting from its use. In one case of probable tuberculous mastoid its effect was not sufficient to obviate the necessity for another curettage, but following the curettage its use has seemed rapidly to lessen the tendency to suppuration.

The histories of the following cases are briefly given:

Case I.—W. R——, aged forty-five years; mastoid operation, September, 1898. January 1st: The mastoid wound had closed in to a suppurating sinus extending into the mastoid antrum. No treatment had been of any value. January 7th: Began applications of pure carbolic acid every other day. The sinus entirely healed in seventeen days.

Case II.—M. F——, age forty-two years. On January 1st he had a suppurating sinus leading into the mastoid antrum resulting from a mastoid operation done November 11th. Up to this time the sinus had resisted all treatment and remained open. Began pure carbolic-acid applications on January 12th, and the sinus closed in fourteen days.

Case III.—J. H——, aged twenty-eight years; suppurating sinus from a mastoid operation performed in August, 1898. Began the pure carbolic-acid applications on January 10, 1899. The sinus closed in twelve days.

Case IV.—August 4th, M. B——, aged twenty-one years; otitis media suppurativa chronica with mastoiditis operation on January 28th. The tympanic cavity and mastoid cells were filled with pus which had perforated from a large sub-parietal abscess. All diseased bone and granulation tissue were cut and curetted away, leaving a large mastoid wound which was kept absolutely free from infection of pus from the tympanic cavity by daily applications of pure carbolic acid. The discharge from the tympanic cavity was profuse and resisted treatment. The use of pure carbolic acid was begun through the external auditory canal in February 20th, by means of a cotton carrier, and continued until about March 20th, when the spray of pure carbolic into the middle ear through the external auditory canal was begun. The patient was discharged May 1st with the mastoid wound entirely healed and the middle ear dry.

Case V.—A. R——, aged five years, had a mastoid operation on September 21, 1898. This patient was ill-nourished and tuberculous, and the mastoid wound persistently refused to heal. On November 3, 1898, another curettage was resorted to, which for a time improved the condition. Subsequently the whole wound developed a mass of suppurating necrosis. I began the use of pure carbolic acid on January 1st in the mastoid wound and in the middle ear. This was followed by marked reduction in the suppuration from the middle ear, and the mastoid wound improved, but there was a large surface of denuded bone, and the third curettage was done. After this curettage the carbolic acid was sprayed into the ear every second day and the wound packed with sterile gauze. The patient was allowed to go home on May 14th, with the wound almost healed, and the middle ear practically dry; on May 25th he was returned to the hospital with a profuse discharge from the middle ear due largely to negligence on the part of his caretakers at home.[1]

Case VI.—J. O——, aged two years, had a mastoid operation January 23, 1898. At this operation the mass of bone removed was very great and the tympanum was curetted. Under daily applications of pure carbolic acid the mastoid wound was kept clean and dry, but the middle-ear discharge remained profuse until the carbolic acid was used by means of an atomizer, when it began at once to improve; but as the middle ear was again filled with polypi the patient was again submitted to operation on March 18th. The entire wound was thoroughly curetted and the same treatment continued. The patient was discharged May 1st with the wound healed and the ear dry.

A number of other patients had at different times during the healing of their wounds spots of infection in various places, which were usually immediately rendered aseptic by one or two applications of carbolic acid, and the filling of the cavities with healthy granulations was not interfered with. In those cases in which the wounds show no tendency to granulation, and the depressions are found filled with pus, pure carbolic acid applied every other day causes small healthy granulations to spring up and greatly facilitates the final healing of the wounds.

I am indebted to Dr. H. H. Martin, hospital surgeon of the Manhattan Eye and Ear Hospital, for arranging these few histories which have been submitted.

**Typhoid Bacillus** persisting in the bladder possibly for three years appears less remarkable when we recall the cases in which abscesses containing typhoid bacilli have been observed six or seven years after the occurrence of typhoid fever in the patient.—Thomas Houston.

[1] August 1st: For one month the wound has been entirely healed, and will, no doubt, remain so.

## AN INTERNATIONAL LANGUAGE FOR SCIENTIFIC MEN—IS IT A POSSIBILITY?

By R. ELLIS, A.B., M.D.,
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In view of the fact that another international meeting will soon be held, it is time to bring up again the subject of an international language for scientific men, especially since there seems to be a scattered few who believe an international scientific language is a possibility, which is destined to pass through the stages of development into a reality.

Those who have attended international meetings, and have listened to the reading of papers with an absolutely zero comprehension, have felt the necessity for some common language, especially when some beacon light in the medical world has appeared and disappeared, with as much satisfaction to the listener as is derived from gazing at some great work of art, boxed and ready for shipment. Surely there is as much artistic satisfaction to be derived from gazing at this "packing," as in gazing at the clothes and the face of a living master of medical art, "reading his paper."

We must see the work of art to appreciate it; we must understandingly "see" the great men of the congress, else, so far as "papers" are concerned, we return home with a mere memory of a mixed-up mess of clothes, shape, and features—an experience as satisfactory as an American physician derives from his first lectures in Berlin, an experience which enables him to remember everything about the man, nothing about what he said.

We all agree that a common language should be spoken if the greatest benefits are to be derived; so at once comes the question: What language?

We have eight languages to select from: English, German, French, Spanish, Italian, Russian, Latin, and Greek. For several reasons we believe English to be the best language, but the foreign members of the congress would not agree with us—in fact, the members of this international congress would never agree upon a language of any leading race attending the meeting, so at once English, French, German, Italian, and Spanish are not to be considered.

Why not select three languages: English, French, and German? Because this would at once shut out other races, and confine the meeting to physicians of these three tongues—a result by no means to be desired, when one considers that an international meeting invites the world to send her beacon lights in medicine—yes, of a truth, the world, including not only England, France, Germany, Russia, and America, but Italy, Spain, South America, Japan, Holland, Belgium, Norway, Sweden, Denmark, and the very isles of the sea.

As the congress must be strictly international, we are compelled to select a language agreeable to all. That language must be either Latin or Greek. As modern Greek is a majestic and beautiful language, completely dressed with an up-to-date medical vocabulary, and superior in many ways to Latin, we are safe in saying Greek would be the choice of any congress. Now we have the international language—presto, what a change! from a distressing mixture of English, French, German, and at times Russian, Italian, and Spanish, we sink down into seats made as restful as downy pillows by delicious mental ease, as we digest in Greek words the contents of as many papers as we will to enjoy—papers by Germany's greatest pathologist, America's greatest surgeon, Italy's noted diagnostician, Russia's famed histologist, and England's great sanitary expert. No longer are we obliged to look wise as our brains are bewildered by unintelligible tongues; no longer will a German savant drag us through the labyrinth of his long words, so rapidly read as to bewilder even his best friend; no longer will a nerve and "nervous" specialist bring us into a condition of neurasthenia as he smoothly glides around, about, and in and out, gracefully explaining his discoveries concerning the neuron to listeners who look wise but understand nothing. "Enough, no more of that!" say our international-language enthusiasts; "every paper will be a Greek feast—a linguistic symposium understood by all, appreciated by all, digested by all."

Ye gods of Greece and Rome, what a feast! What linguistic luxury and revelry! The better to enjoy this feast, the "international devotees" would "brush up" between meetings by reading the necessary Greek journal, and by adopting Greek as the language of all society meetings—in fact, the whole matter could be settled if each county society would pass a resolution like this:

"*Resolved*, That from this date Greek shall be the language of all county meetings."

Such a resolution, added to the Greek medical journal, would exert a wonderful stimulus to the study of Greek, and in a comparatively short time the language would be understood by all progressive physicians and then by all men of science, for they would realize the advantages of a common scientific language.

Thus do our enthusiasts reason. Great Cæsar's ghost!—yes, and shade of the great Hippocrates too! Is it possible that any sane man believes we can adopt Greek as the universal language of science? Why, the man of science is so full of his own special work, and so shut in by the narrow fence about his daily life's work, that he could not possibly acquire and keep Greek, or any other language, as a working language.

I grant you that a few physicians have mastered German, or French, or Italian, so that they read well and understand fairly well, but among hundreds of progressive scientific men, I venture to state you will not find one "Yankee" that can understand perfectly a lecture such as one hears in the hospitals of Berlin or of Vienna; unless he has had very unusual opportunities to learn German. I know many can almost understand, but to appreciate a lecture not an important word should be lost, else much will be misunderstood or entirely lost. How much faithful study is required to understand a "heavy" paper, even in our mother tongue? Only last night I heard a lecturer state that "economic reform is likely to come through the agency of the Bible," a statement that puzzled me through the lecture until a friend cleared up the mystery by changing "Bible" into "buyer." The misunderstanding, or the not understanding, every important word in a lecture spoils the lecture as a whole, and destroys concentration of attention. If it is difficult to follow a lecture in the mother tongue, how much more difficult to follow a lecture in a foreign tongue, especially if delivered like "greased lightning"—a term that comes to me after listening to several "beacon lights" in Berlin.

Greek the language of science! Does any one know what it means to master a language? Yes, of a truth, those who have diligently studied and almost acquired a language will readily confess the persistent application required—an application that must be continued faithfully, else the dust gathers so thick that the words refuse to come readily from the mental machine, and a horrible linguistic twisting—a squirming squeaking—is the result of one's best efforts to speak.

There are many who speak simple French or German fairly well, but this requires a little grammar and a vocabulary of a few hundred words, which are

kept in the brain by constant reading and speaking; but who among this class can understand a lecture rapidly delivered in French or German?

But Greek!—*πρὸς τῶν θεῶν!* I have been a teacher of Greek for years, but I cannot speak Greek. Why? Because I have no opportunities to speak Greek, so I have placed no Greek words in the cerebral storehouse to gather dust and uselessly to fill up valuable space—in other words, I have stored up no Greek words because I cannot use them. If I could attend a scientific meeting occasionally, where only Greek would be heard, would it pay me to try to fill the storehouse with Greek words? Great shade of Æsculapius!—no! for between meetings the words would escape, and I should go to the county meeting with a very empty storehouse of Greek words, to be entertained by some linguistic freak, who had mastered Greek, but not the subject of his lecture. The very man whose words would be weighted with practical experience, and whose advice would be as refreshing as mellowed wine, would sit silently by, because he could not dress his full, rich experience in the language which his companion uses to dress a shadow.

So in our international meetings, the very men who should be heard would silently listen to lean papers dressed in fine Greek words by men whose only ability might be in their power to say little in much Greek. The result of this would be that only those knowing Greek would attend the meetings, and the congress would develop into a "Greek medical society." Sad it is that there is not only no royal road to the mastering of a language, but almost no road at all; sad it is that this narrow path is so rough and difficult that thousands fall by the wayside after covering a very little ground. The thousands of students who "expect to learn German" and never do, are a strong proof of the difficulties along this narrow path.

Many find little difficulty in learning to read a language, because the words are already "in storage" in books and lexicons, ready for the eye to see and the brain to recognize; but when, in order to speak a language, the student tries to transfer these words from books into his own cerebral storehouse, ready to be used by his tongue at a second's notice—ah, there's the rub! that's the "pons asinorum" over which so few cross, especially when the discouraged ones see the long pons grammaticæ ahead with its never-ending rules and exceptions.

The brain centres for word memory and word formation are forced to acquire a new language only after persistent study and endless repetition. The intelligent child requires fifteen years to know its mother tongue, while the intelligent man, in his busy sphere of life, requires his spare time for at least five years, to half master a new language.

Of course an embryonic physician could easily learn Greek by living in Athens for two years, but the stern struggle of competitive general practice would soon "knock out" most of this Greek, unless his surroundings gave him constant opportunities to converse in medical Greek, which differs almost as much from Greek as medical German differs from German. I once knew an illiterate physician, who attended mass in a little town, where his fellow-worshippers looked up to him with great respect, because "he understands Latin—all doctors have to." The doctor looked down upon them from his intellectual height with enraptured face, as he drank in the Latin of the mass. Poor old fellow! He did derive so much comfort from his "Latin," even though he knew he did not understand a word of it. Were Greek to be the language of science, many a physician would listen with attentive face to the reading of papers (even though his brain understood nothing), and return home from the congress, sincerely believing himself well repaid for his journey; but the man of true progress is not to be deceived in this way. He would feel compelled to join another international congress where Greek was not the chosen language.

Of a truth, the ability to keep in the cerebral storehouse a little French, German, and possibly Greek, requires so much hard work that most brains grow weary and quietly drop the load. Of course the ability to acquire and retain Greek is possessed by many, but very few indeed, stimulated by the international meeting, would keep up their imperfectly acquired language for the sake of the next meeting. Such a struggle is contrary to cerebral tastes. The mind necessarily objects to a mixture of hard practice and dry Greek—they do not mix well and they will not.

The value of an international meeting, however, is not in hearing papers read. These are best digested by selected reading in the privacy of one's study, especially since empty papers are often presented by weak men, who have not earned the right to present a paper—men like Dr. Bastbom, who is sure to be in the front seat at every meeting, and sure to have something to say, which, when added to his "embonpoint," is really of considerable weight.

Again, a "heavy" paper requires careful reading rather than attentive listening; so the papers of most enduring influence are not those listened to by most, but those read by most. But the true value of an international meeting lies not in the papers read, but in the peculiarly stimulating environment of a great congress of medical men—on the outside, and not in the inside of the congress. The rubbing against new men, new ideas, new hospitals, new surroundings, new people, scrapes off the rust, while the polishing is acquired by the stimulus derived from great men, with their great deeds, and their still greater thoughts and plans.

What a stimulating influence comes from these beacon lights! My memory of one meeting is now a confused mass of impressions, out of which shines one man—Virchow, with his fatherly blessing. Of a truth the beacon lights of a congress illuminate its entire environment, not so much by their papers, as by their presence in places where their influence can be personally felt. Surely the influence of a score of such lights upon an ambitious physician must be almost as great as the influence of the famous "Saturday Night Club" upon a humble literary plodder, invited to be a table companion of Emerson, Holmes, Thoreau, and Longfellow. The "uplifting" would come, not from what these literary giants might say, but from the elevating atmosphere inevitably associated with a group of brilliant men—an atmosphere that stimulates devotion, and lessens the "Sturm und Drang."

So with international medical meetings: what may be said is not of great value, except that part of it which may be thoughtfully read, but the atmosphere surrounding such a gathering elevates and ennobles an attendant as he realizes the dignity and grandeur of the "profession universal," especially when at such gatherings we touch elbows with the medical geniuses of the day, and see that the vast medical army of America, England, France, Germany, Russia, Italy, Spain, Holland, Belgium, and Japan is marching shoulder to shoulder, each daily knowing what the other is accomplishing, and each striving to keep in the front rank of progress and discovery.

Those who returned from the congress in Moscow brought back, not reports of papers read, but glowing accounts of medical and surgical progress, accounts gained from personally seeing the brilliant medical men of Russia, at work in "the best laboratories and hospitals in the world"; glowing accounts gained not

from "papers," but from the stimulating atmosphere of the congress, especially the fine "social atmosphere" surrounding the ever-zealous Russian, while scores brought back with them a few papers, to be digested by study, realizing and confessing that, after all, few of the papers were of great value, while the "atmosphere" of the congress was of tremendous value.

From experienced men whose opinion is of value, we know a physician should not go to an international meeting to hear papers read, any more than a United States senator goes to Washington to hear the speeches in the senate—of course not—he attends the great congress because he knows he will be a part in all that goes to make up that congress; so, wise senator that he is, he reads the important speeches, and lives absorbed in the senatorial atmosphere. When anything of importance is to be presented, you will always find him in his place; when that matter is settled, you will find him "drifting."

So we are not to enjoy the luxury of an international language, but we are to go on "in the same old way," each attendant doing his best to churn out of the meeting all the cream he can—a churning that always gives rich cream to some, skim-milk to others. To-day men of great reputation in the medical world are honored by hearers as well as by readers. Men of lesser reputation may have many readers; they must expect to have few listeners, especially since there are so many "big" papers and so many "big" men, and the brain grows very weary of listening to many long papers, unless back of these papers is the striking personality of a medical genius. The time will come when, by some fair arrangement, a translation of every paper presented to the international meeting can be secured for a small price by those who realize the importance of selected "paper study" rather than general "paper listening."

In conclusion, an attendant at an international medical congress should meet the "beacon lights" as well as hear them; he should examine carefully the interesting and important "field" of the congress; he should go everywhere and see everything; he should postpone the reading of his selected papers until he returns to the privacy of his study at home.

## Clinical Department.

### MULTIPLE SINUS DISEASE FOLLOWING INFLUENZA.[1]

By CHARLES STEDMAN BULL, M.D.,

NEW YORK.

This case is of interest because of the extent to which the deep sinuses of the face were involved and because of its rarity.

The patient was a lady, aged fifty-eight years, who had had a sharp attack of grippe, with high fever, but without pulmonary or abdominal complications. At the end of the second week, during which there had been a profuse discharge from the nose, she began to complain of a constant dull pain in the right cheek, just beneath the malar prominence. It was thought by her physician to be a decayed molar in the upper jaw, and was treated by anodynes and applications to the gum; but when conjunctival chemosis appeared, she was advised to consult an oculist and came to me. After examination I concluded that she had an abscess of the antrum, and there were several decayed teeth in the right upper jaw. I opened the antrum through the canine fossa and evacuated about two drachms of fetid pus. I enlarged the ostium maxillare in the nose, and then syringed through and cleaned out the antrum with the curette. A drainage tube was introduced into the antrum through the nose, and the antrum was irrigated twice daily. At the time of the operation the nose was also thoroughly cleansed and examined, but nothing suspicious was found. Four days later pus began to drop from the nose, and another examination of the middle and superior nasal meatus proved that empyema of the ethmoid was present. As all signs of orbital complications were absent, I decided to enter the ethmoid through the nose, which was immediately done in the usual way, the natural opening being enlarged, and the cavity of the ethmoid was thoroughly curetted. After the cavity was washed clean the bony wall between the ethmoid and the sphenoid antrum was found partially absorbed, and pus exuded from the sphenoid antrum. This cavity was also curetted and all the contents were removed, and it was then freely irrigated through the nose. The patient made a prompt recovery; the discharge grew rapidly less in quantity and thinner in quality, and the temperature subsided to the normal. She, however, complained of constant dull frontal headache, which at times was quite severe over the eyes, and the ocular conjunctiva remained more or less congested. At times there was also a slight rise in temperature. The persistence of these symptoms convinced me that the frontal sinuses were involved, and the patient was told that another operation was necessary, to which she consented. A vertical incision was made through the skin of the forehead, extending to the root of the nose, and this was joined by a horizontal incision, about two inches and a half long, just beneath the line of the eyebrows. The two triangular flaps of skin were turned up, and an opening was made in the bone with a trephine in the median line. The septum between the frontal sinuses was found broken down, and the sinuses were full of pus. Small fragments of bone from the septum were removed, and then both the cavities were thoroughly curetted and carefully washed out. The infundibulum was enlarged and free irrigation was carried out through the nose. The flaps of skin were brought together with deep sutures, and the usual antiseptic dressings applied. The wound healed promptly, the headache disappeared, and the discharge from the nose ceased on the third day. At the end of two weeks, after a very careful examination of the nose and pharynx, the patient was discharged and went to her home. She remained well for about two weeks, and then complained one morning of pain in the right ear, which rapidly became very severe, and was accompanied by a rise in temperature and swelling, redness, and tenderness over the mastoid region. The pain was severe all night, but was relieved in the early morning by rupture of the membrana tympani and the discharge of blood and pus. A surgeon was called that morning, recognized disease of the mastoid, and operated at once. The antrum was found full of pus and the bone was somewhat diseased. The patient recovered rapidly from this operation and remained in good health for nearly two months. During the inclement March weather, however, she contracted pneumonia and died on the sixth day, apparently from heart-failure.

One of the interesting features in the case was the relatively long time which elapsed between the date of operation on the frontal sinuses and the development of the aural complication. There is no doubt in my own mind that the starting-point of the very extensive sinus disease was the rhinitis caused by the grippe, and that the empyema began in the ethmoid and involved the other sinuses secondarily. The operation on the mastoid showed such extensive bone disease that it must have preceded and caused the attack of

[1] Read before the Practitioners' Society, May 12, 1899.

acute otitis media, which is rather reversing the usual process, for we cannot imagine a suppurative otitis lasting long enough to produce abscess in the mastoid antrum without causing more pain and a perforation of the drum-head early in its course.

## REPORT OF A CASE OF CEREBRAL MENINGITIS, MANIFESTING EXTRAORDINARY HIGH TEMPERATURE.[1]

By R. B. CHRISTIAN, M.D.,

LITTLE ROCK, ARK.

Lura Williams, aged twenty-six years, a pupil at the Arkansas School for the Blind, was a large, fat, well-developed woman. Her menstrual functions had been irregular for some time and had been suppressed for about six weeks prior to the beginning of her last illness. With this exception her health had been fairly good. On April 16, 1899, she felt ill and complained of fulness in the head and some nausea. Upon examination at 8 P.M. she was found to have a fever of 105° F., and at 9 P.M., when I visited her, the temperature was 104° F.

And now begins a record of remarkably high temperature, which was carefully and frequently observed, and verified by the use of five thermometers, three of which were broken, when the excessive heat would have forced the column of mercury higher than the capacity of the instrument would allow.

April 17th: 8:30 A.M., mouth 110° F. (thermometer broke); 9 A.M., mouth 108°; 12:30 P.M., mouth 98.5°; 4 P.M., mouth 108°; 9 P.M., mouth 110°.

April 18th: No record (omitted or lost).

April 19th: 10 P.M., mouth 110°.

April 20th: 2 A.M., mouth 102°; 8 A.M., mouth 114°; 11 A.M., mouth 114°, axilla 110°; 1 P.M., mouth 110°, axilla 110°; 3:30 P.M., mouth 114°, axilla 114°; 7 P.M., mouth 109.4°, axilla 114°; 10 P.M., mouth 112°, axilla 106.4°.

April 21st: 8 A.M., mouth 114°, axilla 109.4°; 11 A.M., mouth 114°, axilla 114°; 4 P.M., mouth 113°, axilla 111°; 10 P.M., mouth 109°, axilla 114°.

April 22d: 8 A.M., mouth 114, axilla 114° (thermometer broke); 12 M., axilla 105.4°, pressing pain in the head: 3 P.M., axilla 114°; 6 P.M., axilla 101.8°; 9 P.M., axilla 109.2°; 9:30 P.M., without pain and rational.

April 23d: 1:30 A.M., temperature normal; 7 A.M., mouth 99°, axilla 99°; 9 A.M., mouth 98.5°, axilla 98.5°; 12 M., mouth 114°, axilla 102°; 3 P.M., axilla 105°; 7 P.M., mouth 110°, axilla 114°.

April 24th: 1 A.M., mouth 114°, axilla 114°; 6 A.M., mouth 98.5°, axilla 98.5°; 8:30 A.M., mouth 114°, axilla 114° (very sleepy); 12 M., mouth 98.5°, axilla 101°; 4 P.M., mouth 114°, axilla 114°; 9 P.M., mouth 105.6°, axilla 108°.

April 25th: 2 A.M., mouth 98.5°, axilla 98.5°; 6 A.M., mouth 98.5°; axilla 98.5°; 8:30 A.M., mouth 111.75°, axilla 116°; 11:30 A.M., mouth 116°, axilla 116°; 4 P.M., axilla 108°, severe pain in head; 6 P.M., mouth 117°, axilla 112.6°; 9:30 P.M., mouth 117°, axilla 117°.

April 26th: 3 A.M., mouth 100°, axilla normal; 6 A.M., mouth 105°, axilla 104.4°; 8:30 A.M., mouth 114.8°, axilla 101.2°; 11 A.M., mouth 118, axilla 118°; 4 P.M., mouth 108°, axilla 105.4°; 7 P.M., mouth 112°, axilla 118°; 10 P.M., mouth 108°, axilla 105°.

April 27th: 3 A.M., mouth 100, axilla 100°; 7 A.M., mouth 118°, axilla 118°, very severe pain in head, pulse 110; 11 A.M., mouth 102°, axilla 103.6°, pain relieved and menses appeared; 4:30 P.M., mouth 101.4°, axilla 101.4°; 9:30 P.M., mouth 111.4°, axilla 117°.

April 28th: 2 A.M., mouth 118°, axilla 118°; 7 A.M., mouth 105°, axilla 107°, 8:30 A.M., axilla 108 (thermometer broke), pulse 116; 4 P.M., mouth 102°, axilla 102.6°; 10 P.M., axilla 101.4° (patient unconscious).

From this date on the temperature ranged from 99° to 103°, until May 9th at 11 A.M., when it rose to 103.4°; at 3 P.M. 104.6°, and at 8:30 P.M. 107.2°. Death occurred at 12:40 on May 10th. For ten days prior to death the patient was in a state of deep stupor, and it will be observed that there was no extraordinary elevation of temperature after she got into this condition until a short time before the end came. The disease was without complications and was confined to the encephalon alone.

[1] Read before the Arkansas Medical Society, May 10, 1899.

## AN INTERESTING CASE OF MEMBRANOUS SORE THROAT.

By BEVERLEY ROBINSON, M.D.

NEW YORK.

A young lady, nearly eighteen years old, was attacked with what appeared to be during several days an ordinary case of follicular tonsillitis. At the expiration of this time, some patches of white membrane appeared between the tonsillar follicles, and the local and general condition of the patient was worse rather than better, viz.: there was increasing pallor, loss of strength, and marked swelling on both sides of the lower jaw, with increased obstruction of the fauces, due to infiltration of all the soft tissues. In addition, on March 3d, there was intense pain in both ears and in the back of the head. A culture was made from the exudation on the throat, March 4th, by Dr. William H. Park. On March 5th, in the morning, there was an attack of pronounced heart failure, which repeated itself several times during the day.

In the early morning of March 6th the patient was soporific, indifferent to surroundings, with the pulse and heart action weak, and increased pallor of face and continued swollen condition over the parotid region, without very marked enlargement or tenderness of the lymphatic ganglia. The patient was restless, turning from the back to the right side and again on the back, with the mouth agape all the while, and breathing stertorously, evidently from throat obstruction. I examined the throat at this time and found the membrane not only covering both tonsils to a great extent, but also covering in part the pillars of the fauces and uvula. I then injected into the left thigh, on the outer aspect, two thousand units of anti-diphtheritic serum, No. 8, of the health board. Within two hours the patient awakened easily, said she felt decidedly better, and drank a glass of milk with brandy through a glass tube.

About midday I examined the throat again and could discover no membrane on the uvula or fauces, and less on the tonsils than before the injection of serum. This was fifteen hours after the injection. Nine days later, March 15th, the patient had another attack of heart failure, and was restored only by repeated stimulation in different ways and notably by two hypodermics, one of digitalin, the other of atropine and a small quantity of morphine. Oxygen, mustard, hot-water bottles, brandy, strychnine, and strophanthus were also employed. In connection with this attack of heart failure there was a sudden and violent outburst of pain in the throat. In recovering from the attack the patient referred to a gone feeling, as it were, in the epigastric region. During many days there was a semi-paralytic condition of the soft palate, which was also accompanied with marked albuminuria. Although there was pronounced dysphagia, at no time was there regurgitation of liquids or solids through the nasal passages.

On March 15th the tonsils again became much swollen, but without recurrence of membrane. They took on a baggy, œdematous appearance. The throat was more obstructed, the swallowing painful and very difficult. Suddenly, during the day, there was a moderate loss of blood (about a teaspoonful), with mucus coming from a particular point of the right tonsil. There was no discharge of pus.

In the evening Drs. Janeway and Bull saw the patient. After examination of the throat, local interference was decided against. Pus was suspected but not discovered.

In view of the uncertain outcome of an incision into the tonsil, of the patient's general condition, and the fact of a general anæsthetic being required in case of operation, the latter was delayed.

The next day, after a very uncomfortable previous night, the patient's local condition was decidedly improved. From this time on convalescence progressed gradually. On March 26th, however, there was a faint attack on attempting to go up one flight of stairs, although assisted vigorously by a nurse. On March 27th, three weeks after the antitoxin injection, a small amount of pus came from the right tonsil, while the throat was being examined.

In the case reported the fever was very slight at most of the time, and the highest point reached by the thermometer under the tongue was 101° F., and that lasted only a few hours. There were certain symptoms pointing to grippe as possibly causative, viz.: intense pains in the lower limbs, ears, head, throat, and cheeks.

Prior to the first attack of heart failure, the patient had used different antiseptic sprays and gargles, and taken frequent doses of cubebs, rhatany, and milk and whiskey. The report of the board of health, after a culture was made, was that the case was not diphtheria, as no Loeffler bacillus was discovered. A controlling examination of another swabbing and culture, made by Dr. F. E. Sondern, was that only streptococcus and staphylococcu scould be found—no Loeffler. We must conclude, therefore, that we have here described a case of pseudo-diphtheria or membranous sore throat, follicular in the beginning and finally complicated with or changing to another somewhat distinct form of angina. The old teaching, the clinical one, says diphtheria. The new science gives us most of the clinical manifestations of toxæmic diphtheria, but labels the disease otherwise. Practically, the antitoxin of diphtheria saved the girl's life, I believe. My bias, hereafter, would be in any case of doubtful membranous sore throat, and particularly when the signs of poisoning are increasing and threatening, to inject antitoxin.

I would be glad to be informed to what extent the antitoxin is responsible, if at all, for the transient albuminuria. I would also suggest the question as to whether such cases as mine require the usual rules of room disinfection, applicable to true diphtheria, to be carried out. Are such cases contagious and how? As to true diphtheria I have my serious doubts whether it is carried in the air in many instances in which proper care and cleanliness prevail. What I do believe is that it is inoculated frequently from the membrane, or secretions, when carried even to a healthy mucous membrane. The atmosphere surrounding a diphtheria patient may, I believe, cause the Loeffler bacillus, already present in another, particularly a child, to breed or develop more abundantly and become toxic from being inoffensive. Foul air, notably that impregnated with sewer gas, will occasion the same result. Paralysis of the palate has long been known to follow occasionally membranous, erythematous, and other forms of angina. It is not necessarily pathognomonic of diphtheria.

At the expiration of the third week from the time the antitoxin was given, albumin disappeared from the urine. During the last ten days of its presence varied nutriment was allowed and even advised. Beef juice, eggs, bread, underdone beef, and mutton were eaten, and, as I believe, with evident advantage. Of course, milk was freely taken. The microscope was not used to search for casts, nor was it deemed altogether essential, although lack of time and perhaps negligence was the reason why this research was not made. An interesting query presents itself in this regard, as in many cases of moderate albuminuria which accompanies acute disease of a contagious or infectious type: How far should diet be restricted in its cure? In my own belief, when there is little or no fever, great pallor, and the patient is suffering from weakness and depressed nerve force, the true way to govern such cases successfully is to give food and plenty of it in small or moderate amounts, frequently repeated, and not to be too restrictive. The albuminuria disappears in due course just as other symptoms of acute toxæmia also disappear.

On March 27, 1899, I received a letter from Dr. William H. Park. In it he writes as follows: "I am afraid I did more harm than good in making the culture, for its negative results were altogether misleading." Not only were Dr. Park's results misleading, but also those of Dr. Sondern, reached later. How far then are we to be guided by mere bacteriological research when the clinical aspects of a case point clearly in a different direction? Again, how many cultures are required to determine definitely the nature of a membranous sore throat? These and still other inquiries are of the greatest practical importance. Only last winter I had a private case of angina labelled diphtheria by the board of health. I injected antitoxin in this case also, although the general and local signs were of mildest type. The patient was seen with me by Dr. Herman M. Biggs, who could confirm my statement. In this instance every possible care and attention were instituted during several weeks, much to the annoyance and discomfort of the household, to shield and protect other members of the family. This was done, of course, on the plea that, although very mild in form, it was a true case of diphtheria, and therefore capable of carrying the infection to others and possibly causing grave disease in individuals with different constitutional tendencies or local conditions. What I claim is this, that in all these instances there should be personal consultation with an authorized member of the health board and the family practitioner, so as to settle the proper basis of sanitary procedure before absolute rules of action are carried out. This statement is further borne out through the fact that already we know that the Loeffler bacillus may be present in certain throats and occasion no real disease, and again because the Loeffler bacillus may be mistaken at times, even after careful microscopical examination, for other relatively inoffensive forms of bacteria. Besides, are not streptoccocci and staphylococci, after all, carriers many times of more virulent noxa than the so-called diphtheria bacillus? Many closely observed clinical facts seem to demonstrate it.

In conclusion I would add that Dr. W. M. Tomkins, who was with my patient very constantly during the time of her severe illness, is of the opinion that the tonsillar hemorrhage was indicative of suppuration of the tonsil. I am not prepared to make this admission. I am sure that I have seen more or less blood exude from the tonsils of patients affected with diphtheria on several occasions. I fail to recall the case of a tonsillar abscess in diphtheria preceded a short time by a hemorrhage. I cannot believe that the pus which came from the right tonsil on March

27th had been concealed during twelve days and only at that date became manifest. On the contrary, I believe it formed rapidly during a few days previous to being seen, and developed insidiously without obvious symptoms.

## CEREBRO-SPINAL MENINGITIS WITH ULCERATIVE ENDOCARDITIS AND ABSCESS OF MYOCARDIUM, DUE TO THE DIPLOCOCCUS INTRACELLULARIS OF WEICHSELBAUM.

By L. NAPOLEON BOSTON, M.D.,

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It is through the courtesy of Dr. D. E. Hughes, physician-in-chief to the insane department of the Philadelphia Hospital, that I am privileged to present a report of this rare and interesting case.

C. C——, white, male, aged fifty-six years, a papermaker by occupation, was admitted to the Philadelphia Hospital, March 8, 1899, suffering from the result of a three weeks' debauch, complaining of nausea, anorexia, tenderness over the epigastrium and abdomen. His tongue was coated, the pulse was normal, the heart sounds were rather weak, and a systolic murmur was heard at the level of the aortic cartilage. The lungs showed general signs of bronchitis and at the borders on the right side were slightly œdematous.[1] Three days after admission the sputum was found to contain tubercle bacilli. At this time the patient showed great improvement and was apparently in condition to leave the hospital. The fact of his having no home was the reason for his remaining in the institution. On March 14th (six days after admission), he was noticed to be talkative during sleep, and an examination showed the presence of consolidation at the apex of the right lung. There was little or no change in his condition until the night of March 19th, when he developed marked delirium, which was soon followed by a semi-comatose state; the extremities were spastic and the reflexes increased; the eyes were tightly closed, except when an effort was made to arouse him; there was paralysis of the bladder and rectal sphincters. Temperature, 101° F. at 2:30 P.M.; 102° F. at 6 P.M. The following day there was marked rigidity of the muscles of the nucha, and a tremor of the left arm, hand, and foot, resembling that of paralysis agitans, was noted. March 21st there was general relaxation, except for a slight rigidity of the neck muscles; the eyes were turned to the right, which conditions remained until death, which took place at 3 A.M. Temperature, 8 A.M., 103° F.; 12 M., 103.4° F.; 6 P.M., 104° F.

The post-mortem examination revealed slight abdominal distention. There was adhesive pleurisy at the apices, more pronounced on the right side. The pericardium contained 10 c.c. of straw-colored fluid. There was a milk spot over the right ventricle; the heart muscle appeared rather flabby; all the orifices were of normal size; the aortic leaflets showed some sclerosis at the bases; there was also atheroma of the arch of the aorta. The mitral valves showed small areas of sclerosis along their free borders. The left auricle presented an erosion 5 mm. in diameter, which exuded a bloody pus when firm pressure was made. On incision there was found to be an abscess 1 cm. in diameter, extending well into the wall of the auricle, reaching the base of the mitral leaflets. The lungs showed tuberculosis at all stages; the cavities were few and very small. Cut sections from various portions of the right lung were found to sink when placed in water. The involvement of the left lung was apparently very recent. The spleen measured 12 x 9 x 2 cm.; the pulp was rather soft and of a dark chocolate color. The liver weight was 1,310 gm. A small amount of fatty change was noticed. In the bowels a few small ulcers, presenting the characteristics of tuberculous lesions of this organ, were found. The kidneys gave evidence of a mild grade of acute nephritis.

Brain: Everywhere the pia mater and arachnoid were infiltrated with an extensive exudate, 1 mm. in thickness over portions of the frontal region, lending to the organ a grayish-yellow color, through which many of the blood-vessels stood out prominently. The exudate was thickest over the frontal and parietal regions, while along the fissures it was found to be quite liquid. The spinal cord presented a similar condition throughout its entire meningeal envelope. The posterior portion appeared to show most involvement. On puncture of the lumbar region a rather large amount of fluid escaped.

Cultures made from the meninges of the brain and cord and from the endocardial abscess were as follows: Brain: bouillon two, glycerin agar three, serum two. Cord: bouillon two, glycerin agar two, serum two. Abscess: glycerin agar two. Four of these cultures showed no growth after being allowed to remain at a temperature of 37° C. for forty-eight hours, yet in every case a large amount of the exudate was carried on the inoculating needle. Characteristic colonies developed on both agar and serum, with the addition of one or more colonies of the staphylococcus pyogenes aureus in each tube. In every case the bouillon showed the characteristic clouding at the end of twenty-four hours. Cultures from the abscess of the heart showed only diplococci, which presented all the characteristics, both as to growth and staining, of the diplococcus intracellularis. Further study of this diplococcus, found in the meninges and in the abscess, showed nothing more than has been written by Councilman, Mallory, and Wright. Coverslip smears were made from the exudate of the meninges and from the pus of the abscess. Those from the meninges showed diplococci, most of which were situated in the pus cells and leucocytes, and gave up their stain when treated with Gram's solution. In most cases the number of cocci in a cell varied from two to ten. Few micrococci were seen apparently in the pus cells; and many more were found in the stroma around the cellular elements. Those from the abscess showed only diplococci, which were in every way identical with the organism found in the meninges.

Five minims of a twenty-four-hour bouillon culture were injected subcutaneously into the flank of a white mouse. The animal showed no apparent discomfort for six days, when it was noticed to be stupid, and died on the morning of the seventh day. At the site of puncture a small abscess, the size of a pea, the inner wall of which was formed by the peritoneum, and containing a thick greenish-yellow pus, was found. Otherwise the animal's body appeared normal. Cultures from this abscess developed only diplococci, which possessed all the characteristics of the diplococcus intracellularis. Coverslip smears were found to contain many diplococci, both within and outside the pus cells. But in every case the number of organisms in a cell was greatly lessened, while the number of cocci free from cells was markedly increased.

A guinea-pig was given, by means of injection into the mouth and nose, 5 to 25 ♏ of a twenty-four-hour bouillon culture, care being taken not to break the mucous membrane. This process was repeated daily for a week, but the animal showed no discomfort whatever and is yet perfectly healthy. Tissue for

[1] The history and daily ward notes were carefully taken by Dr. J. F. Murphy, resident physician.

sectioning was taken from the brain and cord by Dr. Kaltyre, assistant pathologist. It is to be regretted that the report on the same has not yet been received.

The relation existing between ulcerative endocarditis and meningitis has been pointed out by various authors. Strümpell and Dercum ("American Textbook of Nervous Diseases") regard meningitis as a complication of ulcerative endocarditis. The latter author suggests that fragments and organisms are carried from the endocardium to the meninges by the blood. Anders, writing of the complications of epidemic meningitis, states "that endocarditis may be noticed, though rarely." Councilman, Mallory, and Wright report a case in which foci of purulent infiltration into the myocardium, in connection with pericarditis, were present. "No diplococci were found in connection with these lesions."

The author has not attempted to collect all cases from the literature, yet, so far as his observations go, this appears to be the first case in which purulent cerebro-spinal meningitis has been accompanied by ulcerative endocarditis and abscess of the myocardium, the exciting cause being the diplococcus intracellularis meningitidis.

## Progress of Medical Science.

**Oxygen Tension and the Lungs.** — Paul Bert's famous dictum, that the effects on animals of barometric pressure was due to the tension of the oxygen in any given atmosphere, has been brought to the test by J. Lorraine Smith. In the *Journal of Physiology*, vol. xxiv., 1899, the results of a series of experiments on respiratory exchange under increased oxygen tension are recorded. He finds that his experiments fully confirm Bert's results. As a practical result of the author's studies the relations to caisson disease are referred to. He shows that if oxygen be taken into the lungs at a tension above that of the ordinary atmosphere, it acts as an irritant and can produce inflammation, and since workers in caissons are frequently subjected to a pressure of at least four to four and one-half atmospheres, there are dangers to the lungs which arise solely by reason of the oxygen in the atmosphere.

**Malaria of the Central Nervous System.**—Marinesco (*Comptes Rend. de la Soc. de Biol.*, 24, 3, 1899) reports an interesting case of malaria in which the autopsy revealed among other details a severe degree of nerve disease. The examination of the brain showed that the gray matter was completely discolored and almost violet in hue; the white matter also was of a mottled grayish blue. On microscopical examination it was discovered that this discoloration was due to an immense number of minute pigmented bodies which filled the arterioles and capillaries of the brain and cord. These small pigmented bodies were the Laveran malarial parasites, and their presence in such overwhelming numbers in the vascular system of the brain and cord must be considered a great rarity.

**Action of Diphtheria Poison on the Heart.**—Dr. F. Rolly, first assistant to the children's clinic at Heidelberg, as the result of a series of experiments on animals with the diphtheria toxin (*Archiv für experimentelle Pathologie u. Pharmakologie*, 42, 1899) concludes that—(1) The fall in blood pressure induced by the poison of diphtheria is due to paralysis of the vasomotor centre, and also to the paralysis of the heart, which in spite of artificial respiration soon ceases to beat. (2) This action on the heart is direct and in warm-blooded animals is independent of the nervous system. (3) The paralysis of the heart develops after a more or less definite latent period. Direct injection of the diphtherial poison or transfusion of lethal diphtherial blood interferes with the action of the isolated normal rabbit's heart only after a certain latent period. (4) On the other hand the action of the poison takes place at the same time, even if, before the appearance of poisonous symptoms or at the beginning of such toxic action, the heart is washed out with normal blood. (5) This property possessed by the diphtheria poison of action on the heart leads to the opinion that the poison gradually takes hold of the heart muscles and is seemingly stored up there until its complete action is manifest; this further explains the continuance of functional heart disturbances after many of the acute infections.

**Fulminating Paralysis.**—A case of so-called fulminating paralysis was observed by Brannt (*Allgem. Zeitschr. f. Psychiatrie*, Bd. 55, Heft 5) in a man aged forty years, who was alcoholic and of neuropathic antecedents. His previous health had been excellent, and syphilis could be excluded from the history. After prodromal symptoms extending over a period of a few weeks, delusions of grandeur, irrational actions, etc., epileptiform convulsions set in, which lasted almost six days, till death took place. The autopsy revealed the existence of a recent paralysis, and the cause of the convulsive and paralytic seizures, which were confined to the right side, was seen to be an atrophy of the left basal ganglia and œdematous infiltration of the corresponding hemisphere.

**On the Origin of Choked Disc, and a New Explanation of Its Causation.**—J. Deyl (*Wiener klinische Rundschau*, April 23d), as a result of a number of studies on optic atrophy, concludes that choked disc is due to a compression of the central vein of the retina at or before its entrance through the outer sheath of the optic nerve. This causes either a hydrops of the laminæ or irregular extravasation of blood, thus compressing the strands of the nerve in the pia. Through the induced tension of the dura the central nerve is locally compressed to a sufficient degree partially to hinder the blood current. The accumulation of fluid in the anterior part of the intralamellar space is evolved by an increase of intracranial tension, or it may be produced by an occlusion of the optic foramen. Under special individual anatomical conditions this occlusion may also be the result of hypophysis tumors or acromegaly, and in such cases the occasional occurrence of choked disc is explained by stasis of the lymph current and the attendant compression of the central vein. Since at varying distances from the posterior wall of the optic globe the central vein pierces the sublamellar space and dural sheath with a greater or less degree of obliqueness, corresponding to this distance varying degrees of intralamellar hydrops are necessary to produce compression of the vein. So long as the ampulla-like dilatation of the dural sheath does not reach the point of emergence of the central vein from the outer sheath, a choked disc cannot result in spite of the existing œdema. A removal of the tension producing the hydrops by a cure of the intracranial disease or by trepanning, allows the collapse of the distended sheath; the pressure on the vein ceases and the choked disc disappears. The author also calls attention to a hitherto unpublished symptom, viz., the absence of the artificially increased pulsation of the papillary arteries, by means of which it is possible to establish the differential diagnosis between the choked disc of cerebral tumors and that of kidney disease.

# MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM WOOD & CO., 51 Fifth Avenue.

New York, September 2, 1899.


## OVERCROWDED PROFESSIONS.

IT would appear that the profession of medicine is not the only one that is overcrowded. The cry that there are too many doctors for the patients to be treated, that the income of the medical man is being reduced year by year in consequence, are such well-accepted facts that there is no room for argument to the contrary.

There is a melancholy comfort—we say melancholy because there is a pity with it—the clerical profession is now declared to be very much overstocked, as witness the following very direct and straightforward statement from a leading divine in the Hartford (Conn.) *Courant.*

The situation corresponds so exactly with the present condition of the ordinary practising physician that we quote the findings in full:

"The very highest average of employment given by the Church to its clergy is seventy-five per cent. of the total churches reported; one-fourth of the number always has been and is without pastoral help. And I assert positively that there is no good hope of change for the better. The Home Missionary Society and the Missionary Association have done and are doing their utmost to help needy churches, and, in spite of all, the last ten years gives us only seventy-four and one-half per cent. of the churches which are able to support a minister.

"This is the cardinal fact in the discussion and must be fairly faced in any honest attempt to seek the truth. And, as I have said, this fact gives the Church five hundred surplus ministers to date. So that the public may have all the facts, I make the following assertions as boldly as I can:

"First—That it is not possible for the theological seminaries to introduce young men into the ministry without driving out an equal number of men who are in work.

"Second—That there are a large number of men of the highest qualifications who cannot secure a pastorate in existing conditions.

"Third—That the appeal for financial aid for the seminaries on the ground that an increase of educated ministers is a necessity at the present time is an attempt to obtain money under false pretences.

"Fourth—That the present policy of purchasing impecunious students to fill the seminaries is an outrage on decency and justice. If men who study law or medicine must pay for the privilege, and the best men do it and honor their profession by their manliness, why should divinity offer free tuition, rooms, light and heat, and even, if that is not enough, lend or give money to destroy the manliness of the students, when many of the best workers the Church has are standing idle in the market-place with empty pockets and aching hearts?

"If there is one order of men who more than another should face all the facts and their consequences it is the Christian ministry. I ask them to do so in these premises."

It will be curious and interesting to note how our good friends will undertake to remedy the evil. Will it be to deter young men from studying theology for the present and give such as are so far and so inextricably in the harness a chance to live? The medical profession has tried that for many years and has signally failed. It is difficult to persuade a young man entering any learned calling that he is not destined to succeed when the ordinary run of his fellows fail. He always seizes the exception rather than the rule, and rarely finds out his true position until it is too late. To "waste sweetness on the desert air" is never thought of at the start. We are sorry accordingly for the young ministers who are eagerly waiting their chances. The end may be that they will be compelled to preach free on the street corners, and thus match the young doctor who gives so much advice gratis in the clinic room. In each case the public will have the best of excuses for allowing both minister and doctor to get their livings as best they may.

## THE CLINICAL MANIFESTATIONS OF ULCERATIVE ENDOCARDITIS.

INFLAMMATION of the endocardium may arise from a variety of causes, mostly toxic or bacterial, and the nature and the intensity of the morbid process will vary with the character of the causative agent. There may thus result any degree of inflammation, simple, proliferative, verrucose, polypoid, villous, purulent, ulcerative, and the clinical manifestations will vary accordingly. Apart from the residual valvular disease there is always danger in the proliferative forms of endocarditis of the occurrence of multiple embolism, which in the ulcerative variety is prone to be infective and usually terminates fatally. In a recent monograph Ebstein (*Deutsches Archiv für klinische Medicin*, B. 63, H. 3 u. 4) analyzes ten cases of ulcerative endocarditis that have come under his observation, and as a result of his study he finds that the course of the disease may be acute, subacute, or chronic, although the clinical manifestations are not correspondingly of definite constancy. The earlier, other things being equal, severe cerebral symptoms appear, the more rapidly the disease progresses toward a fatal termination. The classical indications of the malignancy of an existing endocarditis involving the heart-valves do not reside

in any peculiar character of the local or cardiac symptoms, but in the grouping of the general manifestations. Of most significance is the course of the fever, which is not characterized by temperature of especial elevation, but rather by wide fluctuations and an otherwise wholly atypical curve, often of inverted type. If under these circumstances endocarditic changes are not discoverable, nor others capable of accounting for the fever, the clinician will, as is not rarely the case, be compelled to content himself with a diagnosis of cryptogentic septico-pyæmia. Should, however, one or even more conditions be present to which the fever can be attributed, the difficulties in the way of a correct interpretation may be considerable or even insurmountable. The occurrence of one or more initial chills is not sufficient basis for a diagnostic conclusion; nor can the presence of metastatic abscesses or of infarction of embolic origin be diagnosticated with any certainty from frequently recurring chills, whether more or less typical or wholly irregular, atypical, and erratic. Even numerous chills recurring almost daily for weeks cannot be looked upon with certainty as a diagnostic criterion of the presence of metastatic abscesses resulting from ulcerative endocarditis; nor can they be considered as a certain sign of the pyæmic form of the disease. This condition may be suspected only when metastatic suppuration is detected in conjunction with other distinctive phenomena. A diagnosis of the typhoid form of ulcerative endocarditis is permissible only when it can be shown that other morbid processes capable of causing a typhoid state independently of ulcerative endocarditis are not present. Even then it may not be clear whether the typhoid state is only part of the general intoxication (or of its action on the brain) or is dependent upon material injury of the brain in consequence of intracranial metastatic suppuration. Under such circumstances conclusive information may sometimes be derived from bacteriological examination of the blood, or from study of the disease products of the morbid process (as of the fluid obtained by lumbar puncture), or from a knowledge whether or not suppurative processes are taking place within the body.

## A FATAL CASE OF BENZENE POISONING.

Poisoning with benzene is so rare and the resulting symptoms so variable that a case characterized especially by the irritant effects of the substance upon the structures and organs with which it came in contact, by the absence of narcotic effects, and by the toxic effects on the great nerve centres, as manifested by embarrassed breathing and circulation and high temperature, seems worthy of record. Spurr (*Lancet*, June 3, 1899) has reported the case of a woman, twenty-six years old, who had suffered from epilepsy since the age of eighteen, and who had also slight chronic bronchitis. Under treatment for eighteen months the epileptic attacks had become much less frequent, although irritability and depression were marked at times, and threats of suicide had been made. On one occasion a sister of the patient, hearing the latter moving about in her bedroom early in the morning, thought the latter had had a fit, and on investigation noticed a strong smell of benzene in the room and saw lying on the floor an empty bottle which she knew had contained benzene. The patient admitted having taken the stuff, and a strong emetic of mustard and water induced free vomiting. There was, however, severe burning pain in the stomach, throat, and mouth, without loss of consciousness. There was also great difficulty in swallowing together with a sense of extreme weakness. It is estimated that an ounce of benzene had been swallowed.

The tongue was white, as if smeared over with paint, and the fauces were swollen and presented a similar appearance. During the day there was slight diarrhœa. On the following day the patient was much worse. She had had a bad night, the pain in the throat and stomach being very great. Difficulty in swallowing had been marked, and the breathing short and rapid. The pulse rose to 40, and the temperature to 103° F. Loud moist râles could be heard over the upper part of the chest, with slight dulness on percussion, and crepitation over the lower lobes. There was still extreme tenderness on palpation in the region of the epigastrium. A hypodermic injection of strychnine was given and rectal feeding was suggested, but as the patient became unconscious and was practically moribund before preparations could be made, these were not carried out. On the following day the patient became comatose; the pulse, which was small and thready, rose to 160, the respirations to 48, and the temperature to 105° F. Death resulted fifty hours after the taking of the poison.

On examination, twenty-eight hours after death, the cadaveric rigidity was well marked. The liver, kidneys, and spleen were congested, the last being enlarged and weighing fifteen ounces. The stomach was empty and contracted. Its mucous and submucous coats were thickened and intensely inflamed, the affected area having almost the appearance of dark, crimson velvet. This inflammatory condition extended over the greater part of the internal surface of the viscus, the cardiac extremity and a band an inch or an inch and a half wide along the greater curvature escaping. The œsophagus was also inflamed almost throughout its entire length, and the duodenum throughout its entire circumference for the first three inches. There were several erosions of the mucous membrane of the duodenum, but the remainder and a part of the jejunum were inflamed in patches, which were mostly situated about the projections of the valvulæ conniventes. The remainder of the intestinal tract was healthy. The lower lobes of the lungs were congested, and crepitated imperfectly, and on section showed a dark red color, with exudation of blood-stained, frothy serum on pressure. The bronchi and larger tubes contained puriform matter. The brain and meninges were congested, and the meningeal vessels were greatly engorged.

**Beri-Beri.**—Two cases of beri-beri have been discovered at Biloxi, Miss., by the sanitary inspector of the State board of health.

## News of the Week.

**Examinations for the Marine-Hospital Service.**—A board of officers will be convened at the Service Building, 378 Washington Street, New York City, Wednesday, October 4, 1899, for the purpose of examining candidates for admission to the grade of assistant surgeon in the United States Marine-Hospital service. Candidates must be between twenty-one and thirty years of age, graduates of a respectable medical college, and must furnish testimonials from responsible persons as to character. The usual order of the examination is (1) physical, (2) written, (3) oral, and (4) clinical. Successful candidates will be numbered according to their attainments on examination, and will be commissioned in the same order as vacancies occur. Upon appointment the young officers are, as a rule, first assigned to duty at one of the large marine hospitals, as at Boston, New York, New Orleans, Chicago, and San Francisco. After five years' service, assistant surgeons are entitled to examinations for promotion to the grade of passed assistant surgeon. Promotion to the grade of surgeon is made according to seniority, and after due examination as vacancies occur in that grade. Assistant surgeons receive $1,600, passed assistant surgeons $2,000, and surgeons $2,500 a year. When quarters are not provided, commutation at the rate of $30, $40, or $50 a month, according to grade, is allowed. All grades above that of assistant surgeon receive longevity pay, ten per cent. in addition to the regular salary for every five years' service up to forty per cent. after twenty years' service. The tenure of office is permanent. Officers travelling under orders are allowed actual expenses. Further information, or invitation to appear before the board of examiners, may be obtained by addressing the Supervising Surgeon-General, United States Marine-Hospital service, Washington, D. C.

**The Plague** continues at Oporto, and the situation in that city is reported to be grave. The cases are chiefly of the pulmonary variety, which is especially fatal. Up to August 29th there had been fifty-seven cases and twenty-one deaths from the disease—not a large number, certainly; but the apprehension arises from the knowledge that the sanitary condition of the city, like that of most others in the Iberian peninsula, is exceedingly bad. There is a possibility of disturbances owing to the outcry from merchants and the popular indignation against the sanitary cordon that has been established to prevent the spread of the disease. The Commercial Union of Oporto has requested that Robert Koch be called to the city to make a bacteriological investigation, in order to set at rest, one way or the other, the doubts that are expressed as to the nature of the disease. It is now admitted that the disease in Astrakhan is the bubonic plague, and the Duke of Oldenburg, president of an association formed to combat the epidemic, has gone there with several physicians and bacteriologists. It is stated that an international sanitary commission will meet at Brussels on September 4th, to discuss measures for preventing the further spread of the plague. In the mean while the usual sure cure is announced, this time by a Sicilian physician who claims to have discovered a curative and prophylactic serum.

**Yaws** is prevailing to an unusual extent in Jamaica this summer, especially in the Yallahs district. The island is also suffering from a prolonged drought.

**The State Board of Charities.**—Governor Roosevelt has appointed Eugene A. Philbin, of New York City, to succeed John Vinton Dahlgren, deceased, as a member of the State board of charities. Mr. Philbin is a member of the Bar Association and has been associated with many charitable institutions.

**The Hurricane in Porto Rico.**—The official report of the Porto Rico board of health shows that there have been twenty-three hundred and twelve burials of victims of the recent hurricane. In addition to that, one thousand families are missing, together with their houses. The report states that the number of destitute persons is two hundred and fifty thousand. It is estimated that one thousand tons weekly of beans and rice will be required to feed the destitute for the next four months, until the new crops are grown.

**The American Association for the Advancement of Science.**—The annual meeting of this association was held last week at Columbus, Ohio. The following officers were elected: *President and Treasurer*, Robert Simpson Woodward, dean of the School of Applied Science of Columbia University, New York, and professor of mechanics in the same university; *Permanent Secretary*, L. O. Howard, of Washington, government entomologist; *General Secretary*, Charles Baskerville, of Chapel Hill, N. C.; *Secretary of Council*, William Hallock, of New York. The next meeting will be held in this city, June 25–30, 1900.

**Compulsory Notification of Tuberculosis.**—The Michigan State legislature at its recent session passed an act requiring physicians to report to the health office all cases of pulmonary tuberculosis, classing the disease as contagious. Physicians very generally refused to obey the law, and the health board had a warrant issued against Dr. Ernest L. Shurly, of Detroit, in order that a test case might be tried. The trial ended with Dr. Shurly being found guilty and fined $50 and costs. The case will be carried to the Supreme Court for final decision.

**Typhoid Fever in Boston.**—It is stated in the New York *Times* that an increase of about thirty-six per cent. in cases of typhoid fever in Boston is shown this month over the same period in 1898, and the authorities are bestirring themselves in the matter. An active search is being made by the board of health for the source of contagion in Jamaica Plain and Roxbury, which have added a number of cases to those at the hospitals.

**Successor to the Women's Medical School.**—The medical school attached to the New York Infirmary for Women and Children was discontinued this year, after a long and prosperous career, the managers hav-

ing decided that the facilities for medical coeducation in this city were now all-sufficient for the needs of any woman student. The infirmary, however, is to be continued, and the material there will be utilized for clinical instruction. In order that this material may be used to the best advantage, the officers of the infirmary will give a number of special courses in laboratory work and practical medicine to both graduates and undergraduates during the year. The number of patients treated in the dispensary, the infirmary, and their own homes was last year 17,314.

**Yellow Fever in Mexico.**—Yellow fever has spread from Tuxpan to a number of smaller towns along the coast between that place and Tampico, and the daily number of deaths is very large. In Tuxpan there is no decrease in the daily number of new cases. The deaths there number about ten a day.

**An Office Thief** is at present "working" the physicians in this city. He is described as a mulatto, apparently about twenty years of age. He calls at the office, sees the doctor, and gives him an address where a patient is said to be suffering. After the victim has gone off on his errand of mercy the man returns and says he will wait for the doctor's return. The servant, having seen him before, regards him as a regular patient and admits him, and he selects what articles he regards as the most valuable and the most portable and decamps.

**Enforcing the Vaccination of School Children.**—Complaint has been made to the New York State board of health by the health department of New York City that little has been done outside of the boroughs of Manhattan and the Bronx to obey the vaccination law which provides for the vaccination of all school children. The State board insists upon literal obedience in this respect, for the law is mandatory in its provisions, and unless the boards of education in the boroughs of Queens, Brooklyn, and Richmond comply with the law, the public schools will, it is asserted, be closed.

**The New York State Medical Association.**—The sixteenth annual meeting of this society will be held in the hall of the New York Academy of Medicine on October 24, 25, and 26, 1899. The preliminary programme contains the titles of upward of thirty papers to be read, in addition to a number to be contributed to the set discussion on "typhoid fever." On the evening of the 25th, a reception will be given by the association, at the New York Academy of Medicine, to Dr. W. W. Keen, of Philadelphia, president of the American Medical Association. The secretary of the association is Dr. C. E. Denison, 215 West Thirty-fourth Street, and the chairman of the committee of arrangements Dr. F. H. Wiggin, 55 West Thirty-sixth Street. A large attendance is expected.

**Smallpox in New York State.**—Circulars have been sent out by the State board of health, calling attention to the prevalence of smallpox in several places in the western part of the State, and stating that the spread of the disease at the present time, as was the case a year ago, may be attributed in a large degree to the fact that many cases of smallpox were mistakenly diagnosed as chickenpox. It is suggested that the local boards of health adopt and enforce rules requiring that all cases of supposed chickenpox be reported promptly to them, in order that such cases may be kept under observation and quarantined, if necessary, until the diagnosis is definitely established. The board is meeting with some difficulties in controlling the disease in consequence of the opposition of the ignorant and the vicious. The health officer of Niagara Falls has been sued for damages, having quarantined a smallpox patient, and the antivaccinationists are improving the opportunity by conducting an agitation against him in the public press.

**A Revived Journal.**—The *St. Louis Courier of Medicine* has been resuscitated after a slumber of ten years and a half. Its first life lasted ten years, from January 1, 1879, to January 1, 1889. We trust its new term of existence will be much longer than its first, and it doubtless will if the subsequent numbers are as good as the one before us. The journal is under the editorial charge of Dr. C. R. Dudley, assisted by Drs. J. Grindon, E. F. Smith, and W. A. Shoemaker.

**The Transportation of Dead Bodies on Railroads.**—A suit is about to be instituted by a resident of Hoboken against the Delaware, Lackawanna, and Western Railroad Company. On July 13th a child of the plaintiff died of membranous croup. An undertaker placed the body in an hermetically sealed casket and conveyed it to the station of the Delaware, Lackawanna, and Western Railroad, to be taken to another town for burial. The station agent, however, refused to accept it on behalf of the company or even to allow the undertaker on his own responsibility to place it in the baggage car.

**"Revista Ibero-Americana de Ciencias Medicas"** is the name of a new quarterly journal, the first number of which appeared in Madrid in March, 1899. The editor-in-chief is Dr. Luis Marco. The two numbers which have thus far appeared give promise of a genuine acquisition to medical periodical literature. The original articles and reviews are of a high order and written on subjects of practical scientific interest.

**Board of Health of Porto Rico.**—A general order was issued the latter part of June constituting a superior board of health for Porto Rico, the authority of which will extend throughout the island, and to which all local boards of health will regularly report. The board is composed of six members as follows: Major John Van R. Hoff, surgeon United States army, chief surgeon of the department; Surgeon Arthur H. Glennan, United States Marine-Hospital service; Surgeon F. W. F. Wieber, United States navy; Dr. George G. Groff, Dr. Gabriel Ferrer, Dr. Ricardo Hernandez. The chief surgeon of the department will act as president of the board, and Dr. George G. Groff is appointed secretary and treasurer.

**Dr. Lambert Lack's Cancer Theory.**—In a note to *The Lancet*, disclaiming any responsibility for the newspaper reports of his alleged discoveries concerning

the nature of cancer, Dr. Lambert Lack takes occasion to state briefly just what he has done. He had long been impressed, he said, by the belief that the epithelial cells of cancer are themselves the sole infective agents; that this cancer epithelium is practically normal epithelium, only out of place; and that from the very commencement of the cancer it is growing in the lymph spaces. He thought from this that if the normal epithelium by some accidental means should obtain entrance into the lymph spaces it would find no barrier to its continued growth and would produce all the phenomena of cancer. Up to the present time he has performed but a single experiment to test this view. He obtained an emulsion of the epithelial cells from the healthy ovary of a healthy rabbit and placed it in the animal's peritoneum. The animal died fourteen months afterward, and on examination masses of growth were found in the abdominal and thoracic cavities having the characteristic features of typical ovarian cancer. Experiments will be carried out to confirm and extend these results, but until these have been completed, he says, no general conclusions can be drawn.

**Wholesale Food Poisoning.**—Between eighty and ninety London school children were recently poisoned by food taken at a picnic at Blackheath. The symptoms were those of severe ptomain poisoning, but happily no deaths occurred.

**Christian Science in Chicago.**—An association has been formed in Chicago for instituting legal proceedings against a Christian scientist named Dowie, at whose place several deaths have occurred recently as a result of neglect of medical treatment.

**Eucalyptus Plantations in Cuba.**—It is reported that an attempt will be made in several of the most malarious districts of Cuba to effect a sanitary betterment by means of eucalyptus plantations. A number of trees have been planted in and about Santiago, and further experimentation is contemplated.

**A New Hospital at Des Moines.**—A new hospital under the management of members of the Methodist church is to be established at Des Moines, Iowa. A site has been given, and money for construction and endowment is now being raised. It is hoped to begin work on the buildings within a few months.

**A Sanatorium for Consumptives in Illinois.**—The Illinois Society for the Prevention of Consumption is preparing plans for a State sanatorium for consumptives, which it will ask the next legislature to build. The Illinois State board of health has been investigating the advisability of such an institution, and reports favorably. The legislature will be asked for an appropriation of half a million dollars for the construction of the sanatorium.

**City Aid to Private Charities.**—The comptroller of this city has announced himself as opposed in general to the granting of appropriations by the city government for the support of charitable institutions not under the control of the city. He will act on the lines suggested by the recent report of the State Charities Aid Association, and will recommend that the board of estimate and apportionment ask the legislature to repeal all mandatory laws prescribing the amounts to be given to institutions, and to give the board full power to deal with all the institutions. To back up his recommendation, he will submit a complete report of the work of the various charitable organizations. If the comptroller gains his object several medical institutions classed as charities will be unpleasantly affected.

**The Continental Anglo-American Medical Society.**—The members of the Continental Anglo-American Medical Society present at Portsmouth during the annual meeting of the British Medical Association lunched together on Wednesday, August 2d, at the Pier Hotel. Prof. William Osler (Baltimore), one of the vice-presidents of the society, occupied the chair. The guests included Sir William Broadbent, Bart.; Sir R. Douglas Powell, Bart.; Prof. Clifford Allbutt, Dr. Burney Yeo, Dr. Mitchell Bruce, Mr. Malcolm Morris, Dr. St. Clair Thomson, Dr. Frederick Roberts, Dr. Watson, Dr. C. C. Claremont, and Dr. Cholmeley. Dr. Ward Cousins and Dr. Dawson Williams were prevented by pressure of business from being present. The members present were Dr. T. E. Charles (Rome), Dr. Johnston-Lavis (Beaulieu), Dr. D. W. Samways (Mentone), Dr. Cree (Paris), Dr. Hamilton (Bordighera), Dr. Freeman (San Remo), Dr. Gairdner (Naples), Dr. Warden (Paris), Dr. Robinson (Paris), and Dr. Bull (Paris), honorary secretary of the society. The toasts of "The Queen" and of "The President of the United States" were proposed by the chairman. Sir William Broadbent then gave "The Continental Anglo-American Medical Society," and spoke of the advantage to practitioners in England of being personally acquainted with medical men practising on the continent, to whom they often had to send patients. Dr. Samways (Mentone) replied for the society. Dr. T. Edmonston Charles (Rome) then proposed "Our Guests." The society, he said, might be congratulated on so distinguished a company of medical men having accepted its invitation to be present. Dr. Mitchell Bruce responded for the guests. Prof. Clifford Allbutt then proposed "The Health of the Chairman," and observed that one of the chief indications of merit and success in a professor was the men of note who had been turned out from his department during his professorship. So judged, Professor Osler might well be congratulated. The chairman, in replying, said that the manner in which he had been received and treated in the States had made him feel that his home was there. But, after all, he was a Canadian. No man could get away from his early associations. He was an American-Canadian, and there was but one thing better, and that was to be an Anglo-American Canadian.—*The British Medical Association.*

**Dr. Mary Walker.**—Our esteemed contemporary *The Medical Press*, which is always very superior and occasionally somewhat mixed when commenting on

American doings, or supposed doings, tells us of "a curious professional incident" which it says is reported from New York. "The tale is that Dr. Mary Walker, a well-known citizen, was desirous of finding out what her appearance would be when dead. She accordingly had herself photographed when laid out as she would be for the grave. This strange picture is now being published broadcast over New York, so says *The Morning Leader*. The information is added that flowers are strewn over the dress (*sic*) in which she lies, and on the lapel of her jacket is a bronze medal, which Dr. Walker says was presented to her by Congress shortly after the Civil War." This is the text, and now for the moral, in which this ever-delightful editor is as bathetic as he is superior: "Of course, as every one knows, on this side of the Atlantic any attempts to attain publicity by methods that savor of self-advertisement are rigorously condemned by an unwritten code of laws. In America, however, there are no such restrictions," etc. The humor of this is too exquisite to spoil by any explanation to our calm contemporary.

**Navy Department,** Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending August 26, 1899. August 21st.—Medical Inspector C. U. Gravatt ordered to duty at the New York navy yard as member of board of medical examiners, September 5th; Passed Assistant Surgeon C. F. Stokes detached from duty as member and recorder of board of medical examiners at the New York navy yard, September 5th, and ordered to continue on duty at the naval hospital, New York. August 22d.—Passed Assistant Surgeon M. S. Guest ordered to the Boston navy yard; Pharmacist S. Englander detached from the Mare Island navy yard, and ordered to the New York navy yard; Pharmacist L. R. G. Lewis detached from the New York navy yard, and ordered home and to wait orders.

**Insanity in England.**—The recently issued annual report of the English commissioners in lunacy shows a great increase in insanity in England and Wales. On January 1st of the present year there were 105,086 persons adjudged insane, an increase of 3,114 over the previous year. The increase occurred among those of all social grades, being greatest, however, among paupers. It is thought a government inquiry will be made into the causes of this increase.

**Suicides in New York City.**—The report of the board of health for the quarter ending March 31st shows that during the first three months of the year 162 persons committed suicide, 55 of them by taking carbolic acid, 34 by shooting, 30 by inhaling gas, 17 by hanging, and the others by stabbing, drowning, leaps, and poisons of various kinds. Of the 162 suicides 117 were men and 45 women; 62 were natives of Germany, 49 of the United States, 10 of Ireland, and the others were of various nationalities.

**Lead Poisoning from Driven-Well Water.**—The Massachusetts State board of health has recently held a public hearing at Lowell, Mass., regarding lead poisoning from driven-well water. It appears from the report that in every one of seventy-four samples of water examined a dangerous amount of lead was found. Physicians in Lowell have recently reported forty cases of poisoning of varying degrees of severity coming under their observation. The removal of lead pipes in houses through which water is obtained for drinking or cooking purposes was urged. It was further stated that a filter, similar to one now in use in Lawrence, might be built as a protection to public health.—*Boston Medical and Surgical Journal.*

**Dr. James Cuming,** of Belfast, died on August 28th at the age of sixty-eight years. He received his degree of M.D. from the University of Ireland in 1855.

**Obituary Notes.**—Dr. Max Thorner, of Cincinnati, was found dead in his bath-room on August 27th, death having resulted from disease of the heart. Dr. Thorner was thirty-nine years of age, and was graduated in medicine from the University of Munich in 1884. He was one of the foremost laryngologists in Cincinnati, and was professor in that branch at the Cincinnati College of Medicine and Surgery. He was a member of the American Laryngological, Rhinological, and Otological Society, and chairman of its western section, and was elected a member of the American Laryngological Association at the annual meeting in Chicago last May.—Dr. Harris, of Bruceville, Tex., was fatally shot as the result of a political dispute on August 24th. He was a graduate of the medical department of Vanderbilt University in the class of 1879.—Dr. John J. Linson, of Tarrytown, N. Y., died suddenly on August 27th, at the age of seventy-two years. He was born in this city and was graduated in medicine from the New York Medical College in 1856. In the Civil War he served with the Sixth New York Heavy Artillery as assistant surgeon, and later was detailed as surgeon for the provost marshal's office at Tarrytown. At the end of the war he established himself in practice in Tarrytown. He was for three years president of the Westchester County Medical Society and also was a member of the New York State Medical Society. A widow and six children survive him.—Dr. R. B. Loryea, of Manning, S. C., died August 23d at Tryon, in the mountains of North Carolina, from cardiac exhaustion induced by over-exertion. Early in the morning he started for a long tramp. He did not know the route, and was directed as to the paths he was to take, but lost his way. At night he was found dead at a distant place on the mountain over which he had wandered the whole day.—Dr. Andrew Martin was killed by lightning on August 26th, at his home near Mount Joy, Pa. He was sixty-six years old, and was a graduate of the University of Michigan and of Jefferson Medical College.—Dr. James F. Feeley, of Brooklyn, died suddenly on August 30th. He was born in London in 1844 and was graduated from the New York University Medical College in the class of 1865. He was visiting surgeon to St. Catherine's Hospital, Williamsburg.

# Reviews and Notices.

STATE OF CONNECTICUT; Regulations for the Guidance of Surgeons of the Connecticut National Guard, and Post-Surgeons, for Medical Examination of Recruits for the Connecticut National Guard. Middleton, Conn.: Pelton & King. 1899.

THIS small volume of thirty-six pages was prepared by J. Francis Calef, M.D., Surgeon-General Connecticut National Guard. Directions regarding methods of examination and the qualifications necessary for admission into the Connecticut National Guard are given. The disqualifications to admission into the United States army in time of peace are compared with those for the Connecticut National Guard. The articles of the Geneva Convention for the care of the wounded in armies in the field are given. The work is intended for the use of the medical officers in the Connecticut National Guard, and is excellently adapted for that purpose.

ENCYCLOPÄDIE DER THERAPIE, herausgegeben von OSCAR LIEBREICH, Dr. Med., Geheimer Medicinalrath, o.ö. Professor der Heilmittellehre an der Friedrich-Wilhelms-Universitat, unter Mitwirkung von MARTIN MENDELSOHN und ARTHUR WÜRZBURG. Dritter Band, 1 Abtheilung. Berlin: August Hirschwald. 1899.

THIS part of Liebreich's "Encyclopædia of Therapeutics" carries the titles from Mammaneuralgie to Pharyngitis. Among the more important of the articles here treated of are measles, diseases of the rectum, massage, melancholia, menstruation, migraine, middle-ear diseases, morphine, diseases of the muscles, myelitis, myxœdema, nasal affections, sodium and its salts, neurasthenia, renal diseases, nicotine, habitual constipation, syncope, ophthalmia, the ophthalmoscope, sprains, diseases of the pancreas, paranoia, pericarditis, peritonitis, appendicitis, and the plague. The treatment of these and innumerable other subjects is excellent, the articles being most concise yet complete in all essential particulars.

AN ESSAY ON THE NATURE AND THE ANOMALIES OF REFRACTION. By F. C. DONDERS, M.D., Late Professor of Physiology and Ophthalmology in the University of Utrecht. Revised and Edited by CHARLES A. OLIVER, A.M., M.D. (University of Pennsylvania), one of the Attending Surgeons to the Wills Eye Hospital. With portrait and other illustrations. Philadelphia: P. Blakiston's Son & Co. 1899.

THE editor of the translation of Donders' essay has certainly conferred a favor on the younger American and English workers in the field of ophthalmology, by putting it before them in a form to be easily read and comprehended. It is, indeed, as stated by the editor, remarkable to note "to what slight extents the fundamental principles laid down by the talented author in the pages of his almost unique brochure have suffered correction, alteration, and conversion during the thirty progressive years that have followed its publication." The pith of the whole subject is contained within the eighty pages of this small volume. The text is in numbered paragraphs, each of which is in the nature of an aphorism. This book, which contains a portrait of the talented author, should be in the possession of every ophthalmologist.

THE CRYSTALLINE LENS SYSTEM: Its Embryology, Anatomy, Physiological Chemistry, Physiology, Pathology, Diseases, Treatment, Operations, and After-Changes. With a Consideration of Aphakia. By LOUIS STRICKER, M.D., Cincinnati, Ohio. 1899.

IN this volume of five hundred and ninety-nine rather closely printed pages, four hundred and fourteen are devoted to the consideration of the crystalline lens system, and one hundred and eighty-five pages to bibliography and index. The bibliography dates back to the year 1532, and appears to be quite complete up to the early part of 1898. There are no illustrations. The work does not represent the results of original research on the part of the author, but is a creditable digest of the views of all the writers of repute on the subject, up to the time of the completion of the manuscript. The text is divided into five parts, of which Part I. is devoted to a discussion of the normal lens system. Part II. deals with the pathological lens system, and is very complete. Part III. is occupied in "A Systematic Consideration of the Causes, and a Clinical Description of All the Diseases of the Crystalline Lens"; Part IV., "The Therapy of the Diseases of the Lens"; Part V., "The Aphakic Lens." The consideration of the subject is most exhaustive. Nothing of importance has been overlooked, and due weight has been given to each division of the work. The writer has given expression to his thoughts in a clear manner, free from repetition and ambiguity. The book is one for the ophthalmologist only. The author has recognized the value of and has adopted a classification of topics, so arranged that the information desired may be obtained in the least possible time. He has added a suitable index. The volume represents a very large amount of well-classified labor. It is replete with facts, and is an excellent work for reference. Its worth is such that it should be in the hands of every ophthalmic surgeon.

A TREATISE ON "UNRIPE" CATARACT. By WILLIAM A. MCKEOWN, M.D., M.Ch., surgeon to the Ulster Eye and Throat Hospital, Belfast; member of the Senate of the Royal University of Ireland; lecturer on ophthalmology and otology, Queen's College, Belfast. Illustrated by nine plates containing sixty original drawings. London: H. K. Lewis. 1896.

THIS work is comprised of one octavo volume of two hundred and two pages, is printed in large type, and is abundantly illustrated. The operation for the removal of cataract is discussed in a relatively brief manner, the author's whole argument being one to establish his view that immature cataract may be removed by operation with results equal to those obtained by extraction when the cataractous lens is mature. The procedure, which in the author's hands has made the operation successful, is irrigation, intra-capsular by means of a hollow needle, after the corneal incision has been made, also at the wound and in the anterior chamber. A new classification of cataract is advocated. Directions for the examination of the eye and for the preparation of the patient for operation are given in detail. "Post-operative Incidents and Treatment" are discussed. A statement of cases occupying forty-five pages is included. Appendix A is devoted to a discussion of the relative merits of the simple and combined operation for cataract, in which the decision is in favor of the latter. Appendix B is devoted to extracts from an address by the author. The work is of interest to the ophthalmologist. The view of the author regarding classification will be opposed by many. The results in the one hundred and fifty-five cases reported substantiate the claims of relative safety for the operation. The visual results, however, possibly because of the few discissions made, are not up to those reported by some other operators.

MANUAL OF BACTERIOLOGY. By ROBERT MUIR, M.A., M.D., F.R.C.P. Ed., Professor of Pathology, University of Glasgow, and JAMES RITCHIE, M.A., M.D., B.Sc., Lecturer in Pathology, University of Oxford. Second edition. New York: The Macmillan Company. 1899.

THIS is a concise yet sufficiently thorough treatise on bacteriology, in which any one desiring to refresh and amplify his knowledge of this newest and most promising of the medical sciences will find all necessary information. The term bacteriology, as applied to this general subject, is an unfortunate one, for, taken in its literal sense, it leaves out of consideration many microparasites (cocci, for example) which are not bacteria, and also all the animal micro-organisms. The latter difficulty the authors of the present work have met by treating of malaria and dysentery in an appendix. The early chapters are, as usual in such works, devoted to general morphology and the technique of culture, staining, and inoculation, after which come chapters on the non-pathogenic micro-organisms and the relation of bacteria to disease. Then the microbes associated with special diseases are described, and finally the question of immunity is discussed in the closing chapter. In an appendix, in addition to the diseases already mentioned, there is a discussion of smallpox and vaccination and rabies, the nature of the causal organisms of which is not yet determined. This little work is written in a clear and pleasing style, the size of the book is convenient for holding in the hand, its weight is little, and the illustrations are for the most part excellent.

# Society Reports.

## THE BRITISH MEDICAL ASSOCIATION.

*Sixty-Seventh Annual Meeting, Held at Portsmouth, August 1, 2, 3, and 4, 1899.*

(Special Report to the MEDICAL RECORD.)

### SECTION OF SURGERY.

*Second Day—Thursday, August 3d.*

(Continued from page 323.)

**Bullet Wounds.** — MR. CLEMENT LUCAS reported two cases of bullet wounds, one of the head and one of the neck, in which the bullets were localized by means of the *x*-rays. The first case was that of a child, aged ten years, who was shot in the back of the head, the bullet entering the upper part of the occipital bone on the right side. All the general signs of presence of the bullet in the cranium existed, but there was no interference with any motor tract and no signs of localization. A skiagram showed the bullet in two portions, one near the aperture, and another two inches farther on near the vertex. The child was trephined, and both pieces were removed. The patient made a good recovery. Mr. Lucas pointed out that one of the points of interest was the presence of two pieces of the bullet as shown by the skiagram. Without the *x*-rays the surgeon, having found the first fragment, would probably have rested satisfied with its extraction, and the remainder of the bullet would have been left in the cranial cavity. In the other case a woman, aged thirty-six years, the mother of the above (both having been shot by the woman's husband at the same time), a bullet wound was present on the right side of the neck, one and one-half inches below the mastoid. The skiagram showed the bullet lying to the left side of the body of the second cervical vertebra. In the same position, by the mouth a hard swelling could be found. Mr. Lucas cut down on it through the mouth, but the swelling turned out to be an exostosis springing from the vertebra. An incision was then made along the anterior border of the sterno-mastoid, and the bullet itself was reached from without. The curious coincidence was pointed out of the existence of the exostosis close to the embedded bullet.

MR. DAMER HARRISSON related several cases illustrating the difficulty of localizing the bullet if the *x*-rays were not used.

On the other hand, MR. BUTLIN related two cases under his care, both chest wounds, in which an aperture of entry existed, but none of exit. The patients were most carefully examined by the *x*-rays, but with a negative result.

It was suggested that the bullets might have struck a rib, and dropped out again.

Mr. Butlin was of opinion, however, from the symptoms present, that the bullets were there.

**Operation for Cancer of the Jaw.**—MR. J. PAUL BUSH, of Bristol, read a paper on extensive operations on the jaws for malignant disease. In one case of a girl, aged fifteen years, the greater part of both superior maxillary bones was removed for spindle-celled sarcoma. She recovered well, and the photographs shown demonstrated how little deformity resulted. In another case, that of a man, aged sixty years, after preliminary ligature of both the lingual arteries, the tongue, body of lower jaw, and all infected glands were removed. When the structures connected with the hyoid bone were cut through, great difficulty of breathing, due to falling back of the epiglottis, occurred. A suture was passed through the stumps of these structures and the entrance to the trachea was held open. But it was necessary to keep up this traction for six hours, as when it was relaxed asphyxia recurred. The patient recovered. Mr. Bush insisted on the propriety of feeding for a lengthy period by means of a short, wide tube. He believed the great cause of sepsis in these cases was due to food getting into the mouth cavity too soon.

MR. DAMER HARRISSON, of Liverpool, asked whether the patient had experienced any difficulty with the saliva. He related a case in which Mr. Alexander removed the whole lower jaw, skin included, the man having been now eight years free from recurrence. In this case a tray with a tube leading to a bottle in the pocket had to be worn to catch the saliva.

MR. BUTLIN thought we were too desponding with regard to these operations. These cases should not be viewed with regard to dissemination and secondary growths, but considered as essentially local, and to be treated by radical removal. He spoke of the large adoption of these views by German surgeons, and said that though the mortality was high the results were good. He had also, as in Mr. Bush's case, met with difficulty in breathing and from a similar cause. He mentioned one case in particular, in which he regretted not having done a preliminary tracheotomy, because, although during the operation a suture through the stump immediately relieved the symptoms, the patient died suddenly from asphyxia a week later, owing to the suture giving way when no help was at hand.

MR. CLEMENT LUCAS had found the asphyxial symptoms remedied by suturing the stumps of the muscles attached to the hyoid bone to the skin.

MR. BUSH in reply said he had found no trouble with regard to the saliva. He concluded that the parts in front of the hyoid bone eventually became adherent to the skin. But he had no idea that the fixation thus afforded was efficient.

**Prevention and Treatment of Syphilis in the Navy and Army.**—DEPUTY INSPECTOR-GENERAL E. E. MAHON, of the royal navy, opened the discussion. He reviewed the statistics of venereal disease in the navy from 1860 to 1897, that is, before and during the application of the so-called Contagious Diseases Act of 1866, and subsequent to its repeal in 1883. His conclusions were that during the application of the act the prevalence of syphilis was much diminished, while that of gonorrhœa was unaltered or increased. In the case of the statistics relating to gonorrhœa the apparent increase might have been due to the relaxation of the regulations relating to loss of pay, etc. While these regulations were in force many men suffering from gonorrhœa did not present themselves, if they could avoid doing so, for treatment. Although he had no doubt of the beneficial effect of the act, he thought it impossible to hope that it would ever again be enforced. Failing this, he believed that much might be done by encouraging sobriety, the provision of good naval barracks and recreation grounds, by giving good advice to young sailors, by the encouragement of early marriage, and, lastly, pensioners who during their service career had not suffered from ill health due to venereal disease should be given the preference in the distribution of posts open to them. As to the treatment of syphilis he believed in the prolonged and continuous administration of mercury, but of the intramuscular injection plan he had no personal experience.

MAJOR DICK, of Netley, pointed out that from 1880 onward the percentage of admissions for venereal disease compared to the total admissions for all causes was steadily increasing. Thus, of those sick in 1882, twenty-three per cent. were venereal; in 1892, thirty-one per cent., and in 1897 the percentage had risen to thirty-eight. That is, in 1897 in India,

of every one hundred sick soldiers thirty-eight were venereal. This he regarded as a striking commentary. Also the number invalided home until 1888 never reached one hundred in the year, whereas in 1897 it reached eight hundred and four, or nearly one-third of all cases treated in Netley—thus pointing to a greatly increased severity of the disease. As to the prevention, he thought that continence among a body of healthy young men, especially abroad, was not to be expected. So common had venereal disease become that the men lost all shame in having it. He believed in the careful hygiene of the individual, and in rendering his life in barracks as pleasant as possible. As to the women he was unprepared with any opinion, and asked for suggestions. With regard to treatment he applied pure carbolic acid locally and dressed with black wash, and gave mercury by the mouth or by inunction. He preferred either to intramuscular injection. The various parts of the body should be rubbed in rotation. Intramuscular injection should be left for those cases in which symptoms recurred after another course of treatment had been adopted. Great care should be taken of the condition of the mouth.

Dr. C. R. Drysdale believed that the statistics given were useless, as the cases should have been divided into syphilis, soft sores, and gonorrhœa, and that the inclusion of soft sores with syphilis invalidated the whole. He did not believe that gonorrhœa could arise *de novo;* it resulted from promiscuous sexual intercourse. Faithful husbands and faithful wives did not have it. If these diseases did not arise *de novo*, they might be stamped out by isolation. He believed the French system of supervision had utterly failed—that in Paris three or four thousand women were brought under police notice and forty or fifty thousand not. Here in this country the experience was that the Contagious Diseases Act or acts had failed; at the end of their term of application more gonorrhœa existed at the stations where they were in force than at the beginning. He thought that we had less syphilis here than on the continent because the individual looked after himself. What we wanted was voluntary hospital accommodation for venereal cases. In London, except the Lock Hospital and Workhouse Infirmary, no one wanted to receive venereal cases. He did not believe in the reports of the severity of the disease in the Indian troops; he had seen no severe cases at Netley. Why was there no venereal disease among the native troops in India? Because they married young. He proposed early marriage, with regulation of the number of offspring, that thereby the only objection to early marriage, *i.e.*, poverty, would be removed. He objected to intravenous and intramuscular injections as dangerous.

Major F. J. Lambkin considered that for prevention of venereal disease the Contagious Diseases Acts were absolutely necessary. As to treatment it should be continued for at least eight or twelve months. Under the older methods of treatment, that is, the administration of mercury in pills or mixtures, it was impossible to obtain a good result, as the patients, feeling well and seeing nothing wrong, neglected to take them. But a patient can come up once a week and receive an intramuscular injection. He had given twenty thousand injections with only one ill result—that was a small abscess in one case. He found the men readily presented themselves. He used a cream of mercury, lanolin, and carbolic oil. The administration was almost painless. He believed the injection treatment to be especially useful in the army, navy, and lower classes of civil life.

Major William Niven thought any measures adopted should be applicable to both sexes. It was unfair to coerce women and leave the men free. He considered washing, even after one or two hours, useful, and suggested a more liberal introduction of lavatories for washing. He was sure there was a great increase of venereal disease. As to the causes in India they were doubtful. It had been whispered that diseased women were purposely introduced by the natives. Then the conditions in India were peculiar. There one had to deal with a class of women not considered disgraceful, but as a caste with its own privileges. These women must be looked on as a necessary factor of civilization. How was it that, due to moral agencies, the morals of soldiers in other ways had improved, yet venereal disease was on the increase? He suggested that a material purity party should be established to work alongside the spiritual purity party.

Dr. G. Ogilvie drew attention to the similarity in the reports of the increase in severity of the present syphilis in India, and the reports of the severity of syphilis among the British troops in Portugal in the early years of this century, as described by Fergusson. One of the reasons suggested by Fergusson was the abuse of mercury. He did not suggest that that was the cause in India, but it might be one of the factors at work to produce a malignant form of the disease. Again malaria deserved consideration. In about thirty per cent. perhaps of cases of syphilis in malarial subjects the disease became malignant. Then again in malarial cachexia mercury required most careful administration. Again, what was meant by malignant syphilis? Some applied the term to secondary ulcerative progressive lesions of a phagedenic character; others to syphilis with lesions of the vital organs; others to the early occurrence of tertiary lesions. But these very different forms might be due to different causes. Malignant syphilis needed definition, and he hoped that subsequent official reports would bring more complete information.

Dr. Shaw-Mackenzie also referred to Fergusson's paper. He thought a key to the malignancy of syphilis might be obtained by watching the attendant circumstances. Thus Fergusson noted that syphilis, although severe among our soldiers, was at the same time mild among the Portuguese. Fergusson referred to the virgin soil presented by our troops. The modification of the severity might be due to natural causes. The virus might be exhausted by age, or successive cultivations in the same soil. Malignancy in malarial cases might be due to the fact that mercury was inefficient in febrile conditions, and thus the disease ran its course uncured. Then syphilis might become epidemic in virulence. The age of the attacked was a factor, young people suffering severely. He referred to the excellent results of supervision in Malta.

Mr. Ward asked, was it really true that syphilis was now more acute in the army? He suggested that the passage of the microbe through the bodies of several Asiatics might increase its virulence. It was a popular idea that syphilis caught from a black person was more severe. Personally he had not found old cases of army syphilis worse to treat than any others. He considered any depressing cause, *e.g.*, malaria or alcoholism, rendered the patient more susceptible to the action of the virus, since it diminished his resisting-power to the microbe. He thought at least one and one-half year's continuous treatment was needed. He approved of Major Lambkin's form of treatment, care being taken not to salivate the patient, but he thought the duration of treatment given was too short. Yet there was a possibility of the mercury injected becoming encapsuled and persisting in the system of the patient, he therefore carrying his supply of mercury about with him. He suggested the use of the *x*-rays to see what became of the mercury.

Col. F. H. Welch denied that the army bred either incontinence or disease. The soldier joined the army

as a healthy recruit, and subsequent disease was a reflex in intensity and frequency of what went on around him in the civil population. We should therefore improve the moral character, and eliminate disease in the civil population. He believed that the Contagious Diseases Acts, despite all their defects, produced a good result, and gave statistics of home-protected stations and India to prove his conclusions. And what were the moral results of these acts? He based his remarks on his own observations and the conclusions of the select committee appointed to inquire into their working. Prostitution was reduced, women reclaimed, juvenile prostitution extirpated, solicitation stopped. Thus, while the physical results were good, the moral results were undoubted.

Lieut.-Col. H. Grier had given fifteen thousand injections of mercury, with no case of salivation and no ill result. The preparation used was mercury ʒ i., lanolin ʒ ii., carbolic oil ʒ iv. He injected 10 minims into the buttock once a week by means of an ordinary syringe.

Staff Surgeon A. E. Weightmann, of the royal navy, believed the Contagious Diseases Acts had done no good at all, and gave figures to prove that disease increased during their application. The examination of women was monstrous. It was declared illegal by the highest authorities in the land. Then ninety-nine women out of one hundred had some form of uterine discharge, syphilitic, gonorrhœal, or innocuous, which it was impossible to differentiate by the examination adopted. Then only one woman in ten or twenty can be got at all. The initial lesion, too, may be readily overlooked, and women not diseased were in danger from the use of instruments. Also the men were led to indulge from a false sense of security. As to the injection treatment, Mr. Hutchinson in his *Archives of Surgery* had mentioned three deaths after injection.

Dr. Maxwell thought that the decrease of syphilis subsequent to the repeal of the Contagious Diseases Acts, and he believed such to be the case, showed that other methods, *e.g.*, moral methods, were still more efficacious. From the percentage of recruits rejected on account of venereal disease he entirely disagreed with Colonel Welch that the civil population were more diseased venereally than the army. Also from the registrar-general's reports syphilis was evidently decreasing in the home population. The Indian army sanitary commission had urged that the Contagious Diseases Acts were inefficient to stop syphilis. He advised voluntary Lock hospitals. Where was the evidence of any national deterioration and degeneration? He saw nothing to suggest that syphilis was increasing.

Surgeon-General O'Dwyer did not find that in Malta the Contagious Diseases Acts had affected gonorrhœa. As to the suggestion for increased lavatory accommodation where men could retire unobserved and wash themselves, such were provided at Aldershot and had failed, as the men would not use them. He suggested some such precaution as had been employed for other reasons in the Curragh (Ireland), *i.e.*, some means by which objectionable persons found in and near camps could be treated as trespassers. In Aldershot the camp thoroughfares were public ways, and no means existed of keeping loose women out of them. He quite disagreed with Dr. Drysdale concerning the frequency of syphilis on the continent. He rather advocated Major Lambkin's injection treatment, as it tended to diminish the hospital population.

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*Third Day—Friday, August 4th.*

**Gunshot Wound of the Brain.**—Dr. A. Bampton reported a case of bullet wound of the brain. A lad was shot in the head with a toy pistol. The pistol was shown and forcibly illustrated the need of state interference in the sale of firearms, the so-called toy pistols being often more dangerous than real weapons. Dr. Bampton demonstrated that in this case the pistol could be more readily discharged at half-cock than at full-cock. The bullet also would pierce a half-inch deal board. The wound of entry was in the left frontal region. There was no wound of exit, nor any symptom or indication of the locality of the bullet. The *x*-rays were applied with a negative result. In the absence of localization of the bullet it was decided to await events. The patient did well for some time; then vomiting and headache came on. By rest and almost starvation diet the symptoms improved, but when the patient got about again the symptoms recurred. Finally epileptiform convulsions supervened, with symptoms definitely of cerebral abscess. He was trephined by Mr. Victor Horsley nine months after the original injury. An abscess was found in the left frontal lobe and removed entire, the bullet coming away with it embedded in the thick abscess wall. The whole mass, from the appearance of the specimen, was about the size of a hen's egg. The patient made a good recovery and lost all his symptoms. The only adverse factor was the development of a hernia cerebri the size of a walnut at the site of operation. This was treated with astringents and pressure kept up, and after a time it disappeared, a complete cure resulting.

**Excision of the Rectum.**—Mr. Thomas Cawardine read a paper on two cases of excision of the rectum by a new method and its results. The method practised was to put the patient in the position adopted for dissection of the gluteal region in the dissecting-room. This he found an ideal position, so far as the surgeon was concerned, but not so satisfactory for the anæsthetist. The sacrum and coccyx were exposed, and the last two pieces of the sacrum were resected subperiosteally. The bowel was then transfixed longitudinally and divided posteriorly. The growth, now very well displayed, was removed. The peritoneum might or might not be opened. In one of the two cases it was opened and immediately sutured with no ill result. Among other points was the preliminary dieting of the patient with light and liquid food, and if it was thought needful on account of keeping the parts aseptic a preliminary inguinal colotomy might be done. One of the patients operated on was shown. He had good rectal control and sense, and had been able to travel some four or five hours' journey by train to the place of meeting, with the dressing on. A little piece of mucous membrane prolapsed from the anal orifice.

Mr. C. Morton could not see in what way this operation differed from Kraske's operation, and he had a favorable opinion of that operation, both as regards mortality and results.

Mr. Roger Williams also regarded the operation as a modified Kraske.

Mr. Cawardine replied that his points were subperiosteal resection of bone and median transfixion of the bowel.

**Operative Treatment of Goitre.**—Mr. James Berry read a paper and exhibited photographs of seventy-two consecutive cases of goitre treated by operation. He disclaimed any particular merit in his results, but merely brought the cases forward on account of their very considerable number for an English surgeon. Thirty-nine of the operations were enucleations, which he considered as a comparatively simple and safe proceeding. There was no death in these cases. The remainder were extirpations; that is, part of the gland and its enclosing capsule were removed entire. Among the extirpations three deaths occurred; one of them had to be attributed to the anæsthetic. The question when to operate in goitre depended on the amount of trouble the growth was giving, and the ease or diffi-

culty likely to be met with in its removal. In the presence of dyspnœa or dysphagia, or if the surgeon considered dyspnœa likely to supervene, operation was indicated. For mere deformity Mr. Berry would not operate, unless it was causing the patient very great worry, and then he would do only an enucleation, not an extirpation. He related a case in which a lady came to him. No symptoms of compression were present, but he advised operation, as he believed dyspnœa would supervene. Operation was not accepted, and the lady went into the country. One month after, tracheotomy had to be hurriedly performed for severe asphyxial symptoms. As to the anæsthetic, since he had had a death from the anæsthetic, in cases in which dyspnœa was severe he had dispensed with a general anæsthetic, and used cocaine locally. He did not believe there was much pain after the skin and superficial structures were divided, and during the operation the patient was able to give assistance by exclaiming when undue traction was being made on the growth. The most tedious part of the operation was after the growth had been removed; and danger of suffocation being now over, a general anæsthetic might be then given. But when he offered it the patients refused, which he took to be confirmatory of his opinion regarding the small amount of pain. As to incision, the transverse incision was better for the patient, leaving remarkably little scar, and that in the direction of the natural folds of the neck. But for the surgeon it was not so satisfactory. In the last half of his cases he had used, and been satisfied with, the dry aseptic method. He drained for the first twenty-four hours.

Mr. L. A. Bidwell congratulated Mr. Berry on his cases and results. He did not agree with Mr. Berry in his refusing to operate for mere deformity. Enucleation of adenomata in soft parenchymatous glands was a simple and easy procedure. Young, delicate girls often worried very much, and mere worry might induce further symptoms, and in this class he would operate. He operated also for the presence of nervous symptoms which could be traced to absorption of the products of the tumor. He was by no means so hopeful as Mr. Berry about local anæsthesia. In one case in which the patient returned for a second operation, she refused to have it without a general anæsthetic. He took it that patients might be induced to do without an anæsthetic once, but not a second time. He did not approve of the use of the drainage tube. It increased the risk of sepsis. He was surprised at its use.

Mr. Power asked whether Mr. Berry had found any difficulty in respiration during the operation due to division of the infrahyoid muscles.

Mr. Berry, in reply, said that he would enucleate in bad cases of worry, but would not extirpate. He agreed that the use of the drainage tube did somewhat increase the risk of sepsis, but venous hemorrhage was so frequent after these operations that he always drained for twenty-four hours. He had never seen any difficulty in respiration due to division of the infrahyoid muscles. The muscles must never be divided in the same plane as the skin incision, the risk of their non-union being thereby much increased. If they did not unite very considerable and unsightly deformity resulted. The skin should be divided and raised, and the muscles divided some distance away.

**Resection of the Stomach.**—Mr. Charles Morton described a case in which he resected fully three-quarters of the stomach for malignant disease. The portion removed was the three-quarters toward the pylorus, a part of the cardiac end being left and forming the new stomach, which was joined to the cut end of the duodenum by Murphy's button. So far as he knew this was the largest and most extensive removal of the stomach ever done in this country. The patient did well. There was a little leakage after some days along the track of the drainage tube, and he therefore congratulated himself that at the time of operation he had decided to use a drain. He operated under the impression that the case was one of carcinoma, but subsequent examination showed it to be sarcoma. The specimen was exhibited. The patient recovered.

Mr. B. G. A. Moynihan considered pylorectomy for malignant disease unjustifiable, as it was impossible to judge of the extent of the disease, or whether dissemination was present, which in his experience was always the case. He had always in these cases found either affected glands or secondary growth or growths.

Mr. W. G. Spencer did not agree with Mr. Moynihan. He believed in many cases neither glandular enlargement nor secondary growth was present.

Mr. Roger Williams said he had seen in the museum at St. Bartholomew's Hospital a specimen which seemed to him much like the one presented. It was a case of diffuse carcinoma, sometimes called "india-rubber water-bottle" stomach. He asked whether this might not be the same condition.

Mr. L. A. Bidwell up to this year might have agreed with Mr. Moynihan; but this year he had had four cases that were certainly suitable for operation. In them he found neither glandular enlargement nor dissemination. It was largely a matter of luck in the run of the cases. The more extended the series coming under observation the more often would the surgeon meet with suitable cases for operation such as Mr. Morton's. He would, however, have operated in two stages—gastro-enterostomy first, and excision of the affected area afterward.

Mr. Morton replied that certainly if glands or secondary growth in the liver or elsewhere had been present, he should not have operated. He saw no advantage in operating in two stages. He did not think the leakage was due to Murphy's button, as had been suggested by one speaker.

**Operative Treatment of Hæmatemesis.**—Dr. G. E. Armstrong read a paper advocating operation in severe hemorrhage from the stomach. He divided cases of stomach hemorrhage into two groups—small repeated hemorrhages coming probably from capillaries and amenable to medical treatment, and large sudden hemorrhages due to ulceration into arteries and not yielding to ordinary treatment. He related the results of post-mortem examinations in the latter class of cases at the Montreal Infirmary. The arteries were found open, and in some cases admitting a probe. In these cases he advocated operation to secure the bleeding point.

Mr. Spencer congratulated Dr. Armstrong on his paper. He himself had operated on two cases, and found the two ulcers with arteries running across them and exposed in their floors.

*(To be continued.)*

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**Practical Aseptic Midwifery.**—Dr. Alfred Moore (*Memphis Medical Monthly*, February) concludes the above article as follows: "Do not make an examination without you are clean, and make as few examinations as possible. Do not use the grease pot generally found about the room. Do not have anything about the bed that is not clean. Do not attend a case of labor without you are clean enough to assist in a laparotomy. Do not proceed with the examination until the patient is clean. Respectability is no barrier to infection and disease. Do not use ergot and douche if there are no indications. Do not use more than one ligature on the cord if there is only one fœtus. Do not use any but clean pads to the vulva. Do not fill your satchel with a dirty Kelly pad that has been used in all sorts of cases, but in its place carry antiseptics."

## THE PRACTITIONERS' SOCIETY OF NEW YORK.

*One Hundred and Forty-Eighth Regular Meeting, Held Friday, May 12, 1899.*

W. GILMAN THOMPSON, M.D., PRESIDENT, IN THE CHAIR.

**A Case Twice Operated upon for Gall Stones in the Common Duct.**—DR. CHARLES MCBURNEY reported his case. The patient, S. M——, fifty-four years of age, became ill in November, 1895. His illness began with a sudden chill immediately followed by pain in the epigastrium, back, and neck. He was soon jaundiced; his stools became clay-colored, the urine was dark with bile. Nausea, headache, drowsiness, and intense pruritus were also noted. At the end of a week most of these symptoms disappeared, but the jaundice continued and the patient's general health was much impaired. Numerous mild attacks characterized by the same symptoms followed. The patient lost weight to the extent of thirty pounds. Physical examination revealed a well-defined point of tenderness on deep pressure at a point one inch internal to and a little below the tip of the tenth costal cartilage.

An operation was performed on February 20, 1897. A vertical incision through the rectus muscle near its outer border was made. The gall bladder had so completely atrophied that no trace of it could be found. Exploring the common duct with the fingers, a good-sized calculus could be made out within the duct and situated about one inch from its lower end. The stone could be easily moved upward, but could not be pushed nearer to the duodenal end of the duct. An incision was made in the wall of the duct, and the calculus, about half an inch in diameter, was extracted. The wound in the duct was carefully sutured with catgut in two tiers; a glass tube surrounded with gauze was passed to the bottom of the wound, and most of the wound in the abdominal wall was closed. No untoward symptoms followed, but a rather free discharge of bile soon appeared, which ceased, however, on March 6th, fourteen days after the operation. The patient was dismissed with completely healed wound on April 3d.

This patient regained his weight and remained in perfect health for eighteen months, that is, up to September, 1898. Slight jaundice was then noted and a general impairment of health followed, with great loss in weight. During the following six months four or five acute attacks similar to the initial one in 1895 occurred, and during the whole of this time jaundice was constant. The diagnosis of gall stone obstructing the common duct was again made, and a second operation was performed on April 13th. An incision close beside the old cicatrix was made. Numerous adhesions were met with between the duodenum and the liver. These were disposed of without much difficulty. On exploring the duct with the fingers a calculus could be felt situated quite near the lower end of the duct and entirely covered by the duodenum. It would have been quite impossible to remove this calculus through an incision in the wall of the duct, as the calculus was firmly fixed so low down. A vertical incision was then made in the anterior wall of the descending duodenum. This was held open with retractors, and after some search the lower orifice of the duct was found and a probe passed into it. The calculus was felt about a quarter of an inch from the orifice of the duct. With a finger behind the duodenum the lower opening of the duct was lifted forward into the wound in the duodenal wall; the orifice wall was stretched and partially cut with scissors, and the calculus was readily removed. The wound in the duodenum was then carefully sutured and the whole abdominal wound closed, excepting a small point in the skin wound left open for drainage of blood. At the present time, the speaker said, all bad symptoms had disappeared, and the patient appeared to be once more in excellent health.

DR. JOSEPH D. BRYANT said that Dr. McBurney was to be congratulated upon the successful outcome of the procedure which he had adopted for the removal of the gall stone. The speaker said he had not yet met with a case in which he had found it necessary to resort to that method. In the last case of impacted gall stone which came under his observation, the calculus was located in the common bile duct, about three-quarters of an inch from the duodenal orifice. The case was of particular interest, as the symptoms had persisted for about three years, although not constantly. The last attack was prolonged to such a degree that the patient entered the hospital and asked for surgical relief. The usual incision was made, and a calculus, weighing just one hundred grains at the time of its removal, was taken from the common duct. The stone was quite firmly impacted; so much so that even after making an incision quite large enough for its escape it was pushed out with difficulty. The incision in the duct was then closed, leaving a small opening for the introduction of a small rubber tube, about which some gauze drainage was packed. The wound healed very kindly, bile ceasing to appear after about three weeks. The patient had had no trouble since the operation.

DR. BEVERLEY ROBINSON said that in one case of gall-stone obstruction which had come under his observation he had reason to regret that operative interference was not sooner decided upon, as the patient died before it was undertaken. On the other hand, he knew of cases in which an operation was done without a stone being found, this being due either to an error in diagnosis or to the fact that the stone had made its escape. In one such case, death followed the operation. The speaker asked Dr. McBurney how long, in his opinion, the physician should rely upon medicinal treatment in these cases before invoking the aid of the surgeon.

DR. MCBURNEY, in reply to Dr. Robinson, said there were two classes of cases of bile-stone obstruction, the acute and the chronic. The latter usually came under the surgeon's care after the symptoms had existed for a long time; there was clearly a chronic obstruction of the duct, and the symptoms indicated that there was no particular change going on excepting such as was disadvantageous to the patient. Those cases should be operated on as soon as that conclusion had been reached. Most of the cases which had come under the speaker's observation were of that nature. In one case on which he operated, the condition had lasted eighteen years. The acute cases, in which the obstruction had come on recently, deserved much consideration. In such a case there was always doubt whether the condition was the beginning of a chronic obstruction, or whether the stone was making its way downward and would finally escape. Perhaps the best and safest guide in these cases was the condition of the patient. Frequent attacks of pain indicated efforts on the part of the duct to push the stone along, and if the patient was not made really ill by them, it might be well to wait. If, on the other hand, there was fever, with increasing tenderness, and the patient was really ill, an operation would be advisable. The speaker referred to a case of this kind in which he had been called to operate a few months ago. The patient was a surgeon who had suffered from repeated attacks of biliary colic; these, while they of course interfered with his work and caused intense pain, usually subsided very suddenly. Finally he had an attack which did not subside, and while he was very doubtful that a stone was there, he

desired an operation. Upon the abdomen being opened, nine hundred and sixty stones were found in the gall bladder, not one of which was small enough to pass through the cystic duct and take lodgment in the common duct. Dr. McBurney said he had come to the conclusion that the best way to avoid the difficult gall-stone operations was to operate on those patients who had stones in the gall bladder, with attacks of colic from which they usually recovered without operation. It was much better, he thought, to get rid of the stones which were in the bladder and which furnished the material for these difficult obstructions later on. An operation for the removal of gall stones from the bladder was simple, and patients usually stood it very well.

**A Case of Sarcoma of the Tonsil.**—This was presented by Dr. Bryant. The patient was a man, fifty-eight years old, an accountant by profession, whose mother had died of consumption, and his father of some unknown cause. The patient had nine brothers and sisters. Two of his sisters had died of consumption, one brother of apoplexy; one brother was living and in fair health. The rest of his brothers and sisters died young, of unknown causes. The patient had never had syphilis nor suffered any severe injury. About four years before coming under observation a bone had lodged in his throat for a brief period; it came away without special difficulty and no injurious after-effects were noticed. The man stated that he was perfectly well until January, 1898; then he had a bad cold, terminating in what was regarded as a tonsillitis of the left side; the left tonsil remained enlarged and tender for five weeks, and was then removed at two sittings. He had no special trouble from that time until the following September, when the same tonsil again became enlarged, inflamed, and tender. He came under the care of Dr. Lewis, of this city, who regarded the appearance of the tonsil as suspicious. A specimen was removed and submitted to Dr. Dunham for microscopical examination, with negative result; a second specimen, examined about three months later, was also negative; a third specimen, examined three months after that, gave a similar result. Dr. Bryant said he first saw this patient, through the courtesy of Dr. Lewis, about a week ago. A fourth microscopical examination had just been completed by Dr. Dunham, and this had revealed sarcomatous elements in the growth. One of the cervical glands, located at the bifurcation of the common carotid, was much enlarged; this had enlarged slowly at first, but quite recently had grown rapidly. The patient had taken potassium iodide, in ninety-grain doses, three times daily for two weeks, under the direction of Dr. Lewis, without apparent effect. He had had no pain, and complained chiefly of a sense of stiffness in the throat. There had been no loss of weight, and the patient recently made a business trip to California.

Dr. Robert F. Weir, after examining Dr. Bryant's patient, referred to the comparative rarity of malignant disease of the tonsil. In three cases of this kind on which he had operated, two were followed by a prompt recurrence; in the third, the result was thus far, over one year after the operation, very gratifying. In two of his cases, Dr. Weir said, he divided the jaw-bone, which failed to unite for a long time; in fact, in the successful case referred to there was yet non-union of the jaw. One of the three cases was comparatively easy, and division of the bone was unnecessary. The speaker said that in only one of his cases was the glandular involvement so marked as in the case shown by Dr. Bryant.

Dr. McBurney said that if the case was one of sarcoma, the outlook was very unfavorable on account of the wide area of indurated tissues surrounding the pharyngeal growth. Its removal would necessitate a very extensive operation, including a resection of the jaw, to which Dr. Weir referred. Dr. McBurney said that in those cases in which he had found it necessary to divide the jaw-bone, he had found no difficulty in getting union. The division of the bone was a very disagreeable feature of the operation, but absolutely essential in cases in which an extensive dissection was necessary.

Dr. Peabody inquired whether epithelioma would offer a more favorable prognosis than sarcoma.

Dr. Weir replied that it would, as the infiltration in those cases would be apt to be less extensive.

Dr. Robinson asked if orrhotherapy would be of service.

Dr. Weir said it might be tried in hopeless cases in sarcoma. In epithelioma no benefit was to be expected from this treatment.

Dr. McBurney said he had never seen it prove of any service.

Dr. Weir said he had seen it prove curative in but one instance.

Dr. J. W. Brannan said he recently saw a report made by Dr. Coley regarding orrhotherapy in malignant disease, in which he gave quite a large proportion of recoveries in cases of small spindle-celled sarcoma.

Dr. Edward K. Dunham, who had made the microscopical examinations in the case shown by Dr. Bryant, said the growth seemed to be a round-celled sarcoma, but not of the smallest-celled type. The pieces that he had examined most recently came from two portions of the growth, one a little nodule which seemed to spring from the base of the ulcerated area, and the other from the margin of the ulcer where it was thickened and indurated. The structure was exactly the same in both places. The round-celled tissue was abundantly supplied with small, fine blood-vessels. The speaker said that the specimens of this growth which he had examined previous to these were of an entirely different structure; he did not know from which portion of the growth they had been taken, but they were composed chiefly of mucous glands, with scattered areas of round-cell infiltration and necrosis. In one place there were also three giant cells. He thought at the time that the growth might be a granuloma, possibly of syphilitic origin, but the latest pieces, which were part of the real growth, indicated nothing but sarcoma. Tuberculosis, epithelioma, or any of the granulomata could easily be excluded; also simple inflammatory infiltration.

In connection with his remarks, Dr. Dunham exhibited some microscopic specimens of the pieces of tissue removed.

Dr. Bryant, in reply to a question, said he had no idea where the earlier pieces which had been submitted to the pathologist for examination had been taken from. The patient had but very recently come under his observation. One interesting question which might be raised was, whether the growth was malignant from the outset. If the earlier pieces were removed from the proper situation, then we are bound to assume, from Dr. Dunham's examination, that it was at the commencement non-malignant. An operation in this case, Dr. Bryant said, would necessitate a very extensive dissection. The infiltration extended to the angle of the jaw, involving the soft palate, and extending higher than the edge of the hard palate; moreover, it extended backward and outward, apparently involving the deep tissues of the neck. Its thorough extirpation was practically impossible. It would perhaps be advisable to do a tentative operation removing the glands in the neck, ligaturing the external carotid, and determining then whether a more extensive operation would be advisable.

Dr. W. P. Gibney, in speaking of the importance of the region of the growth from which pieces for microscopic examination should be taken, referred to one

instance, an enormous sarcoma of the thigh, from which he had removed two pieces for the pathologist, cutting into the growth quite deeply for this purpose. The pathologist reported that the growth was a lipoma. It proved to be a sarcoma, however, and was followed by secondary involvement of the left side of the neck.

**An Interesting Case of Membranous Sore Throat.**—Dr. Beverley Robinson reported this case (see page 337).

Dr. J. W. Brannan said he had had some conversation with Dr. Park regarding the case reported by Dr. Robinson, and there was some doubt in Dr. Park's mind as to whether the culture he had taken was a good one; the tube employed was not fresh and the growth was very slight. Dr. Park's own opinion was that the case was one of diphtheria, and that if the culture had been properly taken the Loeffler bacilli would have been found. In contrast to the cases cited by Dr. Janeway, in which the contagion of diphtheria had been carried, Dr. Brannan referred to the fact that during the past four years several hundred students had been taken to the Willard Parker Hospital by himself and other clinical teachers, and in not a single instance, so far as he knew, had the disease been carried outside the hospital. This showed how the spread of infection could be prevented when the proper precautions were taken.

Dr. Peabody said that from the history of the case reported by Dr. Robinson, and also from the good effects of the antitoxin, he was inclined to regard it as one of true diphtheria. The speaker said he had often been disappointed by the result of the culture tests, even when the cultures were carefully made and examined by competent authorities. Frequently the report came back that the case was a "doubtful" one, and a second culture was asked for. Often, if we wished to await the result of a satisfactory culture test, we lost the chief advantage of the antitoxin. Dr. Peabody said he was in favor of giving the antitoxin as soon as the diagnosis was fairly certain. He referred to the case of a governess who was attacked with membranous sore throat. He immediately gave her antitoxin, explaining to her at the same time that he was not certain as to the nature of the affection. A culture was at once taken from her throat, and also from the throats of three children who had been with her that day. The cultures were examined by a well-recognized, competent authority, and the report came back that the culture from the governess was negative, while those from the children, all of whom were well and remained so, showed the Loeffler bacilli in two of the cases; in the third child the result was negative. The children never developed any throat symptoms, and the governess promptly got well, the result we would expect from an ordinary, non-diphtheritic sore throat. When the result of the culture examination was positive, it was of immense value, but when the result was negative, and the indications were that the case was one of true diphtheria, the administration of the antitoxin should not be delayed.

Dr. Peabody expressed the opinion that the unpleasant effects following injection of the serum depended upon individual idiosyncrasy. The speaker said that upon one occasion he had divided a dose of the antitoxin equally among three persons, namely, a boy who was undoubtedly suffering from diphtheria, his mother, and his nurse. The mother and child suffered no ill effects from the injection, but the nurse suffered from skin and joint symptoms. Cases of membranous sore throat were often seen which, while they were not diphtheritic in character, might become very serious. In one such case, which the speaker had seen in company with Dr. Robinson some years ago, œdema of the glottis suddenly developed, necessitating tracheotomy in order to save the patient's life. In that case there were also several alarming attacks of heart failure

**Multiple Sinus Disease following Influenza.**—Dr. Charles Stedman Bull reported this case (see page 336).

**Cases Illustrating the Value of the Microscope in Surgical Diagnosis.**—Dr. Charles McBurney said he thought that he would report these cases to illustrate a practice which was certainly not new to members of the society, but which was often neglected by the profession at large.

Case I.—The patient was a man, forty-nine years old, who first came under observation a few months ago. For about a year previous to that time he had complained of a soreness of the tongue, which was confined to its anterior end, including the tip and sides. Some five weeks before he visited the speaker he first noticed an induration involving the entire tip of the organ. Dr. McBurney found this indurated area very hard; it was clearly defined, about an inch or an inch and a quarter in diameter, and occupying the end of the tongue. It was not very tender; there were no enlarged glands beneath the jaw. The patient was much inconvenienced by the size of the tumor and the unhealthy condition of the surrounding mucous membrane. The appearance of the lesion was suspicious, suggesting carcinoma. A few days later a small yellowish point was observed on the indurated surface, which seemed to indicate pus. An incision was made, giving vent to about fifteen or twenty drops of pus. The incision was enlarged and the wound carefully cleansed; this method of treatment was continued for a couple of weeks without making the slightest impression on the induration. A section of the tissue was then removed and examined by Dr. Hodenpyl, who reported that it was purely inflammatory in character. A second examination was made with a similar result. The induration, however, was so persistent and unyielding that the speaker removed a V-shaped piece of the tongue, and then brought the divided portions together. Complete union was obtained, and when the patient was seen, six weeks later, he was perfectly well, and only a slight amount of induration could be felt along the line of the incision. This case proved the value of the microscope in establishing a positive diagnosis in such doubtful instances. If the growth had been malignant, an operation for its removal would have been both formidable and unsatisfactory; as the growth was bilateral, at least one-half of the tongue would have to be removed, together with a part of the floor of the mouth, and the glands and connective tissue in the submaxillary region. The gross appearance of the condition was very suggestive of carcinoma.

Case II.—The patient was a man, sixty-five years old, who had been carefully examined by his physician, some distance from New York, and told that he was suffering from epithelioma of the mouth. The history of the case dated back to July 16, 1898, when he felt some roughness in the anterior portion of the lower jaw, where he noticed some curious tissue growth. Shortly afterward some teeth in the lower jaw became loosened. There was some pain on the side of the face but not much. The tissue growth increased in size, and the patient, becoming alarmed, consulted a physician, who regarded it as an epithelioma. When Dr. McBurney first examined him, he found the tip of the tongue, the anterior portion of the floor of the mouth, and the entire internal aspect of the lower jaw, together with the gum and surrounding tissue, involved in a curious-looking, partially ulcerated condition, which, while it did not have the appearance or characteristics of epithelioma, did not resemble anything else which he could think of. There was no real induration; the lymphatic glands on each side of the neck were somewhat enlarged. He concluded that if the case was one of epithelioma, its radical removal

would necessitate a very extensive dissection of the tissues, including removal of the symphysis menti and one-half of the tongue. A section of the growth was submitted to Dr. Hodenpyl, and he pronounced it an unusual form of leucoplasia buccalis. At a later examination of the patient, the speaker found that six teeth were rocking in their sockets, and that the gum was infiltrated. This decided him to operate. He therefore made an incision, encircling these loosened teeth, and cutting away all the diseased tissue by a superficial dissection, without interfering with the glands or deeper structures. The patient made a rapid and complete cure. Without the aid of the microscope in this case, the speaker said, he would have felt that he was doing the man a grave injustice in dismissing him without attempting an operation which, on account of his age, might have been followed by serious consequences, and which, in any event, would have left him a cripple for the remainder of his life.

Case III.—The patient was a woman, fifty-three years old, who presented herself with a small tumor in the outer quadrant of the right breast. It was no larger than an ordinary bean; it was not really a part of the breast tissue, and was quite free from the skin. It felt exactly like one of the small fibrous growths we meet with on the surface of the breast. The nipple was not involved. A small piece of the tumor was excised and examined. It turned out to be pure carcinoma. This led the speaker to do an operation of considerable extent, which proved very satisfactory. Without the aid of the microscope in that case, he would probably have been satisfied to remove the tumor through a small incision, although he had seen other cases of true carcinoma of the breast develop in this way.

Case IV.—The patient was a man, seventy-four years old, healthy and vigorous for one of his age, who for about nine months had complained of some uneasy sensations in the rectum. He was also in the habit of passing blood and mucus in his stools several times daily. He apparently had perfect control of the sphincter, and there were no obstructive signs. There was a general sense of discomfort. There was some loss of weight. The patient said that while in London he had consulted three well-known men there, two of them specialists in troubles of the rectum, and after consultation they had agreed in pronouncing the case one of malignant adenoma of the rectum, and had advised colotomy, and for the pain morphine suppositories. When Dr. McBurney examined him, he found, about four inches from the anus, a rather soft tumor, which bled readily, and was attached to the anterior wall of the rectum, just posterior to the prostate. To the finger it felt like a papilloma, rather than an epithelioma; there was no ulceration. He excised a portion of the growth and submitted it to Dr. Hodenpyl, who pronounced it a simple adenoma. This corroborated his own view of the case, and he thereupon extirpated the growth very thoroughly, through a long speculum, the wound which followed its removal behaving very well. Of course, a case of this character, the speaker said, might develop into epithelioma and require further treatment, as was outlined for the patient in London. Still, up to the present time he had escaped the necessity of a colotomy, which would have proved a source of great discomfort and would not in any wise have benefited his condition.

A few years ago Dr. McBurney saw a very similar case in which the growth was also pronounced a malignant adenoma by one of the same gentlemen, who made that diagnosis without the use of the microscope. The growth in that case was an inch and one-half from the anus, and could be exposed with perfect ease. The microscope showed that it was a simple adenoma, which was readily excised, and the patient, four years later, was perfectly well.

**Acute Mania in Graves' Disease.**—Dr. Francis P. Kinnicutt reported a case of this character.

Dr. Charles L. Dana said he had never seen acute mania in Graves' disease excepting as a terminal condition, death being due, apparently, to an overwhelming of the system by the thyroid poison. The thyroid product did not have a direct tendency to produce delirium. Even when administered in toxic doses he had never seen it cause acute psychical excitement, certainly not mania. When that condition did occur in Graves' disease, the subject was probably much predisposed, and the toxæmia must be very severe at the time. On the other hand, there were cases known as menstrual insanities which corresponded very closely to the case reported by Dr. Kinnicutt.

## Therapeutic Hints.

**Uric-Acid Diathesis.—**

| | |
|---|---|
| ℞ Sodii bicarbonatis | gr. xlv. |
| Acidi benzoici | gr. xv. |
| Sodii phosphatis | gr. lxxx. |
| Aq. bullient | ʒ iss. |
| M. Solve et adde : | |
| Aq. cinnamomi | ʒ iij. |

S. Two teaspoonfuls three times daily.

—Golding Bird.

**Glycerin Syrups** as substitutes for sugar-syrups are advocated by Brothers (Transactions New York County Medical Association). Glycerin elixirs may be made with the various alcoholics. The object aimed at is to do away with nauseants and gastric irritants.

**Treatment of Basedow's Disease.**—Dr. Frank Oliphant is credited with the following division of the subject (*Boston Medical and Surgical Journal*, January 12th): (1) The general hygienic treatment, which consists of rest in bed for a certain period of time, and the regulation of the diet, embracing non-stimulating and easily digestible foods; (2) of the drugs, belladonna in large doses does the most good, by restraining the action of the heart, and by decreasing (probably) the secretory activity of the gland. Ung. hydr. iod. externally tends to decrease the size of the goitre; digitalis is effective as a cardiac tonic. Phosphate of sodium, so highly praised by some, has been attended with no results in the author's hands; (3) electricity, so much relied upon formerly, has now given place to more effective means; (4) the author failed to obtain any results from the administration of either the thymus or the thyroid extract; the first one is probably somewhat more efficacious. Pancreatic emulsion, suprarenal gland, and spleen have all been used with varying success. (5) Operative treatment by Kocher consists in ligature of the thyroid arteries; other methods are: removal, by excision, of half or more of the gland, and exothyreopexy—the laying bare and bringing out of the gland, leaving it in this position, the usual result being thrombosis of the veins and shrivelling up of the gland. The most recent operation is that by Jaboulay, which consists in the division of the cervical sympathetic. The mortality in all the operative procedures being rather high—fully twelve per cent.—the tendency is making itself felt to resort to operative interference only after medicinal means have been exhausted and proved futile.

**Diet in Asthma.**—Chronic asthmatics—that is, those in whom the attacks have recurred for some months or years—are frequently the subject of indigestion of food, as shown in the symptoms of weight and discomfort after food, and flatulence. This is sometimes the result of over-drugging. In the cases of

peptic asthma, the regular attacks of the disease occur after a meal, usually the heaviest meal in the day, and are associated with indigestion of food. The regulation of the diet of asthmatic patients is of great importance; meals ought to consist only of digestible food, and that in moderate quantity, no heavy late meals being allowed. Remedies such as alkalies after meals given with the view of correcting the indigestion, combined with a proper diet, give great relief to cases of peptic asthma. Although the asthmatic ought to be careful as regards the food taken, it is wrong treatment to starve such a patient; only harm can come of it, inasmuch as the best chance of the patient recovering is an improvement of his general health, and this cannot occur without a sufficiency of food. It is for this reason, doubtless, that cod-liver oil does so much good in some cases when every remedy seems to have failed. The improvement if the oil can be taken is sometimes very marked, rendering possible the diminution, or even cessation, of the inhalations which the patient considered his sheet-anchor.—SIDNEY MARTIN.

**Neuralgia.—**

℞ Chloral ..... 0.5
Menthol ..... 0.6
Cacao butter ..... 2.0
Spermaceti ..... 1.0

—MAYET.

**Migraine.—**

℞ Methylene blue,
Extr. of nux vomica ..... āā 0.01

—STEINDLER.

**Intolerance for Morphine** indicated by phenomena of collapse is obviated by adding ether to the hypodermatic injection.—FERRAND.

**Lasting Anæsthesia** can be produced by spraying chloride of ethyl over a surface previously moistened with a concentrated watery solution of cocaine. Cocainized chloride of ethyl has been employed for opening abscesses, etc.—BARDET.

**Senile Pruritus.**—Upon the principle that senile pruritus is dependent upon intestinal autointoxication, it is recommended that after purging the patient a milk diet be ordered and an intestinal antiseptic (2 gm. benzo-naphthol daily) be administered. Even in severe and obstinate instances good results have been obtained within twenty-four hours.—PARISOT, *Semaine Méd.*, January 11th.

**Therapeutic Value of Marmorek's Serum.**—(1) In pure streptococcic infections the serum undoubtedly exercises a favorable influence on the course of the disease. (2) In mixed infections the influence of the serum was demonstrable, but it merits further trial as an adjunct to other treatment. (3) Considering the grave character of complications of non-streptococcic nature reported, ordinary rules of therapeutics would demand that in such cases, as with the diphtheria antitoxin, all indicated therapeutic procedures must be employed, as well as the serum. (4) In view of the fact that erysipelas streptococci and phagocytes often exist side by side in the lymph channels, it is fair to assume that the influence of the serum is directly exerted bactericidally on the streptococci and not entirely through stimulation of phagocytic action. (5) The initial dose in all cases should be 20 c.c., to be followed by 10 or 15 c.c., according to the indications, each twenty-four hours.—BAUM, *Medicine*, vol. v., No. 1.

**Treatment of Ankylostomiasis.**—Anæmia, tropical anæmia, or progressive pernicious anæmia, is a disease prevalent in the West India Islands, and is due to the parasite known as ankylostoma duodenale. Some interesting reports have been made by Dr. Galgey, of St. Lucia, demonstrating the usefulness of the drug thymol as a curative agent. He reports that most of the cases are among coolies, but the natives are also very prone to contract the disease. The miserable, dejected, and despondent appearance of the sufferer is characteristic of anæmia. The pale, waxy complexion, the difficulty of breathing, and the slow labored walk, show that the patient is utterly unfit for work. He has dyspnœa on the slightest exertion. At post-mortem the usual pathological signs of anæmia are present, and numbers of the worms can be found in the contents of the intestines if allowed to settle in a basin. The treatment, according to Dr. Galgey, is, after keeping the patient on a milk diet for a day or two, to give a brisk purgative, to be followed next morning by two doses of thymol, gr. xx. each, given at intervals of two hours. If there is no evacuation for some hours after the second dose, an ounce of castor oil is administered. The thymol is given in large capsules.

**Morphine Solution** for use in threatened death, syncope, asphyxia, etc.:

℞ Morphinæ hydrochloratis ..... 0.20 cgm.
Atropinæ sulphat. (neutral) ..... 0.02 "
Aq. dest. bull ..... 10.00 gm.

—FERRAND, *Gazette des Hôpitaux.*

**Artificial Serum** for subcutaneous or intravenous use:

℞ Sodii chloridi ..... 8.00
Sodii saccharat ..... 0.33
Aquæ ..... 1,000 c.c.

This fluid more nearly approaches that of the blood than those in ordinary use, and has been employed with good results.—SCHUCKING, *Deutsche med. Wochenschrift*, No. 19.

**Osteocopic Pains due to Syphilis.—**

℞ Extr. aconiti ..... gr. x.
Pulv. glycyrrhiz ..... ʒ i.
Extr. glycyrrhiz ..... q.s.
M. ft. pil. No. xl. S. One morning and night.

—DEVERGIE.

**Infantile Diarrhœa.—**

℞ Bismuth salicylate ..... gr. xxiv.
Gum arabic ..... ʒ i.
White sugar ..... ʒ iss.
Water ..... enough to make ʒ vi.
M. To be kept on ice. S. One to two teaspoonfuls to be taken three to six times a day.

℞ Mercurous chloride ..... gr. ij.
Zinc sulphocarbolate ..... gr. iij.
Pepsin ..... gr. xxx.
Bismuth subnitrate ..... ʒ ij.
Divide into twelve powders. S. To a child one year old give one powder three times a day.

—MIKHREVICH.

**Vomiting in Children.—**

℞ Potas. bicarb ..... gr. xxv.
Acidi citric ..... gtt. xvij.
Aq. amygdalæ amar ..... ʒ i.
Aquæ ..... ʒ ij.
M. S. Teaspoonful every time vomiting occurs.

—HOLT.

**Hiccough.**—Firm and prolonged depression of the tongue downward and backward.—KOLIPINSKI.

**False Labor Pains.**—As soon as false labor pains are suspected, a four-quart enema should be given at once, and then gr. ½ of morphine hypodermatically. The morphine may be repeated by the mouth in an hour or two if the pain lessens but does not disappear. Nothing stops the pain so rapidly as an enema. Do not think of cathartics. They take too much time, and may increase the irritation.. In some cases it is impos-

sible to stop the colic until after hot drinks, as ginger and peppermint, or inhalations of chloroform, and even hot fomentations and flaxseed-meal poultices, have been used.—T. MITCHELL BRUCE.

**Diarrhœa Mixtures.—**

℞ Tincture catechu ..... 0.6 c.c.
Tincture of opium ..... 0.6 "
Chalk mixture ..... 30 "
Repeat this dose every two hours till relieved.

℞ Compound tincture lavender..... 120 c.c.
Sugar..... 15 gm.
Camphor water.....to make 500 c.c.
Dose: Tablespoonful every two hours.

℞ Tannalbin ..... 1 gm.
Powdered opium..... 0.06 "
Take one such powder every two or three hours until relieved.

This is a very good combination, and one greatly favored. Its action is prompt and highly satisfactory.

℞ Lactic acid..... 10 gm.
Syrup..... 200 "
Water ..... 800 "
Dose: Tablespoonful every two hours (in chronic diarrhœa).

℞ Tincture capsicum..... 4 c.c.
Spirit peppermint..... 8 "
Tincture opium ..... 12 "
Compound tincture catechu,
Tincture kino,
Tincture krameria,
Spirits camphor,
Water.....āā 16 "
Dose. One-half to one teaspoonful.

℞ Aromatic sulphuric acid..... 8 c.c.
Tincture opium ..... 8 "
Water.....to make 30 "
Dose: Teaspoonful in water every four hours.

—*Merck's Reports.*

**Lockjaw.**—Throw the patient into a violent perspiration by raising the bed-clothes over hoops and placing beneath them several deep vessels filled with quicklime slightly moistened and protected from contact with the body's surface.—*London Globe.*

**Appendicitis.**—The local treatment is either the application of an ice-bag over the iliac fossa, or, if this cannot be used, hot compresses. Care should be taken to avoid changing from one to the other, as the change provokes peristaltic action.—ROMME.

**Gastrectasis.**—Dyspepsia and gastrectasis have many symptoms in common, but there are many points of difference. The delayed vomiting, the thirst, and the rapid emaciation in a case supposed to be dyspepsia should excite a suspicion of the existence of a dilated stomach.—WILLIAM MURRELL, *Pacific Medical Journal*, March.

**Proper Food for School Children.**—Mrs. Rorer claims the apple to be the most valuable of fruits. She says: "It has been my observation, after most careful experiments, that both children and adults who eat freely of good, ripe, mellow apples, either raw or baked, and with the skins removed, are free from various forms of indigestion, liver trouble, and constipation; a scraped apple is more easily digested than one partly masticated. The skin of an apple is no more desirable than the outside bran of wheat. The ripe, mellow peach is really the only fruit for children. The banana, in its true home, where it becomes mature before picking, forms an important part of the diet of the inhabitants. Many varieties, however, used there in an uncooked condition, will not bear transportation; consequently those which are sold in our markets are of an inferior variety, picked long before they are ripe or mature, and the ripening of which is almost a premature decay; they are exceedingly difficult of digestion, and children should never be allowed to eat the ordinary banana unless cooked. Baked bananas are very popular. Fried bananas, as well as all other fried foods, are to be condemned."—*Tri-State Medical Journal and Practitioner*, March.

## Correspondence.

### LETTER FROM NATAL.

(From our Special Correspondent.)

CONDITIONS OF MEDICAL PRACTICE IN NATAL—DANGER OF THE PLAGUE—PREVALENT DISEASES.

DURBAN, NATAL, July 20, 1899.

IN this initial letter from Natal the writer may be allowed briefly to remind the readers of the MEDICAL RECORD as to the position, population, and medical service of this British colony.

Natal is on the southeast coast of Africa, lying as to its sea border between the Cape Colony and Portuguese East Africa. The European population is about 55,000; Indian population, imported coolies and their descendants about 60,000, and a native or Kafir population of 550,000. The bulk of the white population is congregated in the towns of Durban, Maritzburg (capital), Newcastle, and Ladysmith. There are in all these towns medical men in private practice independently of government subsidies, while in the more remote country districts the government pays the district surgeon a small annual sum, as a sort of retainer, for which he is expected to do certain work for the government. There is another class of subsidized or contract physicians in the country, and these are known as the Indian Circle surgeons. They are appointed and paid by the immigration board, to medically supervise the health and well-being of the indentured Indians who are mostly engaged in the coast industry of sugar-growing. Before commencing practice a newcomer must submit his diplomas to the Natal Medical Council. After being passed by that body a license to practise is granted, and an annual fee of £5 is levied. Since the medical act of 1897 only those diplomas are passed which would entitle the holder to registration in Great Britain.

As the colony through its port, Durban, is in constant steam communication with India, the chief interest of medical men has been for some time the questions, Will plague be imported here, and if so will it spread among the Indian and native population? This question became so urgent that some three months ago the government stopped the immigration of coolies from India, and further secured from the Indian government the services of one of their plague medical men. This gentleman, Captain Leuman, Indian Medical Service, has just given two very interesting and exhaustive lectures on plague to the medical practitioners of Durban, and as the lecturer has had the experience of ten thousand cases of plague his remarks have the weight of some authority. Dr. Leuman also showed several preparations of the plague bacillus and described the preparations of Haffkine's preventive, which he said was of the greatest service. The profession in Durban now feel quite prepared to diagnose and treat plague.

The diseases we have most to do with here may be said to be enteric fever, dysentery, dengue fever, and influenza. There is no malaria endemic in the colony. Cases are constantly imported from East Coast ports and Mauritius. Among the Indian population cases of leprosy occasionally crop up, while among this class beri-beri is by no means uncommon. Now and

then one hears of a case of Guinea worm. The natives are on the whole a particularly robust race, and one is more rarely asked to prescribe for them than for Europeans and Indians.

Those medical men who belong to the volunteer force of the colony are now taking considerable interest in Transvaal affairs.

## TREATMENT OF PNEUMONIA.

To the Editor of the Medical Record.

Sir: The Medical Record for July 8th contains a note by Dr. E. J. Whitehead on the treatment of pneumonia by inhalations of chloroform. He refers to the suggestion of Dr. A. H. Smith that inhalations of chloroform may be used in pneumonia "to render the exudate inimical to the development of streptococci." In this connection it is interesting to note that chloroform inhalations were first employed in the treatment of pneumonia by Baumgärtner in 1848. In this he was soon followed by Wucherer, Helbing, Werber, and others. Baumgärtner called this the "antiparasitic method" of treatment, and because of its alleged efficacy stated that it might well be considered the "abortive treatment." One of Werber's patients, after recovery from an attack of pneumonia, could not find words adequately to thank his physician for making him feel "so well and strong." Of Helbing's sixty-two patients five died; of Schmidt's seventeen patients one died; of Wucherer's ninety-two patients one died; of Baumgärtner's thirty patients three died. Thus, of two hundred and one cases seven were fatal —a death rate of 3.5 per cent. It is to be understood, however, that other and active measures were employed in the management of the cases. Your correspondent will find this subject freely discussed in Baumgärtner's work, "Lungenentzündung," Stuttgart, 1850. During the past half-century inhalations of chloroform have often been employed in pneumonia, but professional confidence in its usefulness has never been attained.

Inhalations of almost every volatile substance—ethyl iodide, nitrite of amyl, etc.—have been used in this affection, as may be noted by consulting the literature of pneumonia.

Edward F. Wells, M.D.

4571 Lake Avenue, Chicago.

## THE PREVENTION OF TUBERCULOSIS IN ILLINOIS.

To the Editor of the Medical Record.

Sir: Your editorial of the 12th inst. has brought to my attention the fact that in his recent work on "Pulmonary Tuberculosis," Dr. S. A. Knopf makes a statement that in Illinois nothing is done to stop the spread of tuberculosis in either man or beast, and that the board (presumably the State board of health) has never passed any law or resolutions concerning tuberculosis. Dr. Knopf entirely overlooks that in this State there is a most efficient State board of live-stock commissioners which has been in existence for fourteen years.

Not until the discovery of the efficacy of tuberculin as a diagnostic agent did this board deem it wise to undertake steps to eradicate this disease from among domestic animals of the State. Since 1895 this board has conducted tuberculin tests in all cases in which applications from owners of dairy or breeding herds have been received, and has caused to be destroyed all animals that reacted. Every animal destroyed has been examined post mortem, and the reliability of tuberculin as a diagnostic agent, when used in the hands of an expert, has been satisfactorily demonstrated.

During the two years prior to the 31st of last October nearly one thousand dairy cattle were tested, and a fraction of over twelve per cent. of these were found to be affected and were destroyed. Not until the session of the last legislature have any funds been appropriated to be especially applied in dealing with tuberculosis. The general assembly which adjourned in April last made an appropriation of $5,000 per annum with which to make compensation to owners of cattle found by the tuberculin test to be affected with tuberculosis, and since the adjournment of that body in the neighborhood of three thousand dairy and breeding cattle have been tested. The crusade against tuberculosis will be conducted as vigorously in this State in the future as the funds at the disposal of the authorities will permit, and it is hoped that the next legislature will make ample provisions for doing thorough and effective work.

Pursuant to recommendations of the State board of live-stock commissioners of Illinois, Governor Tanner issued his proclamation taking effect July 1, 1899, prohibiting the importation of dairy or breeding cattle into Illinois from all other States and Territories until after the cattle proposed to be imported have been tested with tuberculin by inspectors recognized by the State board of Illinois. The regulations under this proclamation are being strictly enforced, and it only remains for the General Assembly to provide sufficient funds to enable the Illinois board to deal successfully with this disease in Illinois. J. A. Egan, M.D.,

*Secretary Illinois State Board of Health.*

Springfield, August 16, 1899.

## THE HEALTH OF TROOPS IN THE TROPICS.

To the Editor of the Medical Record.

Sir: In the vast majority of circumstances, the writer believes the physician should abstain from mixing in politics; but when these politics affect the health of the community in which he lives, he may then with propriety actively interfere to the end that these abuses may be stopped and the health of the people preserved. What is true of a community is, in a far greater and wider sense, applicable to the nation; and when an administration, through ignorance of hygienic and climatic laws, attempts to carry out a policy which involves great sacrifice of human life and health, who is there but the medical profession to come forward and warn these political dictators of the dire consequences of their actions?

The conditions prevailing in the American military forces in the Philippines to-day could have been foretold by any intelligently educated medical man in the country, years before the Spanish-American war was even thought of. The primal conditions necessary to the health, nay even to the life of every Caucasian attempting to live in those hotbeds of disease are: thorough housing; careful attention to diet; the practice of working only in the early hours of the morning and the late hours of the afternoon; the midday siesta; and, finally, fleeing altogether from the islands at the beginning of the rainy season, not to return until its close. These are impossibilities in a military campaign, each and every such precaution being neglected—hence an awful and needless sacrifice of life among our soldiers.

Is it not the duty of the medical profession carefully and clearly to set the facts before the officials who are framing our Eastern policy?

The general commanding the Philippine army has

absolutely forbidden the cabling of any hospital reports which show the deplorable results of attempting the impossible. But when well-authenticated facts come to us from other and reliable sources, is it not the solemn duty of every physician in these United States to see to it that the representative of his community in Congress is fully informed of the true condition of affairs, that he may vote and speak intelligently, and perhaps put a stop to the throwing away of the health, and too often of the actual lives, of our young men? Apathy toward an all-absorbing question of public weal is not a characteristic of the average medical practitioner, nor is he a slave of petty partisan considerations, and there certainly has never been a time in the history of our country when the need of sound medical advice has been more pressing. It would be superfluous here to recount the many needful reforms based solely upon medical common sense, but the writer dares to hope that these few words may perhaps serve to direct the attention of his fellows to the well-deserving and important subject, and thereby result in mitigating the crying evils which now exist.

Dixi Crosby, M.D.

Newport, R. I., August 10, 1899.

## Medical Items.

**Clay Dressings.**—Students of medical history know how great value was attributed by Galen and others to Lemnian earth, "terra sigillata," as an absorbent. Dr. Stumpf having noticed the remarkable preservation of a dead body embedded in clay, and considering this due to the antiseptic and absorbent properties of the earth, determined to use the latter in the treatment of suppurating wounds and ulcers. He first sterilizes the clay by heat and then powders it over the wound, covering the whole with a gauze compress. "Under the dressing, which it is often unnecessary to renew, wounds and ulcers rapidly cleanse and cicatrize." Dr. Melissinos, of Gaute, confirms this by the history of a vine-dresser who on the advice of his companions dressed a severe wound penetrating the knee-joint with clay, and though not otherwise attended to for fifteen hours the wound healed by first intention and the joint remained intact.—*Medical Magazine.*

**Lawson Tait and His Delusions.**—A physician writing to an English paper on this subject expresses himself as follows: "A very high priest of scrupulous asepsis, by some strange mental obliquity Tait never could—or would—see that his method was really based upon the same principles as the antisepsis of Lister, and hence to the day of his death fiercely denounced and ridiculed the entire germ theory of wound infection. Thus we have the curious double contradiction of a paladin of modern surgery attacking the position on which his own success was based, and of the antiseptic method being helped to the higher and safer ground of its bitterest opponent. The germ being absurd, its principal experimental proof, animal inoculations, must be ridiculous also, and his next attack was directed against vivisection on the ground that it was misleading and productive of no useful result. These two antipathies so grew upon him that he directed that the inscription upon his tombstone should be the statement that he had devoted his life to warning the medical profession against the 'delusion' of vivisection. Singular in death as in life, he also ordered that, his body having been cremated, the urn containing his ashes should be placed in a cave in the grounds of his house at Llandudus, and that no gathering or ceremonial of any sort should be permitted at his interment. Strange that a man should prefer to be remembered by his weaknesses instead of by his masterpiece, and should order to be graven on his tombstone that for which he needs forgiveness and oblivion. His work will long outlast his tombstone, and his cutting reply to the German surgeon who asked the secret of his success, 'I keep my finger-nails clean,' accompanied as it was by a glance at the mourning-tipped fingers of his questioner, will long live as the aseptic theory in a nutshell."

**Notification of Contagious Diseases.**—Dr. F. Willoughby, the health officer for Eastbourne, England, thus summarizes the arguments for and against the notification of diarrhœa, measles, and whooping-cough:

*Pro:* (1) The large total mortality from the diseases and the still larger suffering, and the desire to do "something" to prevent it; (2) the possibility that by circulars and otherwise sanitary authorities could teach parents that many of the deaths from measles are preventable, and medical men would be oftener called in; (3) the attention of the sanitary authorities would be drawn to insanitary houses.

*Con:* (1) The cost; (2) the fact that medical men are often not called in, and the parents being lay could not reasonably be compelled to diagnose cases, or be fined if they did not; (3) the unnoticed mild cases which spread infection; (4) the fact that the early symptoms are those of a cold, and thus the case is often missed; (5) opinions are divided as to its having been a success anywhere that it has been tried.—*Sanitary Record.*

**Tuberculosis Among Animals.**—Nearly one-fourth of the deaths among the animals at the British Zoölogical Gardens last winter were due to tuberculosis. This is nearly double the human average, and confirms the rapidly growing belief that the disease is emphatically one of confinement and overcrowding, for the society's superb menagerie is shockingly cramped for room. It is no credit to the public spirit and civic pride of London that this state of affairs should have been so long allowed to continue. For five years past the size of the gardens has limited the size of the collection. Now in New York the civic body has presented its Zoölogical Society with a park of two hundred and sixty-five acres, has paid one-third of the cost of its equipment, and agreed to bear half the expenses of its maintenance. No official body of any sort in London contributes one penny toward the support of our own gardens, and behold a death rate of over forty per cent. per annum which the society is powerless to prevent. The differences in the distribution of the disease between the various classes of animals at the Zoo are marked. Reptiles of all sorts are almost exempt, probably because the tubercle bacillus cannot live at the low temperature of their bodies, although two or three suspicious cases were found in tortoises and pythons. Animals suffer nearly fifty per cent. more severely than birds. But the most striking difference is that between the meat-eaters and vegetable feeders. Among vegetarians (monkeys, antelopes, deer, and kangaroos) it causes twenty-six per cent. of all deaths; among meat-eaters (lions, wolves, small cats, civets) barely three per cent. Among grain-eating birds (pheasants, pea-fowl, grouse, ostriches) tubercle is responsible for thirty per cent. of all deaths. Among flesh-eaters (eagles, vultures, owls, crows) eleven per cent. Comment is superfluous. An open-air life and a meat diet are clearly the best protection against consumption.—*English Outlook.*

**Brooms as Germ Breeders.**—Bacteriologists devote themselves to the detection, isolation, and destruction of bacteria, and, strange to say, they do not appear to

have given much attention to the danger that lurks in the ordinary articles of household use. For example, the common house-broom is both the habitation and breeding-place for whole colonies of bacteria, and cases of disease have been traced to this apparently inoffensive article. At Königsberg a course in bacteriology is being given by a physician, in which he maintains that the strictest sanitary and hygienic condition in things pertaining to the house should be inculcated; and in this country, in the Boston Cooking-School, and doubtless elsewhere, there are many lectures given on bacteriology. The refrigerator is one of the danger spots, for bacteriologists tell us that the minutest organisms may thrive even in melted ice, and putrefactive bacteria once gaining access to the household refrigerator will breed and contaminate butter, milk, meat, and other foods kept therein. Cupboards and closets also afford an excellent breeding-place for the ever-present microbe, and housekeepers will do well to look to such articles as refrigerators, brooms, dusters, etc.—*The Scientific American.*

**What's in a Name?**—The scare in Paris at the report that the plague had appeared on French soil suggests that there may be much virtue or the converse in a name. If the disease was not known as the "plague" or its equivalent in all languages, people would not be nearly so frightened by it as they are now. In the good old days before sanitation became a science, cities used to fester on growing accumulations of their own filth till a pestilence came and swept off ninety per cent. of the populace. Then the wretched remainder sneaked off and started a new city on a clean site; and from a high tower near Delhi you can see the ruins of a dozen plague-sacked Delhis. What wonder, then, that the plague became a name of terror. Now, however, epidemics of cholera or typhoid fever, dengue or yellow fever, malaria or diphtheria may be more deadly than "the plague," and if all the world conspired to taboo the name and call it simply "bubonic fever" or bubonia, even the French might remain calm—Mark Twain has described French calm—in the face of it.—*To-Day.*

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended August 25, 1899:

SMALLPOX—UNITED STATES.

| | | Cases. | Deaths. |
|---|---|---|---|
| Florida, Jacksonville | August 12th to 19th | 1 | |
| Louisiana, New Orleans | August 12th to 19th | 1 | |
| Massachusetts, Boston | August 12th to 19th | 2 | |
| Ohio, Cincinnati | August 12th to 18th | 2 | |
| Pennsylvania, Allegheny | August 12th to 19th | 5 | |
| Virginia, Portsmouth | August 12th to 19th | 3 | |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Brazil, Rio de Janeiro | July 7th to 14th | | 11 |
| Colombia, Panama | August 1st to 8th | 2 | 1 |
| Egypt, Cairo | July 15th to 22d | 4 | |
| England, London | July 29th to August 5th | 1 | |
| Greece, Athens | July 29th to August 5th | 7 | 3 |
| India, Bombay | July 11th to 25th | | 14 |
| Madras | July 1st to 8th | | 2 |
| Mexico, Chihuahua | August 7th to 14th | | 1 |
| Mexico | July 30th to August 6th | 4 | 3 |
| Nuevo Laredo | July 5th to August 12th | | 1 |
| Russia, Odessa | July 29th to August 4th | 4 | 1 |
| St. Petersburg | July 22d to 29th | 8 | |

YELLOW FEVER.

| | | | |
|---|---|---|---|
| Brazil, Rio de Janeiro | July 7th to 14th | | 6 |
| Costa Rica, Port Limon | August 18th | 1 | |
| Cuba, Havana | August 3d to 17th | 26 | 5 |
| Sancti Spiritu | August 24th | 2 | |
| Santiago | July 30th to August 12th | 10 | 5 |
| Mexico, Tuxpan | July 31st to August 8th | | 5 |
| Vera Cruz | July 27th to August 10th | | 32 |

CHOLERA.

| | | | |
|---|---|---|---|
| India, Bombay | July 18th to 25th | | 2 |
| Calcutta | July 8th to 15th | 7 | |

PLAGUE.

| | | | |
|---|---|---|---|
| India, Bombay | July 12th to August 23th | | 131 |
| Calcutta | July 8th to 15th | | 3 |
| Portugal, Oporto | August 16th | 39 | 15 |
| Turkey, Smyrna | July 30th | 4 | 3 |

**Shoes for British Soldiers.**—Military authorities in England, it is said, have at last decided to make a change in the footwear of the British infantry soldier. The army shoe is constructed to wear well, but little attention is paid to comfort or convenience. This is to be altered, and a shoe that combines comfort with endurance is to be supplied. As Mulvaney remarks, "A soldier in war is no better than his feet."

## Books Received.

*While the* MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA, 1899. 8vo, 255 pages.

INTERNATIONAL CLINICS. By various authors. Edited by Dr. J. Daland. Vol. ii., 1899. 8vo, 310 pages. Illustrated. J. B. Lippincott Company, Philadelphia.

THE MECHANICS OF SURGERY. By Charles Truax. Royal 8vo, 1,024 pages. Illustrated. Charles Truax, Greene & Co., Chicago.

A TEXT-BOOK OF PHARMACOLOGY AND THERAPEUTICS. By Dr. A. R. Cushny. 8vo, 730 pages. Illustrated. Lea Brothers & Co., Philadelphia.

A POCKET DICTIONARY OF HYGIENE. By C. T. Kingzett, F.I.C., and D Homfray, B.Sc. 32mo, 104 pages. The Sanitas Company, Ltd., New York.

THE CEREBRO-SPINAL FLUID. By Dr. St. Clair Thomson. 8vo, 140 pages. Cassell & Company, Ltd., New York. Price, 5s.

THE RELATION OF THE NERVOUS SYSTEM TO DISEASE AND DISORDER IN THE VISCERA. By Dr. A. Morison. 8vo, 132 pages. Illustrated. Young J. Pentland, London.

LES AUTO-INTOXICATIONS DE LA GROSSESSE Par G. Bouffe de Saint-Blaise. 8vo, 94 pages. Librairie J. B. Baillière et Fils, Paris.

DIAGNOSTIC DES MALADIES DE LA MOËLLE. Par le Dr. Grasset. 8vo, 96 pages. Librairie J. B. Baillière et Fils, Paris.

LE DIABÈTE ET SON TRAITEMENT. Par R. Lépine. 8vo, 92 pages. Librairie J. B. Baillière et Fils, Paris.

DIE LEITUNGSBAHNEN IM GEHIRN UND RÜCKENMARK. Von W. V. Bechterew. 8vo, 692 pages. Illustrated. Verlag von Arthur Georgi, Leipzig.

A STRANGE DISCOVERY. By Dr. Charles Romyn Dake. 8vo, 310 pages. H Ingalls Kimball, New York. Price, $1.25.

ANNUAL REPORT OF THE SUPERVISING SURGEON-GENERAL OF THE MARINE-HOSPITAL SERVICE OF THE UNITED STATES, 1898. 8vo, 855 pages.

LES GREFFES URETÉRALES. Par le Dr. P. Trekaki. 8vo, 138 pages. A. Maloine, Paris.

TRAITEMENT CHIRURGICALE DE CANCER DU GROS INTESTIN. Par le Docteur Henri Lardennois. 8vo, 204 pages. G. Steinheil, Paris.

A TEXT-BOOK OF DISEASES OF THE NOSE AND THROAT. By Dr. D. Braden Kyle. 8vo, 646 pages. Illustrated. W. B. Saunders, Philadelphia. Price, cloth $4; half morocco, $5, net.

THE TREATMENT OF PELVIC INFLAMMATIONS THROUGH THE VAGINA. By Dr. W. R. Pryor. 8vo, 248 pages. Illustrated W. B. Saunders, Philadelphia. Price, $2, net.

THE HYGIENE OF TRANSMISSIBLE DISEASES. By Dr. A. C. Abbott. 8vo, 311 pages. Illustrated. W. B. Saunders, Philadelphia. Price, $2, net

THE TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF CALIFORNIA. Vol. 29 8vo, 410 pages.

INTERSTITIAL GINGIVITIS, OR SO-CALLED PYORRHŒA ALVEOLARIS. By Dr. Eugene S. Talbot. Royal 8vo, 192 pages. Illustrated. The S. S. White Dental Manufacturing Company, Philadelphia

GENERAL PATHOLOGY. By Dr. Ernst Ziegler. Edited by Dr. Albert H. Buck. Royal 8vo, 598 pages. Illustrated. William Wood and Company, New York.

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 56, No. 11.
Whole No. 1505.

NEW YORK, SEPTEMBER 9, 1899.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### REFLEX IRRITATION, WITH SPECIAL REFERENCE TO EYE STRAIN, A FACTOR IN NERVOUS AND MENTAL DISEASE.[1]

BY C. A. DREW, M.D.,

MEDICAL DIRECTOR, STATE ASYLUM FOR INSANE CRIMINALS, BRIDGEWATER, MASS.

WHILE the attention of this association is so largely interested in the creditable progress of neural pathology, and the forces of physiological psychology are chasing metaphysical shadows, and every man's thought is upon auto-toxicants, it may be rash to hope to hold your attention for an old theme—some of you will think the worn-out theme—of reflex irritation. And yet, while we conceive of every vital organ as sending neural messages almost constantly to the cerebro-spinal axis, most of which never rise above the threshold of that ill-defined entity called consciousness, we must admit that there may be problems along old lines, whose solution would add to the comfort and possibly hasten the recovery of patients under our care.

Reflex irritation, in the sense I wish to discuss it, means that limited or widespread exhaustion of cortical nerve centres because of nerve currents increased in force or duration from peripheral organs, malformed, undeveloped, or the seat of pathological processes. It includes such molecular and chemical changes as may take place in the conducting nerve fibres for want of physiological rest. It is concerned with the loss of potential energy and the nervous disturbance which an occluded naris, a decayed tooth, or hemorrhoidal swelling may cause. It may, by checking a normal visceral secretion, so interfere with digestion as to favor the formation of those toxins in the alimentary tract, that are charged with so important a rôle in the causation of mental disease. It is not my purpose to attempt to treat this broad question exhaustively. If a thought offered or conclusion reached excites sufficient interest and reaction in the minds of members of this association to call forth a free discussion, the best result hoped for will have been attained. The influence of diseased, malformed, or undeveloped pelvic organs on the mental health of women has been so exhaustively discussed by this association that I shall refer to this only in the most general way.

The central purpose of this paper is to inquire particularly into the importance and *modus operandi* of eye strain as a source of nervous irritation, pain, and wasted energy. I deem it of the greatest importance to consider this question from a dispassionate and non-partisan standpoint. For if there is anything well calculated to bury germs of truth too deep for a resurrection, to discredit well-fortified theories, and bring excellent therapeutic measures into disrepute, it is their intemperate advocacy by those ultra-specialists who, in the language of Dr. Peterson, are prone to "apotheosize the eye, the nose, the uterus, or any single viscus, and make it the divinity to which all other organs must kneel."

I fear it is true that there has been some intemperate discussion of the subject-matter of this paper. I know able men equally experienced who hold and defend opinions which seem diametrically opposed. In considering the differences of our professional brothers we may feel that their knowledge must be very inexact, else their opinions would not be so opposed; but when we forget the "mote in our brother's eye" and remember how often two members of our own association reach opposite conclusions from the same evidence, when called to testify, as experts, in a case at law, our pride may be humbled and we be moved to believe that the human mind tends to belligerency toward the children of other brains, "even as sparks fly upward." A well-known author has declared that even the axioms of geometry would be disputed if men's passions were concerned with them. And so it seems.

I presume it would not be putting it too strong to say that there are many members of this association whose comfort and peace of mind would be seriously impaired by being deprived, for a day, of the glasses they habitually wear. One would simply be unable to recognize his friend across the street; another would suffer from severe headache; another would be nauseated; another, besides headache and nausea, would suffer a degree of mental confusion. Why should these things be? It would better meet the requirements of science first to prove our postulate, but limit of time forbids. Those who have personally had to contend with a hypermetropic astigmatism with corneal meridians of greatest refraction oblique and not parallel will readily grant our postulate. If one who doubts desires to be convinced, I would ask him to wear his neighbor's glasses made to correct an astigmatism of one diopter or more, for only one hour. This will produce an artificial astigmatism in his own eyes which all the forces of the motor oculi and ciliary muscle will, involuntarily, try to overcome.

I mention oblique hypermetropic astigmatism with non-parallel axes, because this is the condition which usually causes greatest eye strain. It might be interesting to consider the reasons why one form of ametropia, such as simple myopia, or myopic astigmatism with axes horizontal, should cause no eye strain, but time again forbids.

The anatomical and physiological factors in these problems are varied and interesting. The function of accommodating and adjusting the eyes in the act of vision, so constantly being performed during our working hours, if we think of it, is exceedingly complex. The ciliary and internal recti muscles being innervated by the same nerve, convergence is so intimately related to the function of accommodation that it is exceedingly apt to embarrass, as it were, the motor oculi, if the ciliary muscle and adductors need different degrees of innervation. This relation will explain why one with relatively weak adductors will appear myopic. He holds his book so near, not because the refractive condition demands it, but that the feeble internal recti may receive sufficient innervation

[1] Read before the American Medico-Psychological Association, New York City, May, 1899.

to hold the eyes properly convergent, he voluntarily increases the load the ciliary muscle has to bear.

The relative strength of the internal and external recti will guide the physician in determining whether or not to prescribe glasses for a hyperopic patient to wear constantly. It is a fact of common knowledge that the majority of children are hyperopic, or far-sighted. This state is so common that some authorities claim the hyperopic eye to be the normal eye. It is not uncommon for this far-sighted eye of childhood to be associated with "esotropia" or internal squint; which, if moderate in degree, almost always yields to the constant wearing of convex lenses, which correct a large part of the hyperopia. The explanation is simple. The adductors had been over-stimulated because it seemed impossible for the motor oculi nucleus to satisfy the excessive demand of the overworked ciliary muscle without giving more than the needed innervation to the internal recti. With the common innervation of the ciliary and internal recti muscles in mind, we can readily conceive of the mental mechanism distressed by conflicting signals if the eye is so hyperopic as to need excessive ciliary innervation in order to focus parallel rays perfectly, while the external recti are so weak relatively that the slightest stimulation of their antagonists, the adductors, causes more than the required convergence. This quite common condition when of high degree constitutes convergent strabismus or the "esotropia" of recent writers, while if the condition be of low degree it constitutes the dynamic strabismus of older authors, and the "esophoria" of Dr. Stevens. We cannot follow further the correlation of ametropia and the different forms of heterophoria, and it would take us to the realm of speculation to inquire how much influence abnormal nerve currents to the motor-oculi nucleus would exert on adjacent nuclei of other important nerves whose deep origin are also in the floor of the fourth ventricle.

Organic palsies and visual defects from organic causes are not within the province of this paper. Indeed, partial or total blindness, or palsy of ocular muscles, is not, as a rule, a source of eye strain. Anatomical defects, acquired or congenital, so gross as to be beyond the power of the visual mechanism to correct by a supreme effort, will not produce eye strain. It is not the cross-eyed man nor the near-sighted man who suffers from this cause; nor is it he whose astigmatism is so great that no effort of the ciliary muscles can compensate for the unequal curvature of different meridians of the cornea. Rather it is he whose eyes can be kept in line and whose ciliary muscle can neutralize anatomical imperfections of the cornea by excessive calls on the nuclei of the fourth ventricle and the cortical motor area of the cerebrum. If it be true, as some authorities allege, that the unstable and highly impressionable nervous organism is marked anatomically by a nerve-cell nucleus small in proportion to its protoplasmic body, then I would say that the relative smallness of the individual's nerve-cell nucleus will determine the degree of general nervous disturbance from peripheral irritation of any kind.

In other days it may have been necessary for the asylum physician to limit his professional studies to the abnormal manifestations of the mind, and his therapeutics to the drugs of the pharmacopœia and the more important disciplinary and hygienic measures which are of as clearly recognized value to-day. It is probable that the public and the general practitioner still regard physicians who care for the insane as specialists in the usual narrow sense of that term. If the general practitioner knew how large a part of our time has been given to the study and treatment of somatic diseases he would realize that there is not a theory or fact related to the prevention or cure of disease, in which we do not have, with him, a common interest.

I am glad to be able to assert, in the language of the day, that history proves this association to have been from the beginning devoted to the theory of "expansion." Times have changed somewhat. The exigences of days past demanded so much of those devoted men, who, one by one, are rapidly falling from the ranks, that the world and the general profession do not know how much their busy lives wrought for medical progress. Our duty to ourselves and to those whose aims were high, when assistant physicians were few and internes unknown, demands that we be loyal to that principle. You will grant it a truism, that whatever science has to offer for the relief of those who are sane should be offered freely and "without price," to those who are insane, if they be indigent. It is pleasing to note that in the progress of evolution and expansion we have absorbed and are utilizing many of the therapeutic measures once adequately employed only by specialists outside our own ranks. It would be exceptional now for a woman patient to come and go from one of our hospitals without a careful gynæcological examination, and this, we agree, is to the credit of our hospitals. The fascinations of pelvic surgery are not likely to lead us into the error of extremes, because the responsibility and veto power are usually held by one whose function as consultant and general manager does not tend to encourage the hobby mind habit. Hydrotherapeutics is fast gaining a deservedly high place in our esteem and claiming a corresponding portion of our time. The routine examination of blood and sputum, and the necessary preparation for the rôle of instructor in the training-school, have added not a little to "the white man's burden." But these are legitimate fruits of our policy of expansion of which I have yet to hear a member of this association complain.

Most modern psychologists agree that every thought or emotion has its bodily equivalent, whether manifested as a contraction or dilatation of the pupils and blood-vessels, the quickened pulse, the changed gastric secretion, the modified respiration, the clenched fist, the moist eyes, the pleased smile, or in a powerful impulse to some voluntary action. I will not here argue the question whether one's face blanches and his knees weaken because he is frightened, or he is frightened because of the bodily changes of which the blanched face, the weak knees, and the changed heart rhythm are but an index. It is an interesting question, and the evidence is not all on one side. It also bears on the relation of mental states as influenced by abnormal conditions of remote organs. Dr. Maudsley writes: "Observe how fear strikes the heart and what anxious fear and apprehension accompanies some afflictions of the heart. . . . The internal organs are plainly not the agent of their special function only, but, by reason of their intimate sympathy of function, they are the essential constituents of our mental life." Professor James holds strongly that those states of mind recognized as the coarser emotions, such as joy, sorrow, anger, hope, and fear, upon which our general health, in turn, so largely depends, are directly consequent to bodily changes. In his own language: "Our whole cubic capacity is sensibly alive, and each morsel of it contributes its pulsation of feeling, dim or sharp, pleasant, painful, or dubious, to that sense of personality which every one of us unfailingly carries with him." Again he writes: "What kind of an emotion of fear would be left if the feeling neither of quickened heart-beat nor of shallow breathing, neither of trembling lips nor of weakened limbs, neither of goose-flesh nor of visceral stirrings, were present, it is quite impossible for me to think."

Whether we believe that the recognition by the cerebral cortex of those material changes in our bodily states is the essence of those mental states we call emotions, or hold to the more commonly accepted theory that these bodily changes are characteristic sequences to certain mental states, we must admit their intimate relation. And with this acknowledged truth of physiology before his mind, who will declare the states of mind to be conditioned by the brain alone, or say he has fully investigated the sources of a mind diseased who has not satisfied himself of the healthy function of every physical organism?

Little direct evidence has been offered in this paper that "difficulties of accommodating and adjusting the eyes in the act of vision are a potent source of nervous disturbance." If the writings of Stevens, Ranney, Amidon, Mittendorf, Webster, Standish, Woodward, Savage, Wilder, Gradle, Ellis, and others have not convinced you, I could hardly hope to succeed. "If they hear not Moses and the prophets, neither will they be persuaded though one rose from the dead."

I hope I shall not be misunderstood; and if I may quote from a former paper: "I would deprecate as much as any one the dominance of any hobby in a hospital for the insane. And while I plead the case of ophthalmology I would not exalt it at the expense of any other line of medical work. If one sees only eye strain and fails to inquire why those cheeks are flushed and that breathing quickened; why those lips are blue and those ankles œdematous; if he looks for evidence of nephritis in the retina alone, and neglects to chemically and microscopically examine the urine; if he forgot the significance of the abolished or exaggerated patellar reflex, and knows not how to interpret the presence of spasm or palsy—though he knows the relation of optic atrophy to all the morbid conditions of the cerebro-spinal system, it will profit little. And if he were so engrossed that he could not stop to cheer the depressed or attempt to change the current of morbid thought from self to hopeful subjects, then his special work would add but little value to his service."

Most of us have ideals which seem more or less beyond our reach; but I am pleased to note that progress along the lines of evolution has brought us nearer and nearer to the methods of the best general hospitals; and I trust the time will soon come when a hospital for the insane without an ophthalmological outfit, and one member of the house staff, at least, familiar with its use, will be as rare as a general hospital without a department devoted to the organs of special sense. The readiness with which older members have reorganized their forces to meet new conditions and added responsibilities ought not to be overlooked, and it would be but a step further along the path of evolution to have every so-called specialty represented by a member of our medical staff—not necessarily to do the more difficult operations in abdominal, pelvic, or ophthalmic surgery, unless the experience had amply qualified, but that every patient might be intelligently and thoroughly examined as a matter of routine. It is the good fortune of many institutions to be located near large cities, where a consulting-board ever available, including able men of all the different specialties, is a possibility. More hospitals for the insane are so located that the whole medical field must be cultivated by the resident staff, if at all. Fortunately the daily staff consultation, introduced into Massachusetts, I think, by Dr. Cowles, helps greatly in the judicious division of labor and permits of developing lines of scientific work impracticable under earlier conditions.

It is necessary for every physician who cares for the insane to be a general practitioner, but it is possible so to organize and educate our staff that each assistant physician may aspire to all the advanced knowledge, in a limited field, popularly supposed to belong to that favored genus, the specialist, alone. Conservatism may save us from the error of those who ride hobbies, but inertia is often counted for conservatism, and it is better to follow a false trail occasionally than not to search for truth at all. I plead not for the acceptance of the theories of any specialist or set of specialists, but rather for the broad application of that ancient admonition: "Prove all things; hold fast that which is good."

## SCARLET FEVER REPRODUCED BY INOCULATION; SOME IMPORTANT POINTS DEDUCED THEREFROM.[1]

By JOSEPH WILLIAM STICKLER, M.S., M.D.,

ORANGE, N. J.

The inoculations were made with a hypodermic syringe. The point of the needle was introduced into the skin, never through it into the subcutaneous connective tissue. Mucus obtained from the throat and buccal cavity (soon after the characteristic eruption appeared) of a patient who had a mild attack of scarlet fever, was the material used for the inoculations. Prior to use it was treated with carbolic acid, according to the suggestion of Chamberland and Roux, the addition of about $\frac{1}{600}$ part of the acid being made.

The virus used in the inoculations produced no other than a slight local effect when injected into white rabbits and guinea-pigs.

Case I.—Louise B——, aged thirteen years. Physical condition perfect before inoculation. Inoculation was made in the arm December 13, at 3 P.M.

December 14th, 9 A.M.: Pain in bowels and diarrhœa. Both ceased in the afternoon, but the patient vomited once. During the evening the characteristic eruption made its appearance on the surface of the body. The skin at the point of puncture was red. Skin hot and dry.

December 15th: Headache; throat sore; the tongue presented the characteristic strawberry appearance. The general eruption was well marked.

December 16th: Throat red, but not sore. The patient slept well during the night and feels well. Appetite good; rash faint; temperature, 98 F.

December 17th: The patient says she feels perfectly well. Rash very faint on body, but pronounced at point of inoculation.

December 18th: General condition good; general eruption gone; local eruption still manifest; temperature, 98.5 F.

December 20th: Well. Temperature, 98.5 F. There was desquamation about the puncture.

December 23d: The throat was somewhat sore again; temperature, 102.5° F. There was general desquamation. The patient made a rapid and complete recovery.

Case II.—John B——, aged eleven years. The patient did not feel as well as usual before the inoculation, but did not specify any particular trouble. Temperature before inoculation, 101.2° F., at 3 P.M.

December 13th: Injected the prepared mucus into

[1] The manuscript of this article was found among the late Dr. Stickler's papers. He had added a note stating that the inoculations were made to prove that a protective virus had been discovered, but when he found that in each instance genuine scarlet fever was developed, with its possible complications, he desisted and turned his attention to another method of protecting the human system against the contagium of this much-dreaded disease. However, the manifest importance of some facts developed by these investigations led the author to prepare them for publication, as he believed they would be of great practical value in the management of all scarlatinal patients.

the skin of the arm. At midnight the patient vomited and had diarrhœa, also sore throat and headache.

December 14th: The patient was sick all day. The arm was red, but there was no general eruption.

December 15th: Temperature, 101.2° F. General eruption, but the patient does not complain of sore throat. There was strawberry tongue, and the visible portion of the throat was redder than normal.

December 16th: Rash still visible; temperature, 99.8° F. He says he feels well.

December 17th: General eruption faint. The eruption about the puncture was most marked. Temperature, 98.8° F. The patient feels well.

December 18th: The patient feels perfectly well. Temperature, 99° F.

December 20th: Temperature, 98.5° F. He feels well. There was desquamation about the inoculation.

December 23d: There was slight general desquamation. He feels well.

This patient made a rapid and complete recovery.

Case III.—Andrew B——, aged six years; inoculated at 3 P.M. December 13th.

December 14th: There was pain in the stomach early in the morning. He vomited in the afternoon. There was slight diarrhœa. The arm was red around the point of injection.

December 15th: The general eruption was well marked; throat sore and strawberry tongue; lymphatics enlarged.

December 16th: No sore throat. He feels quite well. The general eruption was visible, but faint. The local eruption (eruption about puncture) was intense. Temperature, 99.8° F.

December 17th: Temperature, 98.8° F. The patient feels perfectly well.

December 18th: There was eruption about the point of inoculation, but the general eruption was gone. Temperature, 98.5° F.

December 23d: There was general slight desquamation. The patient feels quite well.

Case IV.—Edward B——, aged eight years; inoculated 3 P.M. December 13, 1889. His condition was normal at the time of inoculation. He vomited during the evening.

December 14th, 7 A.M.: He had diarrhœa. During the afternoon there was redness about the point of inoculation. There was no sore throat.

December 15th: When seen early in the morning, general typical eruption was discovered. The throat and tongue were characteristic in appearance.

December 16th: The eruption about the inoculation was intense. The general eruption was well marked. He says his throat is not sore. There was no headache. Temperature, 101° F.

December 17th: Temperature, 98.8° F. He feels well in every respect.

December 18th: He feels perfectly well. Temperature, 98.5° F.

December 23d: There is still a very slight general desquamation.

Case V.—Peter B——, aged four years; inoculated 3 P.M. December 13th. He was well at the time of inoculation.

December 14th: When he arose from bed about 6 A.M. he had slight diarrhœa, vomiting, and sore throat. Later in the day he had the characteristic eruption on his chest.

December 15th: The general eruption was well marked. The tongue and throat were characteristic. No headache.

December 16th: He does not complain of sore throat. The eruption is well marked all over the body. There is a rash about the point of inoculation, very intense. He feels quite well.

December 17th: The patient feels quite well.

December 18th: No change.

December 23d: There was general desquamation. The urine contained a small quantity of albumin. He had pain in the left ear.

December 24th: Albuminuria was more pronounced.

This patient had a sharp attack of scarlatinal nephritis, from which he ultimately entirely recovered.

Case VI.—Conrad K——, aged four years. He is perfectly well. He was inoculated on December 19th at 11:50 A.M. in the left forearm. At midnight of the same day he had fever (mother's statement), headache, and nausea.

December 20th: Early in the morning general eruption was found, with strawberry tongue and temperature 101.8° F.

December 21st: Temperature, 100.4° F. He does not complain of sore throat. The general eruption is well out. The appetite is fair and he feels well.

December 25th: The temperature is normal, and he has experienced no untoward symptoms since December 21st.

General desquamation followed, and the patient made a good recovery without complications.

Case VII.—John O'Brien, aged two years and one month; normal in all respects except where otherwise stated.

December 21st: Inoculation at 1:30 P.M. Temperature at 2:45 P.M., 100.8° F.; pulse, 144; at 7 P.M., pulse, 148. He was restless through the night.

December 22d: I was unable as a rule to get the pulse on account of the child's struggles. At 9 A.M.: temperature, 101° F.; pulse, 140. At 7 P.M., temperature, 101.8° F. The rash was faint over sternal region. He is lively and appetite good. There were swelling and redness around the point of inoculation. The throat, tonsils, and uvula were a little swollen and decidedly red. The tongue was uniformly coated and light gray in color.

December 23d, 9:30 A.M.: Temperature, 99.8° F. The throat was normal. There is a faint rash on the chest, abdomen, and thigh. 6 P.M.: Temperature, 101.8° F.

December 24th, morning: Temperature, 99.8° F. The rash and throat are unchanged. The point of inoculation is small and somewhat red. Afternoon: Temperature, 100.2° F.

December 25th, morning: Temperature, 98.8° F. The inoculation point is beginning to enlarge. Afternoon: Temperature, 97.4° F.

December 26th, morning: Temperature, 99.6° F. The inoculation point is much enlarged. The rash is more brilliant than before. Afternoon: Temperature, 100° F.

December 27th, morning: Temperature, 99.6° F. The abscess at the point of inoculation broke. Afternoon: Temperature, 99.4° F.

December 28th, morning: Temperature, 99.6° F. The abscess at the point of inoculation is still discharging. The rash is faintly visible. Afternoon: Temperature, 99.8° F.

December 29th, morning: Temperature, 97.4° F. The abscess is discharging. Desquamation has begun around the inoculation.

December 30th, morning: Temperature, 98.2° F. There is desquamation on the lower part of the trunk in fine scales. The rash has faded. Afternoon: Temperature, 99° F.

December 31st, morning: Temperature, 99° F. He was restless during the night and thirsty. The abscess continued to discharge slightly till January 13th.

Case VIII.—Fritz V——, aged eight and one-half months; condition normal at the time of inoculation.

December 21st: Inoculation was made at 1:30 P.M. 2:45 P.M.: Temperature, 99.8° F.; pulse, 144; 7 P.M.: Temperature, 102° F.; pulse, 152.

December 22d: He was restless through the night. He snuffles. 9 A.M.: Temperature, 102° F.; pulse, 144. The eyes are heavy, with purplish rings beneath. There is no rash or sore throat. Camphor and hot water brought out no rash. 7 P.M.: Temperature, 103° F.; pulse, 136. Aconite was given through the night.

December 23d, 9:30 A.M.: Temperature, 101.4° F.; pulse, 146. There is no rash. The point of inoculation is purplish and not very painful. The patient had three yellow stools during the night. 6:30 P.M.: Temperature, 103° F.; pulse, 136. There is no rash. The throat is normal. The point is purplish.

December 24th, morning: Temperature, 101.4° F. The skin and throat are normal. He had four stools during the night. Afternoon: Temperature, 101.6° F.; pulse, 152. There is a faint suspicion of rash on the inside of the thighs and chest. The abscess at point of inoculation opened early in the afternoon. He had five watery stools.

December 25th, morning: Temperature, 100° F.; pulse, 136. The rash is faint, but characteristic. The throat is slightly red. Afternoon: Temperature, 100.2° F.; pulse, 142. There is a slight desquamation around the point of inoculation. He had six watery stools during the night.

December 26th, morning: Temperature, 100° F.; pulse, 160. Afternoon: Temperature, 101.4° F.; pulse, 120. The throat is normal. The rash is still visible. He had six stools through the night.

December 27th, morning: Temperature, 100.6° F. Afternoon: Temperature, 102° F. The rash has faded.

December 28th, morning: Temperature, 102.2° F. Afternoon: Temperature, 102.2° F. The throat and skin are normal. The urine is lessened in quantity. He had five watery stools.

December 29th, morning: Temperature, 101.2° F. Afternoon: Temperature, 100.4° F. The child is white and doughy-looking, with dark lines under the eyes. He passed urine three times, lessened in quantity, acid; no albumin. The pulse tension increased. The second sound of the heart is somewhat exaggerated.

December 30th, morning: Temperature, 98.4° F. Afternoon: Temperature, 98.6° F. His general appearance is better. He passed urine twice; it is acid; no albumin. The stools are watery. The heart and pulse are normal.

December 31st, morning: Temperature, 98.6° F. Afternoon: Temperature, 98.6° F. His general appearance is fairly good. Urine was passed once during the night. The patient had three watery stools. Pulse, higher tension.

January 1st, morning: Temperature, 98.4° F. Afternoon: Temperature, 98.4° F. Urine was passed once during the night. There is desquamation in fine scales on the thighs and chest.

January 2d, morning: Temperature, 98.2° F. Afternoon: Temperature, 97.4° F. The urine is about normal in quantity.

January 3d, morning: Temperature, 97° F. Afternoon: Temperature, 101.8° F. He had two stools. The urine is normal.

After January 4th nothing occurred worthy of note. Desquamation was slight and cleared about January 10th.

CASE IX.—Mamie Smith, aged twenty-three months; health normal at time of inoculation.

December 21st: Inoculation at 1:30 P.M. 2:45 P.M.: Temperature, 100.4° F.; pulse, 120. 7 P.M.: Temperature, 100.4° F.; pulse, 152.

December 22d, 7 A.M.: There was a rash over the anterior and lateral surfaces of the chest, patchy but distinct. The throat is reddened, and the tonsils and uvula are slightly swollen. 9 A.M.: Temperature, 100° F.; pulse, 148. 7 P.M.: Temperature, 100.8° F.; pulse, 144.

December 23d, at 9:30 A.M.: Temperature, 99.2° F.; pulse, 128. 6:30 P.M.: Temperature, 100.8° F.; pulse, 144. The tonsils are red and slightly swollen. The rash is faint, but fairly continuous on the chest, abdomen, and arms. The point of inoculation is pimpled in the centre and elevated.

December 24th, morning: Temperature, 99.2° F.; pulse, 128. Afternoon: Temperature, 102.6° F.; pulse, 140. The throat is normal. The rash is unchanged. The arm and hand are swollen, although the point of inoculation is not tender except on pressure. The rash is fading.

December 25th, morning: Temperature, 101° F.; pulse, 128. Afternoon: Temperature, 100.4° F. The rash is fading, but is still red on the genitals and thighs, where desquamation is well begun. The inoculated arm is hot and much swollen.

December 26th, morning: Temperature, 99° F.; pulse, 112. Afternoon: Temperature, 99.6° F.; pulse, 120. The hand and arm are less swollen. The urine is acid, copious in quantity, and contains considerable pus and epithelium.

December 27th, morning: Temperature, 98.2° F.; pulse, 120. Afternoon: Temperature, 99.4° F.: pulse, 160. The abscess at the point of inoculation opened at 1:30 P.M., and much pus was discharged. The urine is normal.

December 28th, morning: Temperature and pulse normal. Afternoon: Temperature, 97.2° F.; pulse, 128. The rash has wholly faded. The abscess is healing. There is desquamation in large plates on the thighs.

December 29th, morning: Temperature, 97.2° F.; pulse, 136. Afternoon: Temperature, 99.2° F.; pulse, 124. The patient is desquamating in fine scales on chest and in large flakes around the point of inoculation.

December 30th, morning: Temperature, 97.4° F.; pulse normal. Afternoon: Temperature, 98.4° F.; pulse normal.

December 31st, morning: Temperature, 98.4° F.; pulse normal. Afternoon: Temperature, 98.2° F.; pulse normal.

After January 1st nothing occurred worthy of note, except between January 2d and January 9th, when some pus and epithelium were found in the urine. Desquamation ceased about January 23d.

CASE X.—George Carter, aged three years. The patient was normal at the time of inoculation.

December 21st: Inoculation at 1:30 P.M. 2:45 P.M.: Temperature, 100.6° F.; pulse, 104. 7 P.M.: Temperature, 99.2° F.; pulse, 120.

December 22d, 9 A.M.: Temperature, 101° F.; pulse, 148. He vomited without apparent nausea. The patient looks heavy. Scarlatinal rash is apparent by daylight over the trunk. The face is flushed. The throat, tonsils, and uvula are distinctly red and swollen. There is marked inflammation at the point of inoculation. 2 P.M.: There is eruption on the legs and arms. The cervical glands are a little large. He is lively, but fretful. There is slight pain on swallowing. 7 P.M.: Temperature, 100.4° F.; pulse, 136.

December 23d, 9:30 A.M.: Temperature, 99.4° F.; pulse, 152. There is a rash all over the body, but slight on the face. The throat is normal. 6:30 P.M.: Temperature, 100.4° F.; pulse, 136. The rash is brilliant red. The point of inoculation is elevated in the centre, with the base broad, hard, and inflamed. The child is fretful but lively.

December 24th, morning: Temperature, 99.4° F.; pulse, 152. Afternoon: Temperature, 103° F.; pulse, 144. The rash is unchanged. The point of inoculation is purplish-red. The arm and hand are swollen.

During the afternoon the abscess at the point of inoculation broke and discharged some foul-smelling pus.

December 25th, morning: Temperature, 100° F. Afternoon: Temperature, 99.6° F.; pulse, 124. The rash is unchanged. The abscess is slowly healing. The hand and arm are still much swollen. The hand is beginning to desquamate.

December 26th, morning: Temperature, 100.2° F.; pulse, 132. Afternoon: Temperature, 99.6° F.; pulse, 116. The rash is beginning to fade. The hand and arm are about normal. The rash was rapidly fading later in the day. There is desquamation around the point of inoculation. He passes a large quantity of water.

December 27th, morning: Temperature, 99° F.; pulse, 112. Afternoon: Temperature, 99.6° F.; pulse, 102. The rash is nearly gone. The abscess is healing rapidly.

December 28th, morning: No record of temperature. Afternoon: Temperature, 99.4° F. The rash has faded.

December 29th, morning: Temperature, 98.6° F. Afternoon: Temperature, 99.6° F. There is desquamation on the elbows.

December 30th, morning: Temperature, 99.2° F. Afternoon: Temperature, 99.6° F. Desquamation is taking place on the trunk.

December 31st, morning: Temperature, 99.6° F. Afternoon: Temperature, 99.6° F. The inoculated arm is desquamating much more than the other. After January 1st nothing occurred worthy of note, except that on January 4th the abscess at the point of inoculation began discharging anew, and continued doing so until January 12th. The hands desquamated at least twice, and the process was not finally finished till about February 10th.

The time after appearance of the eruption that desquamation began was as follows: Case I., nine days; Case II., eight days; Case III., eight days; Case IV., eight days; Case V., eight days; Case VI., five days; Case VII., eight days; Case VIII., seven days; Case IX., three days; Case X., three days. Average time, 6.7 days; longest time, nine days; shortest time, three days.

Duration of the period of incubation in the various cases: Case I., twelve hours; Case II., forty-eight hourse; Case III., forty-eight hours; Case IV., thirty-six hours; Case V., eighteen hours; Case VI., twenty hours; Case VII., twenty-nine hours thirty minutes; Case VIII., seventy-two hours; Case IX., twenty-two hours thirty minutes; Case X., fifteen hours thirty minutes. Average duration of incubative period, thirty-two hours and thirteen minutes.

Vomiting occurred as follows, as to frequency and time: Case I., vomited in twelve hours; Case II., twelve hours; Case III., six hours; Case IV., twelve hours; Case V., fifteen hours; Case VI., nausea in twelve hours thirty minutes; Case VII., no vomiting or nausea; Case VIII., no vomiting or nausea; Case IX., no vomiting or nausea; Case X., vomiting in nineteen hours thirty minutes. Average time of vomiting, twelve hours and fifty minutes after inoculation.

Temperature range: Case I.—Highest temperature, 102.5° F.; lowest temperature, 98° F.; average temperature, 99.37° F. Case II.—Highest temperature, 101.2° F.; lowest temperature, 98.5° F.; average temperature, 99.7° F. Case III.—Highest temperature, 99.8° F.; lowest temperature, 98.5° F.; average temperature, 99.03° F. Case IV.—Highest temperature, 101° F.; lowest temperature, 98.5° F.; average temperature, 99.3° F. Case V.—Could not get temperature. Case VI.—Highest temperature, 101.8° F.; lowest temperature, 100.4° F.; average temperature, 101.1° F. Case VII.—Highest temperature, 101.8° F.; lowest temperature, 97.4° F.; average temperature, 99.6° F. Case VIII.—Highest temperature, 103° F.; lowest temperature, 97° F.; average temperature, 100° F. Case IX.—Highest temperature, 102.6° F.; lowest temperature, 97.2° F.; average temperature, 99.3° F. Case X.—Highest temperature, 103° F.; lowest temperature, 98.6° F.; average temperature, 98.6° F. The average temperature of the nine cases in which the temperature was taken was 99.22° F.

Conclusions: (1) The mucus of the throat and mouth has been shown with absolute certainty to contain the contagium of the disease. (2) The early eruptive stage of scarlatina is exceedingly infectious because of the presence in the discharges from the mouth and throat of the special poison of the disease. (3) The contagium of the disease being in the mouth and throat secretions, care should be taken not only to disinfect these parts as perfectly as possible, but to keep the tongue, mouth, and lips moist constantly, if possible, in order to prevent the contagious principle being forced into the air of the room by the exhalations of the patient. (4) Mouth and nose wipes should be used instead of spit-cups and costly handkerchiefs, and they should be destroyed by fire before the discharges on them dry, *i.e.*, at once. If fire be not available, disinfecting solutions should be used strong enough to render the poison inert. (5) The soiling of the bed-clothing and personal apparel with mouth discharges should be prevented if possible. In the event of such contamination, they should be disinfected as soon as possible. (6) No toys or implements of any sort that cannot be boiled or subjected to the strongest germicidal solutions should be given the patient, as they are apt to become soiled by the mouth secretions. (7) Those who minister at the bedside should be especially careful as to personal contamination and disinfection from the moment they enter the room. (8) The nostrils should be taken thorough care of, as the morbific matter which finds its way into these parts will, in the dry state, easily find its way into the atmosphere of the room, thus making the spread of the disease more probable.

## ON OZONE AND ITS GENERATON BY THE STATIC CURRENT FOR THERAPEUTIC USE.

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Ozone has attracted a great amount of attention from chemists and meteorologists. The vague ideas which were formed as to its nature, when it was first discovered, have given place gradually to more definite views; and, though we cannot be said to have thoroughly mastered all the difficulties which this strange element presents, yet we already know much that is interesting, instructive, and valuable from many points.

Let us briefly consider the history of ozone. Nine years after Priestley had discovered oxygen, Von Marum, the electrician, noticed that when electric sparks are passed through that gas a peculiar odor is evolved; most people know this odor, since it is always to be recognized in the vicinity of an active electrical machine, and after a heavy thunder-storm. In reality it indicates the presence of ozone in the air; but for more than half a century after Von Marum had noticed it, it was supposed to be the "smell of electricity."

In 1840 Schoenbein began to inquire into the cause of this peculiar odor. He presently found that it was due to some change in the oxygen, and that it could be produced in many ways. Of these the simplest and in some respects the most interesting is the following: Take sticks of common phosphorus, scrape them until they have a metallic lustre, place them in this condi-

tion under a large bell-jar, and half cover them with water. The air in the bell-jar is soon charged with ozone, and a large room can readily be supplied with ozonized air by this process. Schoenbein set himself to inquire into the properties of this new gas, and very interesting results rewarded his researches. It became quite clear, to begin with, that whatever ozone might be, its properties were perfectly distinct from those of oxygen. Its power of oxidizing or rusting metals, for example, is much greater than that which oxygen possesses. Many metals which oxygen will not oxidize at all, even when they are at a high temperature, submit at once to the influence of ozone. But the power of ozone on other substances than metals is equally remarkable. When air, for instance, is so ozonized as to be respirable for only a short time, its destructive power is such that gutta-percha and India-rubber tubings are destroyed by merely conveying it. The bleaching and disinfecting powers of ozone are very striking. Schoenbein was at first led to associate them with the qualities of chlorine gas, but he soon found that they were perfectly distinct.

It had not yet been shown whether ozone was a simple or a compound gas. If simple, of course it could be but another form of oxygen. At first, however, the chances seemed against this view, and there were not wanting skilful chemists who asserted that ozone was a compound of the oxygen of the air with the hydrogen which forms an element of the aqueous vapors nearly always present in the atmosphere. Since the discovery of another element in the air (argon) we cannot tell how much this one will add to elucidate the many questions before us regarding the composition of the atmosphere. It was important to set this question at rest. This was accomplished by the labors of De la Rive and Marignac, who proved that ozone was simply another form of oxygen. Here we touch on a different branch of modern chemical research. The chemical elements being recognized as the simplest forms of matter, it might be supposed that each element would be unchangeable in its nature. That a compound should admit of a change is, of course, a thing to be expected. If we decompose water, for instance, into its component elements—oxygen and hydrogen—we may look on these gases as exhibiting water to us in another form; and a hundred instances of the sort might be advanced by which, either by separating the elements of a compound or by rearranging them, we obtain new forms of matter without any real change of substance; but with an element the case, one would suppose, should be different. However, the physicist must take facts as he finds them; and among the most thoroughly recognized chemical facts we have this one, that elementary substances may assume different forms. Chemists call the phenomenon "allotropy." A well-known instance of allotropy is seen in red phosphorus. Phosphorus is one of the chemical elements, and, as every one knows, the form in which it is usually obtained is that of a soft, yellow, semi-transparent solid, somewhat resembling beeswax in consistence, poisonous, and readily taking fire. Red phosphorus is the same element, yet it differs wholly in its properties. It is a powder, it does not readily take fire, and it is not poisonous. Ozone, then, is another form of oxygen. It is the only instance yet discovered of gaseous allotropy. And yet we have to deal with the difficult and still vexed questions of the way in which the change from oxygen has brought about the actual distinction between the two forms of the same gas. Schoenbein held that common oxygen is produced by the combination of two special forms of oxygen, the positive and the negative, or, as he called them, ozone and antozone. He showed that in certain conditions of the air the atmospheric oxygen exhibits qualities which were the direct reverse of those which ozone exhibits, and were distinct from those of ordinary oxygen. In oxygen thus negative or antozonized, animals cannot live any more than they can in nitrogen. The products of decomposition are not only not destroyed as by ozone, but seem subjected to preservative influences, and speedily become singularly offensive; dead animal matter rapidly putrefies, and wounds show a tendency to mortification. But the theory of positive and negative forms of oxygen has given way before the advance of new and sounder modes of inquiry. It has been proved, in the first place, that ozone is denser than ordinary oxygen. The production of ozone is always followed by a contraction of the gas' volume, the contraction being greater or less according to the amount of oxygen which has been ozonized. Regularly as the observers—Messrs. Andrews and Tait—converted a definite proportion of oxygen into ozone, the corresponding contraction followed, and as regularly was the original volume of the gas restored when, by the action of heat, the ozone was reconverted into oxygen. And now a very singular experiment was made by the observers, with results which proved utterly perplexing to them. Mercury has the power of absorbing ozone, and the experimenters thought that if, after producing a definite contraction by the formation of ozone, they could absorb the ozone by means of mercury, the quantity of oxygen which remained would serve to show them how much ozone had been formed, and thence, of course, they could determine the density of ozone. Suppose, for instance, that we have one hundred cubic inches of oxygen, and that by any process we reduce it to a combination of oxygen occupying ninety-five cubic inches. Now, if the mercury absorbed the ozone and we found that there only remained eighty-five cubic inches of oxygen, we could reason in this way: ten cubic inches were occupied by the ozone before the mercury absorbed it; but these correspond to fifteen cubic inches of oxygen; hence the ozone must be denser than oxygen in the proportion of fifteen to ten, or three to two. And, whatever result might have followed, a real absorption of the ozone by the mercury would have satisfactorily solved the problem. But the result actually obtained did not admit of interpretation in this way. The apparent absorption of the ozone by the mercury—that is, disappearance of the ozone from the mixture—was accompanied by no diminution of volume at all. In other words, returning to our illustrative case, after the absorption of the ozone from the ninety-five cubic inches occupied by the mixture there still remained ninety-five cubic inches of oxygen; so that it seemed as though an evanescent volume of ozone corresponded in weight to five cubic inches of oxygen. This solution, of course, could not be admitted, since it made the density of ozone infinite. The explanation of this perplexing experiment is full of interest and instruction. The following is the account given by Mr. C. W. Heaton (professor of chemistry at Charing Cross Hospital), slightly modified by me, however, so that it may be more readily understood: Modern chemists adopt, as a convenient mode of representing the phenomena which gases exhibit, the theory that every gas, whether elementary or compound, consists of minute molecules. They suppose that these molecules are of equal size and are separated by equal intervals so long as the gas remains unchanged in heat and density. This view serves to account for the features of resemblance presented by all gases. The features in which gases vary are accounted for by the theory that the molecules are differently constituted. The molecules are supposed to be clusters of atoms, and the qualities of a gas are assumed to depend on the nature and arrangement of these ultimate atoms. The molecules of some ele-

ments consist of but a single atom; the molecules of others are founded by pairs of atoms; those of others by triplets, and so on. Again, the molecules of compound gases are supposed to consist of combinations of different kinds of atoms. Now, Dr. Odling, to whom we owe the solution of the perplexing problem described above, thus interpreted the observed phenomena: A molecule of oxygen contains two atoms and one of ozone contains three, and the oxidizing power of ozone depends on the ease with which it parts with its third atom of oxygen. Thus, in the experiments which perplexed Andrews and Tait, the mercury seemed only to absorb the ozone; in reality it converted the ozone into oxygen by removing its third atom. And now we see how to interpret such as we considered in our illustrative case. Five cubic inches of oxygen gave up their atoms, each atom combining with one of the remaining oxygen doublets, so as to form a set of ozone triplets. Clearly, then, fifteen cubic inches of oxygen were transformed into ozone. They now occupied but ten cubic inches; so that the mixture, or ozonized oxygen, contain eighty-five cubic inches of oxygen and ten of ozone. When the mercury was introduced, it simply transformed all the ozone triplets into oxygen doublets, by taking away the odd atoms from each. It thus left ten cubic inches of oxygen, which, with the remaining eighty-five, constituted the ninety-five cubic inches observed to remain after the supposed absorption of the ozone. It follows, of course, that ozone is half again as heavy as oxygen.

But, as Mr. Heaton remarked, "This beautiful hypothesis, although accounting perfectly for all known facts, was yet but a probability. One link was lacking in the chain of evidence, and that link M. Soret has supplied by a happily devised experiment." Although mercury and most substances are capable only of converting ozone into oxygen, oil of turpentine has the power of absorbing ozone in its entirety. Thus, when the experiment was repeated with oil of turpentine in place of the mercury, the ozone was absorbed, and the remaining oxygen, instead of occupying ninety-five inches, occupied but eighty-five. After this no doubt could remain that Dr. Odling's ingeniously conceived hypothesis was the correct explanation of Messrs. Andrews and Tait's experiment. We recognize, then, in ozone a sort of concentrated oxygen with this peculiar property: it possesses an extraordinary readiness to part with its characteristic third atom and so disappear as ozone, two-thirds of its weight remaining as oxygen. It is to this peculiarity that ozone owes the properties which render it so important to our welfare. Not until quite recently have we confidently adopted Schoenbein's views that ozone exists in our atmosphere. Some disputes originated regarding the test for ozone made by its discoverer. They, however, were cleared up by other experimenters, and now there is no further doubt that the test papers which Schoenbein made use of turned blue under the influence of ozone; but they were similarly influenced by other elements which are known to exist in our atmosphere, and were turned blue even by the sun's rays. However, Dr. Andrews has shown how the character of the air producing the change can be further tested so as to render it certain that ozone has been at work on the Schoenbein test. If air which colors the test papers is found to lose the property after being heated, the change can be due only to ozone, because nitrous and nitric acids (which have the power of coloring the test papers) would not be removed by the heat, whereas ozone is changed by heat into oxygen. Once we are certain that ozone exists in the air, we must recognize the fact that its presence cannot fail to have an important bearing on our health and comfort, for ozone is an exceedingly active agent and cannot exist anywhere without setting busily to its own proper work. What that work is and whether it is beneficial has been considered, and all proofs point to the utmost beneficial side. In the first place, ozone—this pure vivifier—is found in greater abundance in pure country air than it is in the less pure air of towns and cities. It is more abundant in the mountains than in valleys, at the seaside than inland, in well drained and ventilated towns than in those where important sanitary regulations are neglected.

Air of pure quality is nature's great deodorizer and purifying principle, that oxidizes the emanations from decomposing animal and vegetable substances with which the air is constantly tainted, thus rendering them innocuous. The atmosphere would be so polluted by its admixture with the noxious matters evolved during the putrefactive changes which are unceasingly taking place on the globe as to be unfitted for sustaining animal life, were it not for the all-pervading influence of the great "disinfectant"—ozone. In thus sustaining the salubriousness of the atmosphere by destroying its impurities in its turn, it too suffers destruction. If it was not so, there would necessarily be an accumulation of ozone prejudicial to animal and vegetable life, for it is always being produced, not only on the surface of the planet, but in the wondrous envelope which encompasses it. As ozone has been considered the greatest scavenger of the air when contaminated with effluvia from the dead, it has also been thought to be the physical purifier of the living animal. Schoenbein believed that oxygen undergoes chemical polarization in the body when it is respired, and accounts in this manner for the rapid changes which occur in the tissues. It is very probable that when oxygen gas is brought into contact with the blood of the lungs, a portion of it is transformed into ozone. Some think that it is absorbed in conjunction with the ozone contained in the inspired air, and is carried by the blood into the various tissues of the organism, where it is engaged in the oxidation of effete material. This point is one of extreme interest both to the physiological and pathological student.

As ozone is so universally found to be abundant on the windward and deficient on the leeward side of the cities and towns, we are almost unanimous in thinking that it is used up in the destruction of organic matters, and that those substances which hinder the formation of ozone, if they exist in large quantities in the air, are not conducive to health, but rather to disease. It is probable that ozone possesses the power of destroying the infinitesimal germs or spores with which this organic matter is often associated, and which are in all probability the agents concerned in the spread of many diseases.

On the mountain, on the moor, at the seaside—in one word, in the bright and beautiful country which God made, where pure, invigorating air largely supplied with ozone abounds, in which the laborer, the farmer, and the fisherman are nearly always bathed—the skin is of a rosy hue and is tanned on exposure. Men and other animals are cheerful, and living things present, for the most part, a healthy appearance, while sthenic forms of diseases are encountered. The sailor, who is more exposed than the landsman to an ozoniferous atmosphere, presents this weatherbeaten and tanned appearance in the highest degree. We find on the contrary, again, in the confined and crowded dwellings of "the great unwashed" which form the great centres of industry made by man—where ozone cannot penetrate, or, if it occasionally does, where it is immediately used up in that oxidation of noxious emanations—men and plants become blanched. The skin exhibits a pallor, and all living creatures look

sickly and melancholic, while diseases of the asthenic type predominate. Writers have ventured to argue that, because ozone removes noxious odors, therefore it must arrest infection and destroy pestilental miasmata as well as the germs of epidemic disease. Hence it has been termed "nature's grand disinfectant."

Perhaps the most striking proof ever given of its qualities in this respect is that afforded by an experiment conducted by Dr. Benjamin W. Richardson. He placed a pint of blood, taken from an ox, in a large wide-mouthed bottle. The blood had then coagulated, and it was left exposed to the air until it had become entirely redissolved by the effects of decomposition. At the end of a year the blood was put into a stoppered bottle and set aside for seven years. "The bottle was then taken from its hiding-place," says Dr. Richardson, "and an ounce of the blood was withdrawn. The fluid was so offensive as to produce nausea when the gases evolved from it were inhaled. It was subjected by Dr. Wood to a current of ozone. For a few minutes the odor of ozone was destroyed by the odor of the gases from the blood; gradually the offensive smell passed away; then the fluid mass became quite sweet, and at last a faint odor of ozone was detected, whereupon the current was stopped. The blood was then entirely deodorized; but another and most singular phenomenon was observed. The dead blood coagulated as the products of decomposition were removed, and this so perfectly that from the new clot that was formed serum exuded. Before the experiment commenced it was predicted, on theoretical grounds, that secondary coagulation would follow on purification, and this experiment, as well as several others afterward performed, verified the truth of the prediction."

It will of course be understood that ozone, in thus acting as a disinfectant and rejuvenator, is transformed into oxygen. It parts with its third atom as in the mercury experiment, and so loses its distinctive peculiarity. Ozone has certain work to do, and in doing that work is transmuted into oxygen. It follows then that when there has been much work for ozone to do, we shall find little ozone left in the air, unless it is supplied continuously by such means as I speak of here. These are actual facts as recorded by strict scientific observations.

So far as we have gone, we might be disposed to speak unhesitatingly in favor of the effects produced by ozone. We find further evidences of the good effects of ozone in the fact that cholera and other epidemics never make their dreaded appearance in that land where the air is well supplied with ozone, or in what the meteorologists call "the ozone periods." And though we cannot yet explain the circumstances quite satisfactorily, we yet seem justified in ascribing to the purifying and disinfecting qualities of ozone our freedom at those times from epidemics to which cleanliness and good sanitary regulations are notedly inimical.

I have ascertained from many clinical and experimental tests that ozone is very energetic in its affinities and very powerful in its action, when artificially prepared, and that it has considerable remedial virtues in the treatment of all bacterial diseases, etc.

**Résumé of Some of My Scientific Researches on the Creation of Ozone in the Blood Circulation.**—All kinds of pitched battles have been waged in vain alone against that ravaging malady known as tuberculosis. I shall speak only of this disease here, as I devoted much time to it in trying to ferret out a scientific method of procedure against it. Many methods by others have been tested and are still to be. Some of them are based on scientific planes and others are speculative inferences. At the last conference of the International Medical Congress held at Moscow, Russia, in 1897, I presented my original research on "The Sterilization of Lung Tissue in Disease" by means of the galvanic current, etc. Now what I said in that paper was taught me by my experiments, and it seemed to all rational reasoning a most scientific and sound exposition—was founded on true physiological principles. I based my investigation on the fact that the blood is the true nourisher of the entire system, and holds in suspension all vital principles to carry on its physiological functions, and in health must always remain in as normal condition as possible. In tuberculosis, a known constitutional disease, the system is invaded early in the malady through the circulation by certain poisonous substances, which are so complex in their nature that they even defy chemical analysis (though there are some disputed points in connection with these essential tuberculous toxins existing in the blood). These so-called toxins bring about intoxications in the case of which the many methods of treatment directed against this wholesale poisoning have proved to be failures.

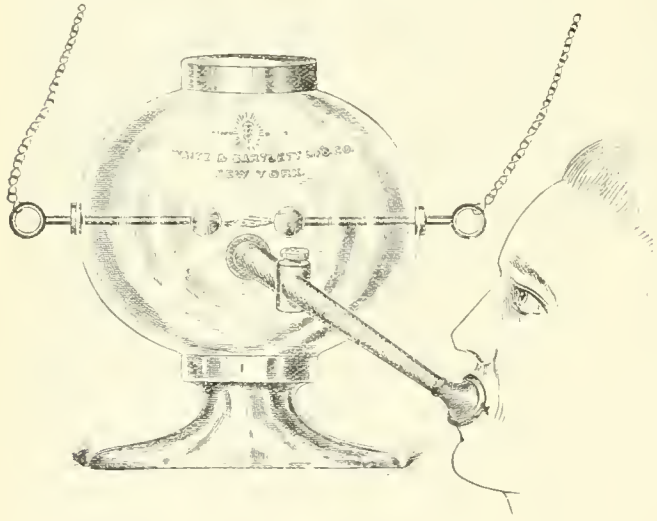
Electrolysis is a positive scientific fact; electrochemistry and electro-physiology teach us that all complex bodies can be resolved into their elementary states. Why not, then, direct its specific action on the dead tissues within the lungs and against the poisonous material floating in the blood stream? I have for a number of years struggled experimentally with several interesting and worthy electro-physiological and electro-chemical problems directed toward the specific action on tuberculosis, as the underlying principles therein are to attain results not possible to be gained by any other known method to date. I have experimentally investigated in detail the influence of the galvanic current in promoting the formation of ozone within the blood—and that with the utmost satisfaction, both clinically and scientifically.

In my communication before this congress, after giving an interesting résumé of our knowledge of the nature of ozone and its occurrence in the blood, and discussing generally the physiological and chemical factors bearing upon my investigation, I related the steps taken and the results attained by my inquiry. In order that the tests for ozone might be applied "in the open"—that is, in the free air of the laboratory, rather than in Schmitt's balloon—the inquiry was not undertaken until it was satisfactorily proved that ozone and nitrous acid, the presence of which would have invalidated my conclusion, were absent, or only present in a negligible quantity. The blood selected for examination was taken from the carotid arteries of healthy rabbits. The blood serum, as well as the fibrinous clot, gave well-marked ozone reactions, and the latter, owing to the entangled red corpuscles, more distinctly than the former. A galvanic current, with specially arranged mechanical contrivances, of ten volts and fifteen milliamperes, sent through the fibrinated blood, notably increased the amount of ozone. Although an exact quantitative test could not be well made, I approximately determined that the amount of ozone, after electrization, was increased about two and one-half times. So much for the results obtained from extravasated blood. A current of a strength of forty milliamperes was then passed through the body of a healthy rabbit for ten minutes, and blood from the carotid arteries was tested for ozone. To my astonishment the reactions indicated a considerable increase in the quantity of ozone over that obtained from normal blood. From this result it is concluded that the polarizing action of animal electricity has an important influence *in corpore* in promoting the evolution of ozone. Some interesting observations were made upon animal electricity, which

I am disposed to regard as the factor in all the processes of change, of chemical action or otherwise, within the living body.

From my conclusions after all my investigations I arrived at a point where theory and practice have become one. The theory formulated was as follows: That ozone is generated in the blood stream, but that it cannot exist there for any length of time in a free state, but that the molecules as formed, $O_3$, are readily transformed into $H_2O_2$, which would coagulate the albuminous matter and partly with the oxyhæmoglobin form probably a compound which I provisionally desire to call peroxyhæmoglobin. From the many tests I think that the galvanic current, as it passes through the blood, decomposes the chlorides (which are normal constituents) and forms hypochlorites, or some highly oxidized compounds of chlorine. In these experiments I have dealt entirely with ozone generated from the oxygen within the body, and it is in this form that it plays an important rôle in the oxidization of the tissues. I prefer to regard it as an agent that performs its most useful work upon the field where it is ushered into existence, where nature calls it into life because it is needed to perform important duties.

The tincture of chloride of iron gives the best results in combination with the inhalation of ozone or the application of the galvanic current over the stomach and front of the chest wall one half-hour after the dose has been given. It is wonderful to witness in a short time the grand effects of iron and ozone upon anæmic patients. The micrometric scale will show the increase of corpuscles in from one to two weeks in a remarkable manner.



In patients who are not able to go to mountain resorts the administration of ozone daily will give comparatively fair results.

I could cite a hundred more clinical facts, but this paper does not admit of more than I already have given as examples.

The ozone generator consists of a glass globe which has two poles within it, attachable by chains to a static machine. These poles have silver points so arranged as to produce a fine and large brush discharge which gives off a large quantity of ozone. Knowing that such a discharge in a globe does not give off pure ozone, as it contains some of the irritating acids in the air which are always intermixed, I was led to construct this compound ozone generator, by which means the ozone is purified by an oil which absorbs all impurities and allows it to pass on in a pure and administrable state. A small reservoir is attached just outside of the globe, which may be charged by a saturated piece of cotton containing any of the essential oils—giving the ozone thereby a more pleasant and therapeutic value. This is the most simple ozone apparatus ever constructed for attaching to a static machine, for generating a large quantity of pure ozone at a moment's notice.

I have also constructed a cabinet apparatus which is so arranged as to give in combination ozone and actinic rays of light of a high violet. This cabinet is big enough to permit two people to enter at one time to inhale nascent ozone and enjoy sunlight on rainy or cloudy days, etc., for any length of time.

460 Lexington Avenue, New York City.

## Clinical Department.

### INTERSTITIAL PREGNANCY, AND REPORT OF CASE.

By CHARLES F. SMITH, M.D.,

Des Moines, Iowa.

The study of ectopic gestation has been so thoroughly written up in the past few years, and is of so common occurrence, that a consideration of the subject as a whole might be out of place for me; but the interstitial variety is so rare that I feel it my duty to report the following case which occurred in my practice a short time ago. About midnight I was summoned to see a woman, twenty-four years of age, of Swedish descent, married one year; her previous health had been good, with good family history; she had menstruated regularly until the past two months, since which time she had seen no show, nor had there been any discharge of any kind from the vagina. The night previous to my being called the patient had been to a ball, danced the greater part of the night, and ate a hearty supper late. The next day she did a washing, baking, and scrubbing, after which she walked downtown a distance of nearly a mile. While walking on the street she was suddenly taken with a pain in the abdomen and became faint. This soon passed away and she walked home. About the same time the bowels began to move freely, and up to the time I was summoned there were four or five stools which gave her considerable pain. The abdomen was found to be distended with gases, tympanitic, and tender on pressure. The pain when the patient was at rest was not severe, but of a bearing-down nature, which led me to suspect miscarriage. Upon making a vaginal examination the uterus was found to be about double the normal size, with a soft flabby cervix, but no dilatation. The tubes, ovaries, and cul-de-sac were carefully explored, and, so far as could be ascertained, were normal. Several attacks of sharp pain came on previous to my arrival. The pulse, respiration, and temperature were normal. There having been a little difficulty between the patient and her husband, I attributed the fainting to manifestations of hysteria, and the pain to intestinal indigestion; treatment for which was given, with a request that I be notified in case she did not improve. Early the following morning, having again been summoned, I found the patient dead, she having expired a few minutes before my arrival. The belly was distended with fluid. Further history revealed that soon after I left, at midnight, the patient went to the closet, and while there gave a scream and grew faint, becoming unconscious, and remained in that condition for some time, but finally regained consciousness. Other attacks of similar nature followed, and during

the last violent convulsions occurred, after which she became conscious and died. Believing the fluid in the abdomen to be blood, probably from a ruptured ectopic pregnancy, I asked for an autopsy, which was granted.

The abdomen being opened the peritoneal cavity was found to contain three quarts of blood, most of which was fluid, but the cul-de-sac contained a large clot. After the blood was removed extensive laceration of the uterus was found, just to the right of the median line and on the posterior aspect. The tubes, ovaries, and ligaments were perfectly normal, with the exception that the right tube and ovary were drawn a little higher by the development of the uterus being slightly greater on that side. Neither tube nor ligament showed any indication of inflammation. The whole fundus of the uterus showed degeneration and thickening of the wall, a portion being very soft. A ruptured amniotic sac was found containing chorionic villi, which had no connection with the uterine cavity. This was enclosed in degenerated uterine tissue. The uterine walls in other portions were firm and normally thickened for a two months' pregnancy. The decidua had formed in the uterine cavity, and the cervix contained a mucous plug.

The etiology of these cases is somewhat obscure; but in general the conditions that are factors in producing tubal cases proper should all be considered in this variety, as the pregnancy occurs in that portion of the tube which is within the uterine wall. In the case that came under my observation the fundus of the uterus was very much degenerated and softened at the time of the rupture, and if this condition existed at the time of the conception, it is easy to see that the development would force the fecundated ovum into the fundus, it being the direction of least resistance. The diagnosis is exceedingly difficult, if not impossible, from the fact that the symptoms do not differ to any great extent from the normal. The symptoms may be all of those found in normal cases, but too much stress should not be put upon the absence of menstruation; for in this, as in other varieties of ectopic gestation, there is very often an irregular discharge, caused by the formation of the decidua in the uterine cavity. This, however, must be distinguished from membranous dysmenorrhœa. A pregnancy occurring in a bicornuate uterus is quite difficult to distinguish from the interstitial variety, but this can usually be done, especially if the rupture takes place into the peritoneal cavity. Normal cases of pregnancy complicated with myoma or fibroid of the fundus may occasionally be mistaken for interstitial pregnancy, but if careful examination is made and the history of the growth of the tumor is taken, the diagnosis may be possible in a limited number of cases. A gradual rapid development would tend to throw the evidence toward interstitial pregnancy. Rupture, as is shown by Hecker's collection of twenty-six cases, usually takes place before the sixth month, as it did in each case of his collection. The cause of rupture is probably always pressure and development of the fœtus, thinning the walls, and finally the tension becomes too great and rupture occurs. But it is not probable that many cases actually rupture from this cause alone, as undue strain by violence of some kind is usually the direct cause. Rupture may occur either into the uterine or abdominal cavity. If into the latter, which is the most frequent, death usually follows in a short time from hemorrhage; if into the uterine cavity, the fœtus may be expelled immediately, in which case very severe if not fatal hemorrhage would follow; or the fœtus might remain in the uterus and go on to term. This would be very improbable, and would occur only when the attachment of the placenta was not disturbed. The only treatment worthy of consideration is operative, and that is necessarily complete hysterectomy, unless the rupture occurs very early and is slight, in which case the hemorrhage might not be sufficient to warrant so severe a measure.

Sections of the uterus were examined by Dr. Eli Grimes, and found to present extensive parenchymatous and fatty degeneration. The parenchymatous doubtless preceded the fatty degeneration, as the area nearest the rupture was almost wholly fatty and gradually blended into parenchymatous and thence into normal tissue, at some distance from the rupture.

## SELF-INFLICTED WOUNDS IN BOTH EYES, BOTH EARS, TONGUE, AND LARYNX, LEADING TO THROMBOSIS OF THE SINUS TRANSVERSUS.[1]

By GEORGE REULING, M.D.,

PROFESSOR OF OPHTHALMOLOGY AND OTOLOGY IN BALTIMORE MEDICAL COLLEGE.

GEORGE P——, forty-one years of age, who for several weeks had been suffering from mental depression and religious hallucinations, by trade a painter but recently occupied as a watchman in a Baltimore bank building, was on June 1st brought to the eye and ear department of the Maryland General Hospital in the following condition: The sensorium was greatly depressed, suggesting deep melancholia. Repeated questions would elicit no answer save a dull groan; the facial muscles, including the frontal, were paralyzed on the right side; the eyelids on either side were greatly swollen and bluish discolored, those of the right eye being half open, those of the left firmly closed. On raising the upper lids by means of an elevator, the right eye showed a large hemorrhage in its anterior chamber, a small perforating wound of the sclerotic over the insertion of the rectus externus, and considerable protrusion of the conjunctival transition fold, owing to intra-orbital hemorrhage. The eyeball itself was also slightly forced forward, amounting to two lines as measured by Keyser's exophthalmometer. Vision of this eye was reduced to only quantitative perception, but the visional field was intact. The left eye was similarly injured, the wound of the sclerotic, however, being over the insertion of the rectus internus and extending slightly into the cornea, corpus ciliare, and iris, a small prolapse of the ciliary portion protruding through the wound. The conjunctiva was suffused by large hemorrhages, which gave the appearance of an uninterrupted blood coagulum extending around the cornea and over the lower lid. The cornea showed all across its equator an abrasion of epithelium about two lines wide. Vision of this eye was *nil*, evidently owing to the fact that the mechanical insult was sufficient to cause a total detachment of the retina.

Both ears showed on superficial inspection several small abrasions of the concha and auricles, as also some small subcutaneous blood spots and a slight swelling of the parts. The meatus externus was filled completely with coagulated blood on either side. After a gentle use of the syringe and lukewarm sterilized water, I could see that the drum in each ear was torn by an irregular wound from which particles of tympanic tissue were hanging in shreds from the fissure. The lining membrane of the meatus externus showed also superficial scratches, but was not severely torn in any place. Hearing of the right ear: Loud voice in four feet; in the left ear there was total deafness. Neither loud voice nor Rinne's test, nor the perception by bone conduction (Weber's test) elicited any evidence of hearing. I must state here, however, that

[1] Read before the Eastern Section of the American Laryngological, Rhinological, and Otological Society at Washington.

the deep melancholia of the patient, and the difficulty of making him answer my questions, made the results of the acoustic examination to my mind somewhat doubtful. The presence of blood coagulum in the middle ear did not permit me to determine the position, presence, or absence of the ossicles. On examination of the tongue a non-penetrating stab-wound was found in the centre, just at the beginning of the papillæ circumvallatæ, and from the left tonsil downward a red streak of superficial abrasion extended toward the false left vocal cord, in which it evidently spent its force, as the true vocal cord was not injured.

All the injuries described had been made with the end of a painter's medium-sized brush handle six inches in length, which the patient had trimmed to a sharp point with his pocket-knife. If we consider the systematic procedure of the man's actions, his deliberation based on the frenzied conviction that he would find forgiveness for his sins by depriving himself of those organs which he blamed for the committal of his evil deeds, we can but be astonished at how little he must have suffered while his frenzy lasted, during which each eye and each ear, together with his tongue and larynx, were successively attacked.

My treatment consisted of an iridectomy in the left eye for the purpose of removing the prolapse of the iris and admitting of a closure of the sclero-corneal wound, followed by the application of a pressure bandage over both eyes and the introduction of iodoform gauze in both ears. In order to secure mental rest, a large dose of chloral and bromide of potassium was given at 3 P.M., one hour after the patient was brought to the hospital. The temperature was normal at that time. On the evening of the same day the temperature rose to 101.5° F.; the patient tossed about in his bed and seemed disposed to tear the bandage from his eyes, so that morphine was used hypodermically, and the patient was guarded by a strong male attendant. The remainder of the first night passed off quietly, and on the next evening I noticed an improvement in the hearing of the right ear, which perceived common conversation in about four feet distance. He also counted fingers with his right eye at a distance of four feet, and he seemed to be anxious to know whether he could recover. The left eye showed no improvement in vision, though the wound was beginning to close. The left ear was also completely void of acoustic perception, either qualitative or quantitative. The patient's tongue was greatly swollen and heavily coated; the left tonsil showed a false membrane of a rust-brown hue, and fetor ex ore of a slightly gangrenous character began to develop. After ordering a mouth-wash of an antiseptic solution, including a moist piece of lint over the tongue dipped in the same solution, I bandaged the eyes again and blocked the ears lightly as before. The sensorium of the patient was greatly improved at intervals, and his concern for getting well again and his regret for his acts became quite apparent. For the next three days the improvement of the right eye and ear was quite steady; fingers could be counted in fourteen feet on the fourth day, and the conversational voice could be heard in ten feet. On the night of the fifth day the patient became delirious and almost uncontrollably violent, so that two strong men had to hold him in check from one o'clock to six o'clock in the morning, when he fell into a profound coma lasting for thirty-six hours, when death under muscular twitchings over almost every group of muscles of the body, and a strong clonic contraction of the left sterno-cleido-mastoid, occurred on the seventh day after the injury.

Post-mortem: It was with the greatest difficulty that I was permitted by the widow and sister of the deceased to open the skull and inspect the brain. On removing the calvarium a considerable venous stasis over the whole convexity of the brain was seen, so that the meningeal veins appeared almost black and very tortuous. On digital pressure it was found that the left hemisphere was somewhat softer than the right one. After the opening of the dura mater and careful dissection, the left half of the sinus transversus was found to be occupied by a grayish-red thrombus which was tightly adherent to the somewhat greenish discolored walls of the sinus. This discoloration was particularly noticeable in the fossa sigmoidea and along the sinus petrosus superior, a condition which was undoubtedly the result of a thrombo-phlebitis of the veins of the left inner ear which directly communicate with the sinus. The infection produced by the destructive stab-wound, which penetrated into the middle ear and most likely through the fenestra ovalis to the labyrinth, had undoubtedly furnished in this case the seed for either an intra-aural periostitis or an infectious thrombo-phlebitis which led to the thrombosis of the sinus transversus and its near neighbor, the sinus petrosus superior. There were a few small capillary ruptures in the immediate surroundings of the thrombosed sinus, but no abscess or larger apoplectic deposit was found. The cerebellum and medulla oblongata were normal. As the family of the deceased would not permit the removal of the os petrosum, I was obliged reluctantly to leave this interesting specimen in its original position untouched.

## TETANUS OF NINETEEN DAYS' DURATION SUCCESSFULLY TREATED WITH ANTITOXIN.

By WILLIAM M. JAMES, M.D.,
WHITESBORO, N. Y.

Hugh H. Hughes, aged forty-three years, a native of Wales; a milkman of Maynard, Oneida County, New York. On April 1, 1898, the wind blowing a gale, Mr. Hughes attempted to open a large barn door, which was fastened by a hook and short chain. The rusty hook caught him in the ulnar edge of the palm with such a grip as to carry him with the door forcibly to the side of the barn. The hook tore deeply across the palm and down between the fingers; a ragged, ugly wound was the result. He rode nearly three miles to my office to have it dressed. The location, severity, and nature of the injury were such that I then warned him of the liability to tetanus and the necessity of extra caution on his part. The wound was thoroughly and antiseptically cleansed and dressed. Contrary to advice he kept at work, and from the cold and constant shaking over the rough roads in two days he was in great trouble. His hand and arm were much swollen. There was redness of the lymphatics extending up to the body; he had high fever, and pain and loss of sleep compelled him to remain in bed. He constantly grew worse, and in about six days from the accident a stiffness of the jaws, the forerunner of tetanus, appeared. The next day there were slight tetanic spasms. For comfort to him and convenience to myself, on April 9th, about 2 P.M., he was admitted to St. Luke's Hospital of Utica. He was given a warm tub bath, and under anæsthesia the wound was thoroughly cleansed, free openings for the exit of pus being made above the wrist and near the elbow. Thorough irrigation was made with bichloride and warm water, drainage tapes were inserted, and the hand and arm were properly dressed. The dressing and thorough irrigation were repeated every six to twelve hours thereafter as indications seemed to require. At 2 P.M. the temperature was 101.2° F.; pulse, 108; respiration, 26. The man was suffering much pain and had frequent spasms at this time. At 10 P.M. the temperature

was 102.6° F.; pulse, 126; respiration, 26. He was in greater suffering from pain and had severe tetanic spasms. I began using tetanus antitoxin, 20 c.c., injected under the skin in the back.

April 10th: There was severe pain in the arm, little sleep, great difficulty in swallowing, profuse perspiration; no perceptible changes in wounds. Temperature, 100.4° to 102.2° F.; pulse, 112; respiration, 24. Antitoxin, 20 c.c., was given at 10 A.M., 5:15 P.M., and midnight.

April 11th: There was no perceptible change. Temperature, 101.8 to 100.8° F.; pulse, 84 to 104; respiration, 22 to 24. Antitoxin, 20 c.c., was given at 5 A.M.; 10 c.c. at 9:45 A.M. and 2:45 P.M.; 20 c.c. at 6 P.M. and 11 P.M.

April 12th: There was muscular twitching of the face, arms, and legs while the patient was sleeping. Temperature, 99° to 99.8° F.; pulse, 100 to 112; respiration, 20 to 22. Antitoxin, 20 c.c., was given at 6 A.M. and 10 A.M.; 5 c.c. at 2:15 P.M.; 20 c.c. at 3 and 9:30 P.M.

April 13th: The patient slept about four hours last night. There was less muscular twitching now. Tincture gelsemium gtt. x. was ordered every two hours. The supply of antitoxin getting short, its use was extended to every six hours.

April 15th: The patient is worse in every way. He received no antitoxin after 6 A.M. Tincture gelsemium gtt. v. was given every two hours.

April 16th: Temperature, 99.2° to 100.2° F.; pulse, 120 to 100; respiration, 24 to 20. There was intense pain in the muscles of the neck, arms, legs, and abdomen. The abdomen was intensely rigid so that strong pressure made no impression. This constant rigidity and pain in the muscles lasted a long time, but after the man was again well under the influence of antitoxin it disappeared.

April 17th: I began antitoxin, 20 c.c. every three hours, a little before 1 A.M., and continued in the same way throughout the day.

April 18th: The patient is a little better. Temperature, 99.8° to 98.4° F.; pulse, 124 to 106; respiration, 24 to 20. Antitoxin, 20 c.c., was given every three hours.

April 19th: Temperature, 99.8° to 98.4° F.; pulse, 124 to 106; respiration, 24 to 20. Antitoxin, 20 c.c., was given every three hours. Tincture gelsemium gtt. vi. every two hours. The patient is very much better.

April 20th: No antitoxin was given, as the supply had run out. Temperature, 98.6° to 99.4 F.; pulse, 96 to 100; respiration, 20.

April 21st: No antitoxin. Temperature, 98.6° to 99.4° F.; pulse, 110 to 120; respiration, 20. The spasms and muscular contractions were very severe, frequent, and painful.

April 22d: Temperature, 98.6° to 99.4° F.; pulse, 98 to 120; respiration, 20 to 24. Antitoxin, 10 c.c., was given at 6:45 P.M. The patient was suffering greatly.

April 23d: Temperature, 100.6° to 101.4° F.; pulse, 100 to 106; respiration, 20 to 28. The tetanic spasms were much worse. The discharge from the hand and arm having nearly ceased, the drainage tapes were removed. Antitoxin, 20 c.c., was given at 8:30 and 10:30 A.M.; 10 c.c. at 12:30, 2:50, and 5:30 P.M., and every two hours thereafter.

April 24th: Temperature, 100.4° to 100.2° F.; pulse, 100 to 104; respiration, 20 to 22. Antitoxin, 10 c.c., was given every two hours. Fluid extract gelsemium gtt. viii. every two hours.

April 25th: Temperature, 100.4° to 102.2° F.; pulse, 100 to 134; respiration, 20 to 28. The patient is very weak with profuse perspiration. Antitoxin, 10 c.c., was given every two hours.

April 26th: Temperature, 101.8° to 100.8 F.; pulse, 120 to 132; respiration, 24 to 30. He is very weak and sweating very much. Antitoxin, 10 c.c., was given every three hours.

April 27th: The patient is better, has no spasms, and sweats freely. Temperature, 101.2 to 100.4 F.; pulse, 118 to 130; respiration, 20 to 24. No antitoxin was used from this date.

April 28th: There was daily improvement. The sweating continued several days. On the 12th, the man had a tub bath. He began sitting up about the 10th, and with good nourishment and stimulants and tonics improved so as to be able to leave the hospital May 28th. The duration of the tetanic spasms was nineteen days.

On two different occasions I failed to get the antitoxin on time, and there was an interval of one and one-half days once, and over two days at another time during which the patient grew rapidly worse; the spasms were more severe and frequent, making it seem as if the result would be fatal. Upon the renewed employment of antitoxin a rapid improvement occurred, thus proving positively its benefit, and that the man's life was saved by it.

On March 20, 1899, I met the man at his usual occupation, and upon inquiry learned that he was in perfect health and has been ever since his tetanic attack. The hand is almost perfect in use.

In the past thirty-seven years as a practitioner I have seen and treated nearly thirty cases of tetanus, employing a great variety of methods, but have always seen fatal results until this latest experience.

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## A CASE OF PRIMARY RENAL TUBERCULOSIS OF TWENTY YEARS' STANDING.

By JACOB FRANK, M.D.,

CHICAGO, ILL.,

SURGEON TO THE ST. ELIZABETH AND GERMAN HOSPITALS AND CONSULTING SURGEON TO THE JEWISH ORPHANS' HOME.

Mrs. S——, married, thirty-nine years of age. American by birth, came to my office in February, 1898, with the following history: For twenty years she had been suffering with what was called by her other physicians, according to her statements, cystitis. She had intermittent attacks of painful and frequent micturition, with pyuria and polyuria; was lame and sore, and had a burning, hot feeling in her back, especially in the region of the left kidney. On two or three occasions she had been taken very sick with colicky pains, commencing in the small of the back, radiating to the thighs; this was followed by inflammation of the urethra and by a rise of temperature, which necessitated her confinement to bed. These attacks were pronounced by her physician "inflammation of the kidneys." She never had passed any calculi. All the above symptoms began to be constant about ten years ago, and remained so up to the time I saw her, when she was obliged to wear a urinal in order to prevent irritation by the decomposed urine and discomfort resulting from the incontinence. She had undergone three operations for urethral ulcerations and one for rectal ulceration. During the entire time of her illness she was treated for bladder trouble both internally and by local irrigation.

The first part of March, when she consulted me again at my office, I recognized the chronicity of the case from its long standing. I made a cystoscopic examination, and the bladder was not found in such a condition as to account for all the above symptoms. Her ureter was catheterized with Kelly's instruments, under cocaine anæsthesia, with no striking results. A small amount of urine was collected from the left kidney,

which was clear and quite normal. From the right kidney the attempt to collect the urine was unsuccessful, as there seemed to be some swelling in the way, at the mouth of the ureter, that interfered with the introduction of the ureteral catheter.

An examination of the urine passed by the patient was made microscopically, and an abundance of pus and epithelial cells were found. Some of the sediment was stained for tubercle bacilli with positive results.

The Harris instrument was finally used, and the urine obtained from each kidney examined with the following results:

| | Right Kidney. | Left Kidney. |
|---|---|---|
| Amount collected in twenty minutes. | 8 c.c. | 10 c.c. |
| Color | Pale milky and cloudy | Clear, light amber. |
| Reaction | Neutral. | Acid. |
| Urea | 0.05 per cent. | 1.05 per cent. |
| Albumin | Well-marked quantity | Very small trace. |
| Microscopically | Pus cells and few red cells. | Few flat cells and occasional leucocytes. |

I did not examine for tubercle bacilli this time. The low percentage of urea, however, secreted by the right kidney showed clearly the degree of destruction of that organ, while the presence of the bacillus tuberculosis, together with the normal findings in the urine from the left kidney, and also the absence upon close physical examination of any lesions elsewhere in the body, made the diagnosis clear and positive of primary renal tuberculosis of the right kidney, which, strange enough, was free from any subjective symptoms and was not palpable.

About the middle of March, 1898, the patient was sent to the German Hospital for operation, when she was very emaciated and anæmic, and had a hectic fever and night sweats, which, according to her statements, she had had for many years.

On March 15, 1898, a lumbar nephrectomy was made, the right kidney and the greater portion of the ureter being removed. After operation the patient's temperature dropped to normal. She made a good recovery and was discharged from the hospital in the fifth week. She is now—which is over a year from the time of operation—feeling well. There is a small ulcer, probably tuberculous, at the neck of the bladder that troubles her considerably, giving rise to occasional attacks of hæmaturia. Except for this the patient feels well, has gained in weight, and has a good appetite.

A pathological diagnosis was made for me by Dr. L. Feingold, and the clinical diagnosis was confirmed: The kidney is very slightly enlarged, nodular; capsule adherent along the entire extent of its attachment to the kidney. Some of the nodules are fluctuating, due to an abscess cavity being located in the cortex behind the nodule. Opening the kidney along its convex surface, abscess cavities of varying sizes, from one-half to three-quarters inch in diameter, invading both the cortical and medullary substance of the kidney are seen. The abscess cavities are filled with a yellowish, cheesy pus, some of which is adherent to the cavity wall. These walls are made up of very old connective tissue and infiltrated with calcareous material, imparting to the touch a feeling of brittleness. In the vicinity of the abscess the kidney substance seems to the naked eye apparently normal. The cortical marking is present in some and absent in other places. The pelvis of the kidney is dilated and studded with young tubercles about the size of a millet seed, showing that the infection travelled downward from the kidney.

*a*, Abscess wall; *b*, three fairly old tubercles of Laennec; *c*, giant cell; *d*, young tubercle; inflammatory tissue; *f*, blood-vessel; *g*, uriniferous tubule.

A section was removed for microscopical examination from the cortex of the kidney, extending into a tuberculous cavity; it was prepared and stained with hæmatoxylin and eosin. Upon examination is noticed in the microscopic field (see accompanying illustration) at the right upper angle quite a thick fibrous capsule, which is nothing more than the wall of a tuberculous abscess. In the immediate vicinity of this fibrous tissue is found an abundance of embryonal connective tissue and three fairly old characteristic tubercles of Laennec, the structure of which consists of a peripheral fibrous-tissue zone and a fibrous-tissue trabecular framework in which characteristic giant cells are seen more abundantly at the periphery of the tubercle and somewhat concentrically arranged. These cells are large, containing from about ten to twenty nuclei which are also concentrically arranged at the periphery of the cell. The cells are distinctly protoplasmic.

In the immediate vicinity of these tubercles a few young ones can be seen and many areas of round-cell infiltration. There is one tubercle not represented in this illustration that has implicated in its meshes what appear to be some tubuli uriniferi. All this inflammatory reaction is confined exclusively to the immediate vicinity of the abscess wall above mentioned. At the left lower angle of the field, which is also seen in the illustration, some comparatively normal kidney structure is seen, becoming absolutely normal in appearance a little distance away from the seat of inflammation.

The condition of the abscess walls and the recent invasion of the pelvis of the kidney, as is learned from the pathological report, explains two features. The former explains the escape from general infection, as such a wall surrounding a tuberculous process will surely be a great barrier against general infection. The latter explains the direction of travelling infection when the pathological process of the cortex of the kidney is compared with the pathological process of the pelvis of that organ.

17 Lincoln Avenue.

## Progress of Medical Science.

**Two Distinct Fractures in the Same Patella at an Interval of Eight Months.**—Henry (*American Journal of the Medical Sciences*, August, 1899) has reported a case in which the plaintiff in a suit for damages had slipped on some loose fragment of brick and had fallen, sustaining a fracture of the left patella. Investigation disclosed that a little less than eight months previously the man had sustained a fracture of the same patella. On examination of the knee-joint a year after the accident but one fracture could be made out, and in that the union was so close and firm that in the centre no separation whatever could be felt, while at the edges the separation did not exceed one-quarter of an inch. There was in addition some slight fibrous ankylosis of the knee-joint, and also some limitation of movement due to adhesions that had formed between the upper fragment of the patella and the femur. The patella itself was much enlarged, its length measuring three and a quarter inches. The patient felt confident that the two fractures had not occurred in the same place, and that the first was nearly an inch below the second. A skiagraph exhibited clearly two separate fractures. It was accepted as evidence, and the patient gained his suit and was awarded damages.

**The Proteid of the Thyroid.**—So many observations have been made on the proteid of the thyroid gland that it might appear that definite information was not to be attained. In the *Zeitschrift für physiologische Chemie*, vol. 27, 1899, Ad. Ostwald gives the latest contribution to this much-involved question. In a thorough and exact manner he has investigated the iodine proteid of this gland. He finds that it belongs to the class of globulins, and he has suggested the name "thyreoglobulin." It may be precipitated by a half-saturated solution of ammonium sulphate from its solution in common salt, and it contains from 1.5 to 1.75 per cent. of iodine and about two per cent. of sulphur, but no phosphorus. Investigations on the pharmacological action showed that it has the same efficiency as the thyroid itself in its effects on metabolism, and there would seem to be no doubt that this globulin is the active principle sought for. This globulin and also an iodine-free nucleo-proteid is probably secreted by the epithelium of the gland and is localized in the colloid of the thyroid.

**Osseous and Articular Trophic Disorders in a Case of Spinal Muscular Atrophy.**—Etienne (*Revue de Médecine*, July 10, 1899) reports the further history of a case of progressive muscular atrophy complicated by marked arthropathies occurring in a farmer forty-eight years old. The patient had presented a tumor as large as a fœtal head, which had formed suddenly in the right axilla with severe pain, after a fall while the man was engaged in dressing. The swelling was bluish and ecchymotic, of soft, gelatinous consistence, and fluctuating. Three weeks later the tumor was still palpable as a thickened mass, but the skin had resumed its normal color and aspect, and fluctuation was only vague. There were now detected signs of incipient pulmonary tuberculosis, and several months later the right testicle was evidently tuberculous. After a time a new cuirass-shaped osteophytic process about 10 cm. in diameter was discovered at the level of the right scapulo-humeral articulation behind the site of the previous formation. The muscular wasting became extreme and the cachexia profound. Bedsores formed over the sacrum, over the clavicle where the chin rested on the chest, on the chin itself, and over both scapulæ. The left cornea also became ulcerated, and the patient eventually died from trophic cachexia. Upon post-mortem examination the axillary tumor was found on dissection to be a pouch developed in the subcutaneous connective tissue containing about a pint of brownish, turbid fluid, and communicating by a large opening with the scapulo-humeral articulation. This condition, it was thought, arose from a rupture of the synovial sac of the joint, with the escape of fluid, but without the subsequent formation of a cyst wall. The right pleural cavity contained a considerable quantity of lemon-yellow fluid, and there were numerous slight adhesions. Both lungs, as well as both testicles, were tuberculous. The capsule of the right scapulo-humeral articulation was greatly distended, and its walls were thinned. The head of the humerus had entirely disappeared. At the periphery of the articulation were a series of osteophytes corresponding to the points of attachment of the peri-articular tendons. The spinal cord exhibited no microscopic alteration. On section it presented neither gliosis nor cavity. Histologically the ganglion cells of the anterior horns, some of the peripheral nerves, and the affected muscles were found to be degenerated in varying degree.

**Pulsatory Foot Phenomenon.**—When the popliteal space of one leg is rested upon the patella of the opposite leg a rhythmic movement of the foot of the overlying member becomes visible synchronously with the pulse. This manifestation Placzek (*Berliner klinische Wochenschrift*, July 31, 1899) designates the pulsatory foot phenomenon, and he has made a graphic study of the condition. The curves in the tracings made correspond with those obtained with the sphygmograph, than which, however, they are in some respects more distinct, and when the necessary apparatus is at hand they are more easily prepared. There seems little doubt that the movement of the foot is dependent essentially upon the pulsation in the popliteal artery, although it has been suggested that it is in part a reflex manifestation. It occurs, however, in cases in which the knee jerks are wanting, and it is not increased in cases in which the patellar reflex is excessive.

**Reduction of Shoulder Dislocations.**—To prevent the paralysis which he believes to result from the pressure in the axilla made in the reduction of dislocations of the shoulder, Thomas (*Liverpool Medico-Chirurgical Journal*, July, 1899) recommends the following mode of procedure: With the patient seated on a firm stool or chair, an assistant stoops down on the left side, if the right shoulder is dislocated, and, with his left arm crossing the front of the patient's chest, places his hand firmly on the end of the right clavicle and acromion; his right arm is passed behind the patient's back and grasps with hooked fingers the axillary border of the scapula. The function of the assistant is to fix the scapula before any manipulation is commenced, and prevent the manipulator from dragging the patient off the chair (occasionally a second assistant becomes necessary to hold the first, if the muscles of the patient are powerful and the traction by the surgeon has to be kept up long). The surgeon, keeping the elbow at a right angle, grasps the wrist of the dislocated arm with his right hand and the lower end of the humerus from behind with his left hand, and locks this hand against the forearm of the patient to prevent slipping. He now quietly and slowly abducts the humerus to a right angle. Traction outward is commenced as soon as the humerus is half-way up, and is quietly but firmly continued, the operator at the same time gently rotating the humerus outward; in other words, drawing the arm out of the side and taking the hand and forearm up in the air, keeping the elbow at a right angle all the time. If the head of the

humerus does not travel from beneath the coracoid (in the case of subcoracoid dislocation), the surgeon places his own feet nearer the patient, and, while steadily pulling, fails away from the patient, thus bringing his own weight to assist traction, and in some obstinate cases slowly rocking the humerus up and down, or from side to side, to tire the powerful muscles that are resisting, chiefly of course the deltoid and the pectoralis major. In most ordinary cases the head of the bone is observed to be now in the glenoid cavity, and on account of the steady, continuous traction the head goes in without snap or jerk. If the head is not reduced by this time, rotation outward is continued until locking occurs. Rotation inward now immediately puts the humerus right; traction is at once stopped, and the surgeon slings the reduced arm to the patient's side, keeping the hand high. If this method is applied slowly and thoroughly so little pain is caused that chloroform is rarely required to relax the resisting muscles. A running conversation with the patient during the manipulation serves to distract his attention from the shoulder and cause involuntary relaxation of the muscles in the neighborhood. Chloroform is occasionally required, not on account of the size of the muscles of the patient, but only in highly strung, nervous men or women who will not bear even the slightest discomfort, still less actual pain. If an anæsthetic has been administered, the scapula is fixed in the same manner, the patient, of course, now lying down: the same traction and manipulation are gone through, but very little of each is then required. In dislocation of the left shoulder, "left" is substituted by "right" and "front" by "back" in the foregoing description.

**The Principles Governing the Treatment of Injuries of the Spinal Cord.**—As the result of personal experience with a considerable number of cases of spinal injury, Bolton (*Annals of Surgery*, August, 1899) has reached the opinion that extra-dural hemorrhage does not give rise to cord-lesions or symptoms and requires no treatment. Total lesions of the cord are irremediable, because the cells and fibres of the entire thickness of the cord are destroyed, are never regenerated, and are replaced by cicatricial tissue. The lesion thus is a permanent one and requires no treatment. In hæmatomyelia the clot is absorbed; its site persists as a cavity or is replaced by newly formed tissue; irregularities of circulation in the surrounding portions of the cord adjust themselves. There may be great amelioration of the symptoms. There is, therefore, no therapeutic indication, and no remediable treatment is possible. In partial contusion of the cord the lesion results in permanent destruction of cells and fibres; disturbances of circulation adjust themselves. Repair is effected by cicatricial-tissue formation. No treatment is available. Open injuries of the cord are attended with destruction of cells and fibres and disturbances of circulation. In addition, infection may occur, or a foreign body may be introduced and left in or be lodged against the cord and by its continued presence cause great disturbance of circulation and consequent extensive degeneration and necrosis of cells and fibres. Repair is effected by cicatricial-tissue formation. Here active operative intervention is indicated for the removal of foreign bodies, to facilitate disinfection and drainage, and to prevent more extensive necrosis.

**The Prognosis of Nephritis.**—In view of the indefiniteness and disagreement of the statements in the text-books with reference to the prognosis of nephritis, Cabot and White (*Boston Medical and Surgical Journal*, August 10, 1899) undertook a study of the records of the Massachusetts General Hospital for twenty years, with especial reference to the course and symptoms of the fatal cases of nephritis. Besides, such information was analyzed as could be secured concerning all patients that had been in the hospital during the same period of time suffering from nephritis of any type. Finally, additional information upon the same subject was obtained from a large number of physicians. In these several ways four hundred and twenty-three cases were studied. Two important types of nephritis were recognized, (*a*) chronic diffuse and (*b*) interstitial. The former is characterized by prolonged anasarca and effusions into the serous cavities, early and pronounced manifestations of uræmia, such as headache, vomiting, dyspnœa, vascular changes such as cardiac hypertrophy and a high-tension pulse, and a pale urine usually diminished in amount, containing a large amount of albumin, with an abundance of fatty elements in the urine. The second type is a disease of insidious onset and long course, with a comparatively early appearance of the vascular changes and little or no œdema until the heart fails, with late and usually less marked uræmic symptoms and a large amount of urine of low specific gravity, with albumin present in very small quantities if at all, and a sediment containing usually only a few hyaline and granular casts. Recovery was considered to have taken place when the patient was free from subjective symptoms characteristic of nephritis and passed normal urine. In a few of the cases the long duration of the symptoms and the character of the urine indicated an undoubted chronic nephritis followed by a genuine recovery. Nine cases in which there was a distinct history of lead poisoning and sixteen in which there was a history of syphilis pursued a comparatively long course. Some of the shortest cases, judged by the duration of definite symptoms, were associated with arterio-sclerosis, death resulting unexpectedly from uræmia. Fifty-seven cases in which the only possible etiological factor elicitable was heredity—that is, a family history of nephritis, dropsy, apoplexy, heart disease, or pulmonary tuberculosis—seemed to pursue a relatively long course. No relation was observed between the duration of the cases and such etiological factors as abuse of alcohol, infectious diseases, pregnancy, or exposure to cold. In the vast majority of cases no cause of any kind could be traced. Complications were the cause of death apparently in forty-four of three hundred and thirty-two cases. Pneumonia and pericarditis were the most common, and pulmonary tuberculosis next. Pneumonia was equally common as a cause of death in cases of short and of long duration, while pericarditis seemed more prone to carry off patients at a comparatively early stage of the disease. As cases of nephritis get on beyond the first year of the disease the dangers of such complications as cerebral hemorrhage, hemiplegia, and gangrene increase. The course of the disease in the cases of diffuse nephritis without dropsy was less than half as long as in cases with dropsy. Dropsy was not sufficiently common in cases of interstitial nephritis to be of much prognostic value. Cases of chronic nephritis rarely lasted more than two years after the occurrence of hemorrhage into the retina. The development of hypertrophy of the heart marked the advance of the disease beyond the curable stage. As a result of the foregoing study the following conclusions are summarized: (1) Chronic nephritis is not an absolutely incurable disease. Recovery occurs in rare instances. (2) Chronic nephritis may exist for a long series of years without causing any apparent constitutional disturbance. (3) The average duration in three hundred and thirty-two cases of chronic nephritis was nineteen months. (4) Acute nephritis is less common than has been supposed; many cases formerly diagnosticated as such have been shown to represent exacerbations in the course of chronic nephritis.

MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

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PUBLISHERS

WM WOOD & CO., 51 Fifth Avenue.

New York, September 9, 1899.

## THE PLAGUE IN EUROPE.

THE writer in *The British Medical Journal* who, judging from the progress westward of the bubonic plague in times past, declared that the recent outbreaks in Egypt and in parts of the African Mediterranean littoral tended to show that the disease was once again moving toward the continent of Europe and might there gain a foothold, may prove to have been a true prophet. His note of alarm was scoffed at by perhaps the majority of medical and sanitary authorities; nevertheless, plague has broken out in more than one part of Europe, while in Oporto matters are so serious that there is reason to fear that a centre of the disease has been established whence it may spread throughout the peninsula. The Portuguese ports, and, in fact, their towns generally, owing to the prevailing unsanitary conditions—as bad in many instances as in Eastern cities—are unfortunately peculiarly adapted to lend color to these gloomy presages. It is to be hoped, however, that the Portuguese and Spanish sanitary authorities are sufficiently conscious of their great responsibility, and that they will bestir themselves and will put into effect every possible measure calculated to avert so great a calamity as a widespread epidemic of the plague in Spain and Portugal.

In Egypt the situation shows little change. The plague is more or less *in statu quo*. The quarantine regulations are of a reassuring character. Every important European port, with the exception of Marseilles, has, according to Consul Skinner of that city, adopted strict quarantine measures against importations from Alexandria. The plague in Egypt presents some peculiar features. In the first instance, the epidemic is of an exceptionally mild nature; but the most distinctive point about it is that almost as many white persons as natives have been attacked by the malady. The belief has long prevailed—and this has been the experience in India and China—that foreigners are nearly wholly immune to plague infection. The epidemic in Lower Egypt has gone some way toward shattering this comforting illusion. So far as India is concerned the explanation of this seeming anomaly lies probably chiefly in the fact that the native sections of the towns and the native villages are in a deplorably unsanitary state, while on the other hand the Europeans resident in the East live under the best hygienic conditions possible. *The Journal of Tropical Medicine* in an editorial draws attention to this phase of the situation, and furthermore points out that many of the large centres of population, both in Great Britain and on the European continent, are regarded from a sanitary standpoint almost as bad as those of the East. The Oriental natives are undoubtedly more prone to contract the disease than the white men, but at the same time sufficient and convincing proof has already been afforded that Europe has good cause to dread an invasion of the plague.

There is, however, no cause for a panic, even if the disease does creep over Europe. It is, of course, highly desirable that it be kept out, for every death from a preventable disease is a reproach to sanitary science, but the plague is terrifying only because of its name. There is no reason to apprehend a great mortality even should it settle down in London, Paris, Berlin, or New York, and none who live in cleanly quarters and lead temperate lives need fear. If we were called upon to choose between the plague and any one of a dozen other diseases which we have always with us, we would gladly invite the former. Diphtheria kills more in a year than the plague could destroy in a civilized city in a decade, and, as some one has suggested, if we would call the disease bubonia, or any name but plague, there would be little alarm inspired by its approach.

## THE WORK OF THE MARINE-HOSPITAL SERVICE FOR 1898.

THE annual report of the Supervising Surgeon-General of the Marine-Hospital service of the United States for 1898, together with the operations of the service as regards quarantine and public health matters, fill a bulky volume of eight hundred and twenty-seven pages. The first point to be noticed is that the revision of the regulations made necessary by the increase in the scope of the service has been completed. Nearly two hundred pages of the report are taken up with articles on yellow fever, providing probably as full and as exact a description of its nature, diagnosis, treatment, and prophylaxis as has ever been published. The quarantine regulations are also dealt with at length.

Perhaps the most instructive articles are those treating of the prevention of yellow fever, and especially that of Surgeon H. R. Carter with respect to the hygienic measures to be taken in an infected town.

Concerning "daylight communication," otherwise direct communication, with an infected town during the day-time, Surgeon Carter has this to say, that it depends on two principles: (1) That the infection of yellow fever is mainly confined to the habitations of men and their environments, and (2) that the disease is not liable to be contracted in the day-time. Surgeon Carter thinks that the first proposition is unquestionably true, and that the second is true to a certain extent, and if "bright, clear day out of doors" be substituted for "day-time," probably to a very considerable extent. Another article of much value is that by Passed Assistant Surgeon Eugene Wasdin on the value of autopsical

findings in persons who have died of suspected yellow fever. Dr. Wasdin concludes with these words: "Finally I would suggest that typical autopsical findings should always be regarded with suspicion and demand immediate investigation of their cause. Should there be or not any local centre of auto-infection, there should be an investigation of the immediately preceding history of the patient, and should there prove to be evidence of exposure to infection of yellow fever, and should the clinical charts and history present the evidences of the disease which we have learned to recognize, then, and only then, can the information gained post mortem be of decisive value to the diagnostician."

On the subject of smallpox, which was more or less prevalent in 1898, the report uses the following well-judged words: "Smallpox is a disease so easily prevented by vaccination that the smallpox patient to-day is scarcely deserving of sympathy. . . . The spread of the disease also is so easily prevented under proper management that it is a disgrace to the sanitary authorities of any State, municipality, or locality whenever this disease is permitted to get beyond their control." In view of the spread of the plague from the East into Europe the report on that disease will provide interesting reading. The history of yellow fever during the war with Spain is fully dealt with.

It is satisfactory to note that the relations of the Marine-Hospital service with the State health authorities are in a high degree harmonious, and it should be said that the Marine-Hospital service has fulfilled its arduous and trying duties in the most effective manner.

## ATROPHY OF THE OPTIC NERVE FOLLOWING PROFUSE HEMORRHAGE.

It is well known that inflammatory and degenerative changes take place in the optic as well as other nerves, as a result of various toxic influences, and also, though perhaps less commonly, in conjunction with profound blood deterioration. It should, therefore, not occasion surprise that similar lesions should be induced by anæmia acutely induced by profuse hemorrhage. Cases in which this has taken place are on record, but they are of such rarity that every additional instance is of interest. Such a one is that of Theobald (*Bulletin of the Johns Hopkins Hospital*, vol. x., No. 98), who reports the case of a man, fifty-seven years old, who had presented for twenty years symptoms of gastric derangement, with frequently repeated attacks of vomiting. Following copious hemorrhage from the stomach, repeated twice at intervals of forty-eight hours, vision, which had previously been good, became greatly impaired. Subsequently there was some improvement in eyesight, but later it again grew worse. The patient admitted having been a pretty constant smoker, but denied having been a hard drinker and also having had syphilis. On exploration a nodular mass was found near and partly occluding the pyloric orifice, which was regarded as a malignant growth, developed in the cicatrix left by previous ulceration. On ophthalmoscopic examination both optic nerves were found in a state of advanced atrophy, with some cupping and marked contraction of the retinal arteries. The optic discs had a woolly appearance, their outlines were irregular and ill-defined, and in each eye there were pigment-changes in the retina, not only about the margin of the discs, but at points some distance from it, and especially in the macular region, indicating that the atrophy of the nerve had been preceded by an inflammatory process which had involved the retina as well as the optic nerve. From a study of this case, and the literature of the subject, the conclusion is reached—(1) that the weight of evidence afforded by the ophthalmoscope points to thrombosis of the central retinal artery as the usual cause of the blindness that attends post-hemorrhagic anæmia; (2) that the resistance offered to the already enfeebled blood-current in the central retinal artery by the intra-ocular tension is an important etiological factor in determining this result; (3) that, in exceptional cases, the ophthalmoscope indicates that the thrombosis occurs not in the artery, but in the central retinal vein; (4) that, in other exceptional instances, it may be that the loss of sight and the ophthalmoscopic changes that accompany it are the result of a hemorrhagic or serous effusion into the optic nerve or its sheath (Samelsohn); and here, again, the obstruction and damming back of the blood-current in the retinal artery by the intra-ocular tension, probably, have much to do with bringing about this result.

In the case reported the question naturally arises, whether the long-continued gastric derangement and the existence of malignant disease may not have been at least a predisposing factor in the development of the inflammatory and degenerative changes in retina and optic nerve.

## THE CORONER'S OFFICE AND THE DAILY PRESS.

The coroner's office in this city seems to be in a continual state of excitement concerning the way the hospitals here are conducted. Every few weeks some member of that office gets himself into print by exposing what he is pleased to call some mistake in diagnosis, or the performance of an unnecessary operation in one of these institutions. There is usually a tirade against one or more members of the hospital staff, and then the official "feels deeply that there must be a reform." Within the last few days Bellevue Hospital has suffered such an attack, and some of its staff have been held up in the daily papers as ignorant in their methods and also untruthful in their statements. In this case a boy died in the hospital soon after an operation for what the hospital surgeons diagnosed to be appendicitis. There was later elicited an extremely untrustworthy history of injury, resting largely on the evidence of a boy eleven years old, and there was an investigation by a coroner's physician, who disagreed with the surgeons at the hospital and said, according to the newspaper account, that the boy had died of peritonitis following injury. Although such an opinion was not warranted seemingly by any distinct autopsical

revelations, its public expression was an excuse for the charge that an operation for appendicitis was needlessly performed. If the critical official is correctly quoted, he has made an outrageous attack upon the professional qualifications of a portion of the staff of this particular hospital, and has included in his statement the charge that unnecessary operations are frequently performed in the "emergency" hospitals of this city. The term "emergency" in this case practically includes every active hospital in the city, and the charge that operations are done without due consideration and preparation, and unnecessarily, is malicious and absurd, and tends to undermine confidence in those institutions among the very classes to whom they are most beneficial. Possibly the members of the coroner's staff feel that unless they keep up some sort of excitement their constituents will think that they are not earning their salaries, and this feeling may account for their frequent appearances in print. A little self-restraint in this matter would be exceedingly becoming to them.

## THE TREATMENT OF SINUS-THROMBOSIS OF OTITIC ORIGIN.

Thrombotic occlusion of the cerebral sinuses arises most commonly in consequence of adjacent disease, *e.g.*, otitis, fracture, caries, erysipelas. Rarely it is a result of constitutional conditions, such as anæmia, chlorosis, marasmus, and the like. The resulting symptoms vary somewhat with the situation of the lesion and the nature of the morbid process. Among the general manifestations are headache, vertigo, vomiting, delirium, convulsions, somnolence or insomnia, mental dulness or excitement; among the local phenomena, palsy, papillitis, papillary changes, venous engorgement, and œdema. When the affection is secondary to contiguous disease it is likely to be infectious and attended with elevation of temperature, perhaps also with chills and sweating. For the simple variety of thrombi, rest, stimulants, and nutrients constitute the best treatment; for the infective variety, operative measures represent the only hopeful therapeutic resource, and to be successful the surgical intervention must be instituted early. In illustration of this last proposition Bacon (*New York Medical Journal*, July 1, 1899) reports three cases of thrombosis of the sigmoid sinus following acute suppurative inflammation of the middle ear, in each of which incision of the sinus and evacuation of the clot in the first stage of the disease were attended with recovery. In this connection the administration of antipyretics is condemned as obscuring the diagnosis. It is pointed out that the detection on bacteriological examination of streptococci and pneumococci in the secretion from the meatus in cases of suppurative inflammation of the middle ear indicates that the inflammation started simultaneously in the middle ear and the attic, and that, therefore, a large incision in the drumhead, extending from below the stapes to the lower portion of the membrana tympani, is desirable, in order to secure the best possible drainage. To overcome the collapse that frequently follows removal of the thrombus, and especially if the internal jugular vein has been tied, in addition to the administration hypodermically of strychnine, whiskey, etc., the infusion of several ounces of decinormal saline solution into the median cephalic vein is considered often imperative.

## News of the Week.

**The New York State Medical Association.**—In the notice of the next annual meeting of this association, published in these columns last week, it was stated that Dr. C. E. Denison was secretary of the association. We should have said secretary of the committee of arrangements. The secretary of the association is Dr. Michael C. O'Brien, 161 West 122d Street, New York City.

**The Plague** continues in Oporto with little change. On September 4th three new cases and one death were reported, the total since the epidemic began being sixty-four cases and twenty-six deaths. The Russian plague commission reports officially that there have been twenty-four cases of the plague in Astrakhan since July 7th, and that the deaths have numbered twenty-three. There is only one case now. In India the outlook is no more encouraging. The governor of Bombay, in the course of a speech a few days ago at Poona, said the plague was spreading, and that, owing to the failure of the monsoon, not only the plague was in the midst of the people, but grim famine was staring at them. He expressed the hope that the September rains would come to their relief, and stated that in the mean time arrangements would be made to open relief routes.

**A New Hospital in New York.**—A certificate of the incorporation of the Emanuel Hospital and Dispensary of New York City was filed a few days ago with the State board of charities for its approval. The particular objects for which the corporation is to be formed are the establishment and maintenance of a hospital or lying-in asylum where persons non-resident can be treated and cared for gratuitously or for a nominal compensation, and also for the establishment of a free dispensary.

**The Intercolonial Medical Congress of Australasia.**—The fifth session of this congress will be held in Brisbane from the 18th to the 23d of September.

**The Medical Society of Nova Scotia.**—At the annual meeting of this society, held in July, the following officers were elected: *President*, Dr. D. McIntosh, of Pugwash; *First Vice-President*, Dr. C. A. Webster, of Yarmouth; *Second Vice-President*, Dr. F. S. Yorston, of Truro; *Secretary-Treasurer*, Dr. W. S. Muir, of Truro.

**Yellow Fever** has been reported from Key West, where, up to September 5th, there have been twenty-eight cases, with three deaths, in the past week. It is a curious commentary on the changed conditions in Havana since the American occupation, that the health

authorities there are considering the advisability of declaring a quarantine against Key West. A case has occurred also at New Orleans, and a death from yellow fever is reported from Vincennes, Ind., the case being that of a man who recently returned from Cuba. In Vera Cruz and other towns along the Mexican coast the fever continues and is attended with an unusual fatality. Reports from Tehuantepec say that nearly all the foreigners arriving there have been taken down with the disease, the mortality being great. The epidemic has, however, notably diminished. This is the first epidemic of fever in this part of Mexico for fifteen years, and the authorities have taken extraordinary measures to prevent its spreading.

**An Army Sanatorium.**—Orders have recently been issued authorizing Surgeon-General Sternberg to establish a sanatorium for the treatment of officers and enlisted men of the army suffering from pulmonary tuberculosis, at Fort Bayard, New Mexico. Hereafter transfers of enlisted men suffering from this disease may be made to this hospital upon the recommendation of medical officers of the army. The surgeon-general is also authorized to provide for the care and treatment of discharged soldiers entitled to the benefits of the United States Soldiers' Home, Washington, D. C., who may be sent to the sanatorium by the board of commissioners of the home.

**Increased Hospital Accommodations in the Philippines.**—Surgeon-General Sternberg has issued orders looking to an increase of the medical department and hospital accommodations at Manila, in conformity with the proposed army of sixty-three thousand men. In view, he says, of the increased army now being sent to the Philippines, and the expectation that active military operations will be resumed, it is evident that the hospital accommodations should be greatly increased. The time required for the construction of a large wooden hospital, however, would be at least six months, so that it will be necessary to depend upon buildings already constructed or upon tent hospitals. Five hundred hospital tents will be sent to Manila at once. The medical department will send two hundred and fifty members of the hospital corps on the *Missouri* and twenty female nurses on the *Relief*. Four surgeons of volunteers with the rank of major are now under orders for Manila, in addition to the commissioned medical officers belonging to the new volunteer regiments.

**The Lane Medical Lectures** for 1900 will be delivered in San Francisco by Sir Michael Foster.

**Gasoline Intoxication.**—A ten-year-old colored boy has been arrested in Philadelphia for the larceny of gasoline from city lamps, for the purpose of inducing intoxication by inhalation. Other cases of the same kind have previously been observed.

**An Epidemic of Dysentery** has broken out at the Pennsylvania State Hospital for the Insane, sixty-six cases and seventeen deaths from this cause having occurred during the month of August. Overcrowding is given as the cause, and new buildings in process of construction are expected to bring relief.

**The Nebraska Way of Lynching.**—They do things scientifically out in Falls City, Neb. A man there, on August 22d, criminally assaulted a little girl, and was quickly arrested and placed in jail; not, however, before a crowd of would-be avengers had tried and failed to get the prisoner away from the officers. Along in the small hours of the morning, several hundred men got together, marched to the jail, broke in the doors, and one of the number—"perhaps a physician," the newspapers have it—"performed a surgical operation which will prevent the prisoner from committing any more such crimes."—*Journal of the American Medical Association.*

**Professor Mosso on Physical Education in America.**—The Rome correspondent of *The Lancet* quotes from a letter of Dr. Angelo Mosso, of Turin, who recently lectured at Clark University, concerning physical education in the United States. "It is enough," he writes, "to look at the passers-by in the American streets to be convinced how much more developed and strong they are than our compatriots. The boys and girls are in point of physique far superior to ours. All the public take interest in physical exercises—every journal being compelled to report athletic competitions, regattas, football encounters, golf matches, and such like, because its readers have even a greater enthusiasm for those topics than for the strife of parties. America teaches us, by the plainest and most impressive of examples, that physical education may be carried to perfection without any military object. In the States no one dreams of becoming a soldier. If military force is required it is provided, as in Great Britain, by voluntary enlistment. Nevertheless, America and the British Isles are precisely the two countries where physical education has reached its highest development."

**The Thirteenth International Medical Congress.**—The preliminary programme of this congress, which will be the largest and most important of the hundred or more congresses officially recognized during the exposition of 1900 has now been issued. The rules of the congress are as follows:

1. The Thirteenth International Medical Congress will be opened in Paris on August 2, 1900, and closed on the 9th of the same month. Its purpose is exclusively scientific.

2. The members of the congress shall consist of doctors of medicine who apply for admission; secondly, men of science who shall be introduced by the French executive committee or by foreign national committees.

3. All members of the congress will receive an admission card after they have paid to the general treasurer of the congress the sum of twenty-five francs ($5). Foreign committees may enrol members of their own nationality.

4. In sending their subscriptions to the treasurer the members of the congress should indicate legibly their names, qualifications, and addresses, and enclose their visiting cards.

5. Apart from other advantages each member of the congress will be entitled to receive a summary of all

the labors of the congress and the printed report of the section to which he belongs.

6. The congress has been divided into twenty-five sections arranged under five principal groups: 1. Biological sciences: Descriptive and comparative anatomy; histology with embryology and teratology; physiology with biological physics and chemistry. 2. Medical sciences: General and experimental pathology; bacteriology and parasites; pathological anatomy; internal pathology; hygiene and medical pathology of children; therapeutics and materia medica; neurology; mental diseases; dermatology and syphilography. 3. Surgical sciences: General surgery; children; urinary surgery; ophthalmology; laryngology; rhinology; otology; stomatology. 4. Obstetrics; gynæcology. 5. Public medicine: Medical jurisprudence; military medicine and surgery; naval medicine; colonial medicine. These sections practically constitute in themselves so many independent congresses, and some, as that on dermatology, are actually existing international societies which meet this time in union with the general medical congress.

7. The executive committee and a general commission of organization are entrusted with the duty of preparing the work of the congress.

8. The congress will sit every day either in general assemblies or in meetings of sections.

9. Two general assemblies will take place, one on the day of the opening of the congress, the other on one of the subsequent days.

10. On the day of the first general assembly the congress will appoint honorary presidents.

11. The general assemblies will be devoted to the delivery of the customary speeches and to the regular votes which have to be recorded. Only such persons as have been designated and invited by the organizing executive committee will be able to speak at the general assemblies.

12. All propositions relating to the labors of the congress must be notified to the executive committee before May 1, 1900. The committee will then decide what course to follow in regard to these proposals.

13. The committee of each section will organize its own programme (the reading of reports, the discussion of the subjects introduced, and the miscellaneous communications).

14. The speeches delivered at the general assemblies and the reports made in the sections will be published in the account given of the labors of the congress. With regard to the miscellaneous communications and discussions, the executive committee reserves the right of examining the same. The time allowed for each communication must not exceed fifteen minutes, and the speakers taking part in the discussion must limit their speeches to five minutes.

15. The written text of the reports, communications, and speeches must be handed over to the secretaries of each section on the day on which they are read or delivered.

16. The French language is the official language of the congress for all the international relations. In the general assemblies, as also in the meetings of the sections, the German, English, and French languages may be employed.

17. All the questions relating to the scientific work of the sections should be submitted to and communicated to the president of the section concerned. For all that relates to the organization and functions of the congress communications should be made to the general secretary of the congress.

18. At the second general assembly of the congress the place of meeting for the following congress shall be designated and the bureau of that congress elected.

The bureau of the congress consists of the president, Dr. Lannelongue, 3, Rue François Ier, Paris; the general secretary, Dr. Chauffard, 21, Rue Saint Guillaume, Paris; and the general treasurer, Dr. Duflocq, 64, Rue Miromesnil, Paris. The executive committee consists of the above three officials, two assistant secretaries (Dr. de Massary and Dr. Léon Weber), and the following eleven committee-men, namely, Drs. Bouchard, Bouilly, Brouardel, Dieu, Gariel, Le Dentu, Malassez, Nocard, Raymond, Rendu, and Roux. The address of the bureau of the congress is 21, Rue de l'École de Médecine, Paris. Then there is a general commission consisting of one hundred and thirty-one Parisian and provincial medical men.

The following members from the United States have sent titles of papers to be read in the various sections: Dr. A. Jacobi, of New York, on "Artificial Lactation and the Use of Sterilized Milk;" Dr. L. D. Bulkley, of New York, on "Syphilis and Associated Infections", Dr. Robert Taylor, of New York, on "The Causes of Generalized Infection in Blennorrhœa"; Dr. John Ashhurst of Philadelphia, on "Radiography in the Study of Fractures and Dislocations"; Dr. Bradford, of Boston, on "Treatment of Pott's Disease (Beginning Phase and Formation of Gibbosity)"; Dr. Christian Fenger, of Chicago, on "Conservative Surgery in Renal Retentions"; Dr. W. White, of Philadelphia, on "Remote Results of Operative Treatment of Prostatic Hypertrophy", Dr. De Schweinitz, of Philadelphia, on "The Comparative Value of Enucleation and Operations Proposed as Substitutes"; Dr. Bosworth, of New York, on "The Pathogeny and Treatment of Suppurative Ethmoiditis"; Dr. Montgomery Baldy of Philadelphia, on "The Surgical Treatment of Cancer of the Uterus", Dr. Lagarde, U. S. A., on "Lesions from Rifle-Balls of Minimum Calibre."

The president of the American committee is Dr. William Osler, of Johns Hopkins University, Baltimore.

**Navy Department,** Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending September 2, 1899. August 25th.—Passed Assistant Surgeon E. R. Stitt detached from the bureau of medicine and surgery, September 25th, and ordered to the *Hartford*. August 28th.—Assistant Surgeon W. M. Garton detached from the *Annapolis*, when placed out of commission, and ordered to the Naval Academy. August 29th.—Assistant Surgeon W. M. Garton, order of August 28th modified, when detached from the *Annapolis*, ordered to the Norfolk navy yard for duty on the *Franklin*, instead of to the Naval Acad-

emy. Pharmacist I. N. Hurd detached from treatment at the naval hospital, Mare Island, Cal., and granted sick leave for three months. August 30th.—Passed Assistant Surgeon J. C. Rosenbleuth detached from the *Nashville* and ordered to the naval hospital, Chelsea, Mass., for treatment. Passed Assistant Surgeon M. S. Guest detached from the Boston navy yard and ordered to the *Wabash*. Assistant Surgeon H. A. Dunn detached from the Washington navy yard, September 2d, and ordered to the Port Royal naval station. Assistant Surgeon A. Stuart detached from the Port Royal naval station, September 2d, and ordered to the *Yankton*. Assistant Surgeon D. B. Kerr detached from the *Yankton* and ordered to the *Marietta* upon reporting of relief. Assistant Surgeon M. K. Johnson detached from the *Marietta* and ordered to the *Nashville*. August 31st.—Pharmacist R. Waggener ordered to the army and navy general hospital, Hot Springs, Ark., for treatment.

**Life Saving in Place of Life Destroying.**—Some time ago the Portuguese residents of Rio de Janeiro subscribed about 500,000 milreis toward the construction of a cruiser for the government of Portugal. The amount was far below what would be needed for building any sort of a war vessel, and Queen Amelia has requested that the money be used to build a sanatorium for indigent consumptives. The suggestion is said not to have been well received by some of the patriotic subscribers to the fund.

**An International Charity Congress.**—Among the multitude of congresses projected for the exposition year in Paris is one to discuss public and private charities. It will be held from July 30th to August 5th, and foreign governments have been requested to send delegates. The subjects for general discussion will be selected by the organization committee, which will also choose the men to open the discussions. Papers on other subjects relating to public assistance and private beneficence will also be read. Authors are requested to send papers to the general secretary three months before the opening of the congress. The congress will be divided into four sections, in which will be discussed charity as relating to—(1) childhood; (2) the sick, the infirm, incurables, the aged; (3) the able-bodied poor; and (4) assistance by furnishing work. Among the subjects suggested to intending contributors of papers are: The working and efficacy of relief at the home; compromise between public and private assistance; treatment and education of children in reform schools, schools of correction, etc.; dispensaries, and other forms of medical charity; assistance to indigent consumptives (measures of relief, whatever the medical treatment may be). The language of the congress will be French. The fee for membership is 20 francs. The attendance of all persons interested in relief work, public or private, is requested.

**Deaths of Centenarians.**—A man named William Gaffney died recently in the Province of Quebec at the alleged age of one hundred and sixteen years. He was born in Ireland and settled in Canada eighty-five years ago. He retained all his faculties up to the day of his death. A patriarch of truly patriarchal age died a few days ago in Alexandria. He was Sophronius, patriarch of the Orthodox Greek Church of Alexandria, Lybia, Ethiopia, and all Egypt. He was the oldest prelate, and probably the oldest priest, of the Christian world, having been born in Constantinople in 1792. He had been a priest for eighty-seven years, a bishop for seventy-eight, archbishop for seventy, and a patriarch for nearly thirty-five years. He is said to have been a man of most striking and venerable appearance, and retained his bodily and intellectual vigor almost to the last moment of his life.

**A Truly Wonderful Performance.**—A telegram from a near-by city, published a few days ago, announced gravely that the eight-months-old child of one of the citizens of the place, "afflicted with complete ossification of the head, was successfully operated on here to-day. From birth the child's head showed no signs of development, and ossification set in, causing partial paralysis. By the operation a portion of the skull was removed. It is believed that the child will recover entirely."

**Obituary Notes.**—Dr. Hamilton Mailly, of Bridgeton, N. J., died August 30th from tuberculosis after a brief illness. He was a native of Delaware, and went to Bridgeton fifteen years ago. He graduated from the medical department of the University of Pennsylvania in 1891. He had been secretary of the Cumberland County Medical Society for several years, and was also at the time of his death a member of the medical staff of the Bridgeton Hospital Association. A widow and one child survive him.—Dr. Cornelius H. Schapps, for many years a practising physician in the Eastern District, and who served for several terms in the Brooklyn board of education, died on September 1st, at his home in Manhattan, where he had lived for the last ten years, since he retired from practice. He was eighty-two years old.—Dr. William H. Caemmerer died at his home in Brooklyn, on August 30th. He was born seventy-eight years ago near Madras, in the East Indies, and was graduated from the University of Jena in 1847. For a number of years he was examining physician at Castle Garden. In 1870 he removed to Brooklyn, and continued his practice up to the time of his last illness. A widow and three children survive him.—Dr. Matthias J. Pennypacker died at Phœnixville, Pa., on August 31st, at the age of seventy-nine years. He was a graduate of the medical department of the University of Pennsylvania. In 1844 he served one term as a member of the Pennsylvania State legislature.—Dr. George S. Polis died at Philadelphia on August 29th, at the age of forty-eight years. He was graduated from the medical department of the University of Pennsylvania in 1876.—Major Augustus A. De Loffre, surgeon in the United States army, died on Sunday at Fort Sam Houston, in San Antonio, Tex. He was a native of France, and was appointed from Louisiana in 1874 to be an assistant surgeon in the army. He attained the rank of major in 1892, and was chief surgeon of the post at San Antonio.

# Reviews and Notices.

A Pocket Dictionary of Hygiene. By C. T. Kingzett, F.I.C., and D. Homfray, B.Sc. London: Baillière, Tindall & Cox. 1898.

This is not strictly a dictionary, but rather a handbook of information on sanitary subjects. The book will be found useful by many of the laity whose knowledge of sanitary matters is limited and who are in need of some elementary instruction on the subject. That the work is apparently written in the interest of the manufacturers of a disinfecting fluid does not impair the value of the information it contains, and which, so far as we have been able to determine by a cursory examination, is reliable.

Handy Book of Medical Progress; a Lexicon of the Recent Advances in Medical Science. By Charles Warrenne Allen, M.D., and Jacob Sobel, M.D. New York: William Wood and Company. 1899.

This is an exceedingly well-chosen title, for the work is essentially a handy book to have on the desk, and in it the physician will find an answer to a host of questions which are constantly coming up before him and concerning which he can find no answer in dictionary or text-book. The definitions of the various titles are somewhat longer than those to be found in the dictionaries, but this is necessitated by the fact that many of the things described are new in principle as well as in application, and therefore demand more than a word in explanation. The new terms of which the meanings are given are chiefly the names of diseases, tests, drugs, and therapeutic methods. Many of them are not strictly new, but there are usually some new facts stated in connection with them. For example, under "Addison's Disease" mention is made of the fact of the occasional occurrence of the disease in children as young as seven days.

A Manual of Surgical Treatment. By W. Watson Cheyne, M.B., F.R.C.S., F.R.S., etc., and F. F. Burghard, M.D. and M.S., F.R.C.S., etc. In six volumes. Vol. I., The Treatment of General Surgical Diseases, including Inflammation, Suppuration, Ulceration, Gangrene, Wounds and their Complications, Infective Diseases, Tumors, and Anæsthetics. Philadelphia and New York: Lea Brothers & Co. 1899.

The first volume of this work gives promise that when the others appear we shall have a useful addition to surgical literature. The subjects treated in this volume are mentioned in the title-page, and in their discussion the authors have not attempted to treat each question exhaustively, recognizing that such effort would be to a great extent unnecessary, but have tried to give what they consider the best and most satisfactory means of accomplishing a given result. An important chapter is that upon anæsthetics, and the advice in it on all points is good, especially that upon the choice of the anæsthetic, but in this country there is very little inclination to use the A.C.E. mixture under any circumstances. The writer of this chapter attributes the immunity among children to bad effects from chloroform, to their greater power of responding to efforts at resuscitation if such are necessary. There is a satisfactory section of the book devoted to wounds and their treatment, but nothing that calls for special mention. In the preparation of the operative field, the authors show a great liking for what they call "strong mixture," which is a mixture of strong carbolic and strong sublimate solution, but for use during the operation they suggest several things which will not be readily accepted in this country. They do not believe that asepsis is either necessary or practicable except under very unusual circumstances, and make antisepsis their working rule. Their recommendation to wash out clean wounds with a 1:2,000 sublimate solution is therefore logical, but, we think that few American surgeons would care to keep a 1:4,000 sublimate solution running continuously, as is suggested, over a healthy joint surface. We can assure the authors that in many places in this country the aseptic method of operating is carried on successfully and conveniently. The infective diseases of wounds have several chapters devoted to them, mostly from the therapeutic point of view, and the last part of the volume is upon "Tumors" which are classified from a clinical and partly pathological point of view, with most of the microscopic characteristics lightly touched upon, and without illustrations, in which the book on the whole is weak. We find much interesting reading in Vol. I., and await its successors. The division into six conveniently made volumes is a happy departure from the heavy single volumes to which we are accustomed in works of this kind.

Traité de Médecine, de MM. Charcot, Bouchard, et Brissaud. Publiée sous la direction de MM. Bouchard, professeur de pathologie générale à la Faculté de médecine de Paris, membre de l'Institut, et Brissaud, professeur agrégé à la Faculté de médecine de Paris, médecin de l'hôpital Saint-Antoine. Vols. I. and II. Paris: Masson et Cie. 1899.

All lovers of good medical literature will welcome the second edition of this excellent system of medicine, appearing within seven years of the first. The editors announce that the work has been entirely revised and enlarged by the addition of much new matter. Volume I. contains articles on bacteria, by M. L. Guignard; general pathology of infection, by A. Charrin; disorders of nutrition, by P. Le Gendre, and infective diseases common to man and animals, by G. H. Roger. The article by Guignard is not intended as a complete treatise on bacteriology, but rather as a general introduction to such a treatise. No attempt is made at a detailed description of all the different forms of bacteria, but only at a presentation—and a most lucid one—of the natural history of microbes in general, of their habitat in and out of the animal body, of polymorphism, attenuation by heat, light, etc., and of the products of these micro-organisms. The second article is a continuation of the first, taking up the effects upon the animal organism of these bacterial products. The article by Le Gendre, in addition to treating of the various disorders of nutrition, such as rickets, osteomalacia, obesity, biliary and renal calculi, diabetes mellitus, gout, etc., contains an interesting discussion of the peculiarly French doctrine of diatheses and dyscrasiæ. The fourth article in the volume is made up of chapters on anthrax, glanders, rabies, tuberculosis, and actinomycosis.

Volume II. contains treatises on typhoid fever, by A. Chantemesse; influenza, dengue, malaria, Asiatic cholera, yellow fever, and plague, by Fernand Widal; typhus fever, by L. H. Thoinot; scarlet fever, measles, German measles, smallpox, vaccina, chickenpox, miliary fever, and mumps, by Louis Guinon; erysipelas, by Emile Boix; diphtheria, by A. Ruault; acute articular rheumatism, by W. Oettinger; and scurvy, by Louis Tollemer. We cannot say so much in praise of this volume as of the first, for the articles are of very varying degrees of merit, and many of them betray the fault, which is unfortunately becoming a characteristic of French medicine, of ignoring the work of foreigners until it has been done over again by a Frenchman. This is peculiarly noticeable in the article on malaria, by Widal. For all that there is new in this treatise it might have been written two years after Laveran's discovery of the plasmodium malariæ. The author of a treatise on malaria published in the year 1899, who says "On ne sait rien de l'habitat extérieure des hématozoaires," proclaims himself ignorant or prejudiced to such a degree as to discredit him everywhere as an authority. It is regrettable that the editors should have admitted an article like this among others of such a superior order.

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**The Post-Mortem Pulse.**—Dr. H. A. Huntington, of Kingston, Jamaica, offers the suggestion of an artificial pulse to enable students to perform surgical operations on the cadaver under more nearly natural conditions. He writes: "Instead of injecting the arteries as at present, attach a rubber tube to a pump whose force and strokes shall be such as to send a red antiseptic fluid into the arteries of the cadaver, imitating as nearly as possible the conditions in life. Students can then perform all sorts of surgical operations under far more interesting and instructive conditions than on the dead cadaver. Using a gas engine or electric motor with suitable pipes and tubes, every dissecting table can have its 'pulse' ready to 'turn on' to the cadaver."

# Society Reports.

## THE BRITISH MEDICAL ASSOCIATION.

*Sixty-Seventh Annual Meeting, Held at Portsmouth, August 1, 2, 3, and 4, 1899.*

(Special Report to the MEDICAL RECORD.)

### SECTION OF MEDICINE.

*Second Day—Thursday, August 3d.*

(Concluded from page 351)

**Discussion on Tuberculosis.**—DR. CLIFFORD ALLBUTT, of Cambridge, opened the discussion, treating his subject under the following heads: (1) Modes of infection; (2) morbid anatomy of the first stage; (3) diagnosis of the first stage; (4) prevention; (5) cure, with special reference to sanatorium treatment. In stating his case, the speaker said he was obliged to be a little dogmatic, for which he craved the indulgence of his audience; he then proceeded to say that if tuberculosis was to be cured, it must be in the first stage—that is to say, before it began. In the second stage of the complaint the chance of cure drops fifty per cent. The germ theory of disease was first suggested by the conduct of an old lady who labored under the delusion that the best water for drinking-purposes was to be obtained only from a certain distant pump, to which she was accordingly in the habit of sending for the daily supply used in her house, and when she died from cholera, an isolated case in the district in which she had lived, though numbers had succumbed in the vicinity of her favorite pump, Dr. Snow, a well-known practitioner of the period, became convinced that the germ of the disease had been carried in the water. Catarrh of the apex of the lung was tuberculous, and tuberculosis was "catching." The Italians maintained this for years before English physicians would admit the possibility. However, in common ordinary life it was not catching; it must be communicated in a fairly direct manner from one person to another, for the tubercle bacillus could not long live an independent existence out of the body; it might be cultivated, it is true, but with difficulty. There was evidently, said the professor, a gap here that observers had to fill. Sheep and goats resisted the disease, and it was impossible to communicate it to them, or practically so, but the cow was very susceptible. There is more to be feared from the spray of an expectoration than from the solid sputum itself. Sunlight, fresh air, and cleanliness, personal and in one's surroundings, would expel the microbes, as they did bugs, fleas, and other disagreeable insects. A favorite seat of tuberculosis was the posterior tubular portion of the bronchi. We were constantly inhaling and expelling these bacilli, but when some of them succeeded in fixing themselves in the tubes they soon increased. Tuberculosis was a local disease. "If you do not catch your patient before tuberculosis begins, you have not much chance of curing him." Enclosed tubercle gave no outward and visible sign of its presence, for there was no expectoration. It had, most unfortunately, been authoritatively pronounced, that when there were no tubercle bacilli in the sputum, tuberculosis did not exist; but it often did, and might be recognized by the cog-wheel respiration and the temperature in patients in whom there were no physical signs. If the temperature was taken every two hours during the day, there would be found a tendency for it to run up every now and then to 100° F.

SIR WILLIAM BROADBENT said that there was nothing new in the sanatorium treatment, but constant watching had turned what was guerilla warfare into a regular campaign. If two plans were brought forward, one better than the other, the second-best plan, thoroughly carried out, was preferable to the first when it was carried out in an imperfect manner.

SIR RICHARD DOUGLAS POWELL said he included house-flies among the signs of imperfect sanitation. He thought that sanatoria were of incalculable benefit to poor people whose home surroundings were unsuitable for properly carrying out the necessary treatment. Some digestions could not stand the system of feeding in vogue at the various sanatoria, for plethora would often give rise to hæmoptysis in such cases. One great advantage was the discipline to which patients were obliged to submit, and they learned how to manage themselves. It was not so much the location of a sanatorium that was of primary importance as the way in which it was managed.

DR. OSLER, of Baltimore, laid stress on the importance of an early diagnosis, on examination of the sputum and the respiration; he did not recognize any other physical signs. The examination must be made daily, and sometimes it would be only after the twenty-fifth or thirtieth time that the exact seat of the complaint could be located. The man who ran a sanatorium must be one who could control men. The open-air treatment could be carried out at home, whether out of doors or in a room with a sunny aspect and ever-open windows. Rest, above all, was imperative, and must be complete, of both mind and body.

DR. TYSON, of Philadelphia, looked forward to the time when tuberculosis would be dammed up, but its treatment by medicine must not on any account be wholly ignored. Creosote was a powerful factor in postponing the end.

DR. C. T. WILLIAMS, of London, said there were several hospitals for consumption in London, where from three hundred to four hundred poeple were seen daily, and these patients spat about and the exhalations from them were inhaled by themselves and others in omnibus, tram-car, or railway carriage, so that there ought, one would think, to be a larger mortality from the disease in those districts than elsewhere—but experience proved that this was not by any means the case; on the contrary, the number of victims depended on the density of the population and not on the district. The Strand was the worst in this respect, as the population there amounted to one hundred and forty-one per acre and the mortality from phthisis was $3\frac{1}{3}$ per thousand. In Hackney there were sixty inhabitants to the acre, and the death rate from tuberculosis was 1.43. The speaker agreed with the general tenor of Dr. Allbutt's remarks, and went on to say that it was easy enough to inoculate an animal, but more difficult to know exactly when to take the serum. He thought that tuberculosis could be cured in all its stages, though more readily and successfully in the first. Sanatorium treatment could be carried out in an Englishman's home, he thought, and in some sanatoria it was pushed to extremes; no games were allowed, and patients were not even allowed to read, for fear of their becoming excited.

DR. A. RANSOME thought precaution, as in every case, was better than cure; but the local sanitary authorities stood much in need of educating. They had the power to cause the notification of phthisis, and of abolishing the nests in which lurked the germs of the disease; they could order free bacillary examinations—but too often they did not know how to exercise the powers they possessed in these respects, and stood in immense need of education. The infection lingered in houses, but there was not much fear of contracting it in the open air. Medical men, and especially the British Medical Association, must exert all the influence they possess to move the various sanitary authorities.

Further discussion was adjourned to the following day.

**Carbonic Acid Gas in Heart Disease.**—Dr. W. Ewart then read a paper on "The Treatment of Heart Disease by Inhalations of Carbonic Acid Gas; and on the Uses of the Inhalation in Cardiac Dyspnœa and in Anginoid Pain." He said that mitral stenosis and pain were greatly relieved by the inhalation of carbonic acid gas for thirty seconds, the patient's bowels to be kept very free and the use of cardiac tonics to be restricted; there was not only a relief of pain, but greater freedom of respiration, with an improved state of the pulse and of the appearance generally. Carbonic acid gas acted as an anæsthetic, and also as a stimulus to the muscles of respiration, and a continued use of the inhalations had the effect of gradually removing the dilatation. By the ordinary treatment it was difficult to influence mitral stenosis, but carbonic acid gas always improved and often restored the patient to a condition of comfort. He instanced the case of a man suffering from dilatation of the right side of the heart, cyanotic, and scarcely able to breathe, who in two days showed a marked improvement after inhalations of carbonic acid gas.

Dr. Mitchell Bruce admitted that the treatment referred to by Dr. Ewart was entirely new to him, and thought much credit was due to Dr. Ewart for bringing it forward.

Dr. Barr said that this was also new to him. He saw a good deal of difference between the outward and inward administration of carbonic acid gas, and suggested that a similar result would be attained by strangulation, which was an anæsthetic in about two minutes; then there was morphine, which was, in his opinion, a much more reliable remedy than carbonic acid gas but patients, he said, are whimsical and must be humored. He had known great effects to be attributed to the placing of a clinical thermometer in the axilla. A person suffering from poisoning by carbonic acid gas would be relieved by blood-letting, and he did not think that the presence of carbonic acid gas in the blood would improve a person's color; but, as he remarked before, patients are peculiar, and the inhalation of any mortal thing will sometimes have a good effect on them. Carbonic acid gas might be a remedy, but, in his opinion, that had to be proved.

Dr. C. T. Williams related a case of a person suffering from neurosis of the pulmonary nerve who appeared to be dying, and who suddenly drew in a deep breath and recovered immediately. Possibly this may have been due to the immense accumulation of carbonic acid gas in the blood.

Dr. Wills thought the idea was a good one and certainly deserving of a trial.

Dr. Verco was much pleased with the originality of the idea, and he would be glad to hear that further experience confirmed Dr. Ewart's deductions; for it was a troublesome thing to put carbonic acid gas in a bath, and much simpler for the patient to inhale it. He hoped Dr. Ewart would not be discouraged by the adverse strictures on his treatment.

Dr. Ewart in reply said that he was dealing not with a theory but with facts, which he put forward with confidence.

**The Enlargement of the Chest in Emphysema and Its Treatment.**—Dr. Harry Campbell read a paper on this subject. The enlargement of the chest in emphysema was due, he said, to a shortening of the respiratory muscles in consequence of overaction, in which the sterno-mastoid had no share. This overaction was due to the indrawing, which was excessive, while the expiratory movements were defective. The air was taken into the lungs but not entirely expelled from them; the consequence was that a proper amount of air was not available for the oxygenation of the blood, and the patient should be put under a course of expiratory movements, so as to restore the muscles to their normal condition.

Dr. Ewart was of the opinion that a real shortening of the muscles did take place in such cases, but whether it was a cause or a consequence of the patient's condition he was not prepared to say.

*Third Day—Friday, August 4th.*

**Diagnosis and Treatment of Gastric Ulcer.**—Dr. A. R. Parsons read a paper on this subject. This complication, he said, was often found in conjunction with pneumonia, and was accompanied by pain, vomiting, and collapse. The diagnosis was difficult, and the prognosis depended upon the amount of adjacent mischief.

Dr. Mitchell Bruce said that medicine was losing ground, now that so many interesting complaints were transferred to the domain of the surgeon: for example, gastric ulcer; the diagnosis between perforation and gastric ulcer was of the utmost importance.

Dr. Forbes Ross was understood to say that diagnosis was the result of instinct rather than of skill, but a rapid, thready pulse was characteristic of gastric ulcer, and he had met with a case in which all food taken was passed in a few minutes afterward, sometimes almost directly. The great point, he considered, was to prevent the occurrence of pneumonic complications which supervened sooner or later in the vast majority of cases. Many abscesses at the base of the lung were the remains of gastric ulcers, and when the patient complained of pain in the region of the umbilicus it was diagnostic of pneumonia.

Dr. Calwell related his experience of gastric adhesions as a cause of dyspepsia. These complications might be divided into acute, slight, and intermediate, and were to be met by careful dieting, abdominal support, and, in bad cases, by an exploratory incision.

Dr. Mullick was not aware of the existence of any drug that acted as a specific in cases of gastric ulcer, and thought that a great deal depended on diet, but he would like to know the actual ingredients of the one spoken of by Dr. Calwell. It was usual, he thought, to administer nourishment in such cases per rectum, but if given by the mouth, that usually adopted was beef-tea in small quantities, a teaspoonful or half a teaspoonful at a time—but even that quantity sometimes was found to disagree; much depended on the constitution of the patient, who often aggravated his symptoms by his own injudicious behavior.

Dr. Rolleston related cases that had occurred in his own practice, but they presented no feature of special interest, and he concluded by remarking that gastric ulcer might be confounded with appendicitis.

**Discussion on Tuberculosis.**—Dr. Shingleton Smith, in reopening the discussion on tuberculosis, expressed his opinion that the reasons advanced for the notification of cases of tuberculosis were extremely feeble. He was not an advocate for the treatment of the disease in sanatoria, fashionable though these establishments had become; medical men must not be too hasty in throwing away all that they had learned in order to accept these new-fangled notions. Local patches of tubercle might be treated by excision or injection, but on no account should medical men discard their old-fashioned proved remedies. There was too much that savored of mere business in this sanatorium craze. There was more, much more, to be said about the antitoxin treatment. [Applause.] It was all very well to call out for something fresh: what was wanted was something more and better.

Sir Hugh Beevor spoke about the overcrowded

state of workingmen's dwellings, which were a prolific source of disease and more especially of phthisis. As the poet spoke of some being born great, and of others having greatness thrust upon them, he, in the few remarks he was about to make, would refer only to the unhappy beings who had phthisis thrust upon them. He displayed two diagrams representing the density of population in the various districts of London and their correlation with the prevalence of tuberculosis, which he said would be found applicable to other places besides the metropolis. The overcrowding in all of these was in the main due to the children. It was fortunate that medical men and social reformers did not have to deal with the entire area, and if three thousand more could be supplied with fresh air the problem of London would be solved. There were, however, several levers that might be made available, namely, the desire for fresh air and the desire to prevent tuberculosis.

Dr. Woods Hutchinson, of Buffalo, N. Y., spoke about the diagnosis of tuberculosis and asked, Was there a tuberculous chest?—replying in the affirmative, and further asking if it could be used as a means of diagnosis. What were, he asked, the natural average diameters of the human chest; and was the tuberculous chest flat or round? Popularly it was supposed to be the former, but that was a mistake, for it was really rounder than the normal chest. It appeared to the cursory examiner to be flat, because on a round chest the shoulders were rolled well forward, and if the angles of the scapula projected it was on account of the roundness of the chest. The anthropomorphous apes were beginning, or had begun, to flatten the chest, but in the human fœtus it was perfectly round. The fœtal chest was exactly the quadrupedal chest, and gradually flattened. The tuberculous chest resembled the arrested or undeveloped chest of the monkey, and perhaps that was the reason that tuberculosis was so fearfully prevalent among those animals. The more one could get the shoulders back, the freer would be the play of the lung-bellows.

Dr. Mitchell Bruce felt a repugnance to speaking *ex cathedra*, but he must refer to the prevalence of tuberculosis on board of the training-ships for the royal navy, where eight per thousand died or were invalided every year for phthisis; a number that was altogether out of proportion with the death rate among the aggregate strength of men and boys in the service, where the mortality from all causes was no more than five per thousand, while that of the general population was 2.53 per thousand. Tuberculosis was more than twice as common in an old wooden hulk as it was in a new iron ship, which was no more than might be expected, for sanitation in the former was in the worst possible condition. He would suggest that, if boys must be trained in these wooden vessels, they should be sent to sleep in properly constructed barracks on shore.

Dr. A. R. Parsons thought that there must be a stage in which no tubercle bacilli would be detected, and to diagnose phthisis from slight equivocal physical signs was an impossibility. It was altogether wrong to return such cases as cures; nor was it desirable that they should be congregated with undoubted cases of the disease. He had no faith in creosote, but a great deal in fresh air, sunlight, and suitable diet. Was it necessary to isolate tuberculous patients, or was it possible to accommodate them, say, four in a dormitory?—for if each must have a separate apartment, it would largely increase the cost of building and maintaining a sanatorium.

Dr. Hillier said that the question of the open-air treatment of tuberculosis possessed a special interest for him, for this treatment could be utilized at home instead of sending off unhappy patients to suffer and die at the ends of the earth. He had spent some time in South Africa, and had seen a great many consumptives dumped down there, to die sooner and suffer more than they would have done if they had remained at home. It was customary to recommend a sea voyage in such cases, but there was much to be said for and against such a course. If the patient would go in his own yacht, surrounded by the comforts to which he was accustomed, yes; but a berth on an ocean steamer, down in a stuffy, ill-ventilated cabin? No; such a person would get more harm than good by the voyage. He had seen one case, sent out by a well-known specialist, since dead; the poor wretch came on board in a dying condition and was buried at sea. Specialists would do well to consider a little before they recommended expatriation in advanced cases of tuberculosis. A man in London who keeps his windows open day and night is better off, by far, than a poor wretch smothered on board ship in the tropics. He had visited several of the German sanatoria, and did not consider that it was a matter of climate. He was of opinion that Dr. Williams had given utterance to some very extraordinary remarks, for he had deprecated the circulation among the general public of information on the subject of tuberculosis, on the ground that the dissemination of such knowledge would do more harm than good; and yet he allowed his name to appear associated with that of a society specially founded for the purpose. Tuberculosis was undoubtedly a communicable disease, and was conveyed in the dust of desiccated sputa and by the use of tuberculous food. No harm, but on the contrary much good, would be done by the dissemination of the plain truth, couched in homely language, among the people.

Dr. St. Clair Thomson referred to free tuberculous laryngitis, which was distinguished, first, from general catarrh, and, secondly, from infection and granulation of the vocal cords by the fact that only one cord was affected, whereas both would be implicated in catarrh; the difference was not exactly pathognomonic, but it was highly suggestive. As for the treatment—local, *nil;* general, hygeia, food, and air, but the greatest of these was air.

Dr. Lardner Green read a paper entitled "The Inhalation of Formalin as a Preparation for and Aid to the Open-Air Treatment of Consumption." Formalin, he said, used in a vaporized state cleansed septic wounds. He reported in detail a number of cases in which more benefit was derived from treatment with formalin than from anything the patients had previously used. The combination of formalin and open-air treatment would quickly eradicate consumption or at least make it a perfectly curable disease.

Dr. Newsholme thought that phthisis was certainly communicable, and advocated that persons so affected would derive most benefit from conjoined treatment, as the directions given by two persons were better than that given by one. A prolific source of tuberculosis was to be found in houses with insufficient or defective ventilation. He thought that the power conferred on medical officers of health should be very largely increased. Fifty-six cases of phthisis had been notified to him privately, and no alarm was caused. Each house in which a death occurred was visited and disinfected; while without that private notification the house would, in severe cases, have remained a hotbed of infection. A city subjected to a protracted siege might be compared to a person attacked by phthisis; the earlier relief could be afforded, the less would be the mortality. He strongly suggested to all present the desirability of privately notifying all cases of tuberculosis to the medical officer of health.

Drs. Denton Johns and W. T. Gardner showed a patient who had been treated at their sanatorium. He seemed to be in vigorous health, presenting a great contrast to a photograph of him that had been taken

on his admission. He weighed one hundred and thirty pounds when he entered the sanatorium, and one hundred and seventy-one pounds when he left it. He was said to be the possessor of a cicatrized pulmonic cavity. All the patients took their meals out of doors in all weathers. When asked what the food was, Dr. Johns replied that it consisted of protein compounds equivalent to thirteen pints of milk per diem, and he further said that the patients were carefully weighed every evening; he did not feel satisfied when they did not gain at least three pounds each a day. A lady had gained twenty-three pounds in nine weeks.

Dr. Calwell said that was all very well, but he had heard no explanation of the fact that, whereas one patient did well, another did badly under precisely the same conditions of treatment.

Dr. Burton-Fanning considered it doubtful that sanatorium treatment would be carried on with equally satisfactory results in a private residence. At Nauheim much reliance was placed on absolute rest and quiet. In a sanatorium the patients are under constant supervision, and no complication could set in without being immediately detected.

Dr. Pruen had thought that amusement was useful at first, but in a sanatorium it had been found necessary to avoid everything that had any tendency to cause excitement, even cards sometimes giving rise to a condition that was highly injurious. Life had to be made as monotonous as possible, and patients were told of this before admission. It was possible to cure tuberculosis even in the third stage, but such cases had to be seen three or four times a day.

Dr. R. Burnett, in summing up, said that he thought that the importance of this discussion could not be overestimated. He was also of opinion that medical men had sent far too many patients away to distant countries in the past.

A member thought that certain remarks had been made about another in his absence, and was proceeding to formulate an indictment against the offender, when he was called to order by the chairman, who gave it as his opinion that nothing calling for his interference had been said, and he declared the discussion closed.

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## SECTION OF OBSTETRICS AND GYNÆCOLOGY.

*Second Day—Thursday, August 3d.*

**The Natural and the Artificial Menopause.**—Mr. Bland Sutton, of London, opened a discussion on "The Natural Menopause Compared with (*a*) the Menopause Produced by Removal of the Uterine Appendages, and (*b*) the Menopause Produced by Removal of the Uterus Without Removal of the Appendages." He said that though we were convinced that the menstrual blood came from the endometrium of the uterine cavity and that the process was controlled by the ovaries, we were absolutely ignorant of its real cause. He had pointed out that the ovaries must be considered to be ductless glands, for morphology taught us that ovulation was not their original or only duty, and they must be included in the same group as the thymus, namely, as temporary glands. Menstruation indicated that the individual was usually mature and nubile. In Great Britain this took place as a rule at the age of fifteen years, though cohabitation was not legal until the age of eighteen years, and marriage was generally later even than that. Menstrual life might be considered to extend over thirty years, from the age of fifteen to forty-five years; the procreative period in a large number of women was only from the age of twenty-five to thirty-five years, or one-third of her menstrual life. Thirty years represented the period during which the ovaries were in full vigor; after the menopause they atrophied and became reduced to one-tenth of their previous weight; this atrophy was due to disappearance of the secreting element, viz., the follicle. If the ovaries were removed menstruation was arrested and other symptoms of the menopause appeared, so that the expression "artificial menopause" was a quite correct one. Leaving a very small portion, even one drachm, of ovarian tissue enabled menstruation to go on. The uterus might be regarded as an incubation chamber for oösperms; it had one other peculiarity besides this, and that was its power of rhythmical change. Modern investigation had proved that the menstrual organ was the endometrium lining the body of the uterus and that alone, but that menstruation depended on the ovaries had been proved by the fact that removal of the ovaries arrested the periodical shedding of the epithelial lining of the endometrium. Loss of blood was only one of the symptoms of menstruation; others were vasomotor changes and increase in the sexual appetite. Normal menopause meant stoppage of the menstruation due to atrophy of the endometrium and of the ovary, and generally came on about the forty-fifth year. It was attended by the following symptoms: flushing, nervousness, mental irritability, and sometimes erotomania. In many women the symptoms gradually subsided and the patient had no further trouble. The simplest way of arresting menstruation was to remove the uterus, and he believed that by that proceeding menstruation was at once and forever arrested. He looked upon the idea of vicarious menstruation as an exploded superstition. Although an abiding amenorrhœa ensued, it was not attended by other symptoms of the menopause. When the ovaries and tubes were entirely removed, flushings resulted, sometimes as often as fifteen in one hour. He had been led to remove the uterus in preference to the removal of ovaries, and in a large number of cases he had found that removal of the uterus did not produce the symptoms he had mentioned. He would like to know what changes took place in the ovary after removal of the uterus. With reference to the relation of the artificial menopause to nubility, if both ovaries had been removed he advised against marriage, but if the uterus only had been removed he thought that marriage might take place if the intending husband was placed in possession of the facts.

Dr. Stuart Nairne, of Glasgow, agreed with Mr. Bland Sutton's conclusions. He had found that there was less shock and a better recovery after removal of the uterus than after taking away the ovaries.

Mr. J. W. Taylor, of Birmingham, had known the menstrual discharge to persist even after complete removal of the uterus by vaginal hysterectomy, and a case was on record in which extra-uterine gestation had been known to occur after that operation. There was no special symptom peculiar to either kind of menopause, and many of the worst cases of nervous symptoms which he had seen were in connection with the natural menopause. When the ovaries were removed in quite young women in whom menstruation had not been long established, the symptoms were slight, and the most severe cases were those which were operated on between the ages of twenty and thirty years. In some of these the symptoms persisted over an interval of many years.

Dr. Malcolm, of London, thought that there was a great difference in the symptoms of the menopause according to the special character of the patient, and that after ovariotomy there was as much difference as in the natural menopause. He doubted whether complete removal of the ovaries always caused cessation of menstruation.

Dr. C. A. L. Reed, of Cincinnati, appreciated the lucid statement of Mr. Bland Sutton on questions which were not by any means settled. He personally

sedulously avoided subjecting patients to the "jolt" of sudden arrest of menstruation, and made a point of leaving some of the ovary, but had sometimes regretted doing so, as a secondary operation had become necessary later on in a few cases. He had paid considerable attention to the changes in the blood which accompany the menopause. The gross manifestation of these changes was the fat formation which took place. The changes in the blood were increase in leucocytes and diminution in hæmoglobin. He had found that there was not much difference in this respect between the natural and the artificial menopause. He had examined only cases of the latter which were due to removal of the appendages.

The President thought that the Fallopian tubes played some part in menstruation, because in the old days of ovariotomy clamp menstruation frequently took place through the stump. He had seen the sexual functions become stronger after removal of the whole uterus and ovaries than they were before, and he had known cases in which menstruation had gone on regularly after complete removal of the ovaries, and had noticed no difference between the normal and artificial menopause.

Mr. Bland Sutton, in reply, said that he would like to have more statistics as to the special tendency to insanity after oöphorectomy. He was surprised to hear the president express his belief in the Fallopian tube being a source of menstrual discharge. He had examined a very large number of Fallopian tubes both in women and monkeys, and had satisfied himself that blood never came from the tubes during menstruation. He believed, in clamp cases when menstrual discharge took place from the stump, that some uterine tissue was included in the clamp. Caution should be exercised in accepting the statements of women with regard to menstruation after operation, and in doubtful cases he made a point of taking the woman into the hospital at about the time of her expected period and watching her for a week or more. He believed that when menstruation followed oöphorectomy a portion of the ovary had always been left behind. That the ovary had other functions than ovulation was proved by the remarkable influence of oöphorectomy on the progress of the disease known as osteo-malacia. The ovary was developed in the same way as the thyroid, the one from the hind-gut and the other from the fore-gut. The secretion of each gland was similar, and they were subject to exactly similar forms of malignant degeneration; they had similarities in structure and in hæmatogenic function.

**The Relationship of Certain Cases of Amenorrhœa to Raynaud's Disease and Subsequent Tuberculosis.**—Professor Byers, of Belfast, read a paper on this subject. His observations were based on four cases; in each local asphyxia was a marked symptom. Raymond taught in 1862 that arrest of menstruation was one of the causes of this disease, but he could find no reference to the connection of Raynaud's disease with tuberculosis, though the latter was present in each of his cases.

**Colporrhaphy.**—Dr. Stuart Nairne, of Glasgow, read a paper describing a new and more complete method of colporrhaphy. The operation consisted in splitting the vagina from the cervix downward on each side, and bringing the sides of the split together on the same principle as Tait's operation for the perineum. A transverse bridge was thus formed on which the cervix rested.

**Prolapse of the Uterus.**—Dr. Inglis Parsons, of London, read a paper on the treatment for prolapse of the uterus. This consisted in injecting quinine sulphate, about 30 ℥ of a twenty-five-per-cent. solution, into each broad ligament, with the object of exciting effusion and so enabling the ligaments to brace up the uterus. The following was the method of performing the injection: The patient was placed in the lithotomy position, usually under anæsthesia. The uterus was held in position by a Playfair probe covered with cotton wool, as that was less likely to perforate the uterus than a sound. Anterior and posterior retractors were used for the vaginal walls, and the injection was then made on each side of the cervix by a modified Pravaz syringe. For a few weeks after injection the patient should be kept at rest and wear a cup-and-stem pessary.

*Third Day—Friday, August 4th.*

**Cœliotomy for Uterine Disease.**—Dr. Macpherson Lawrie, of Weymouth, read a paper entitled "Notes of Fifty Consecutive Cases of Cœliotomy for Diseases of the Uterus and Appendages, with Forty-eight Recoveries, Performed within the Last Twenty Months, with Observations." Of the two deaths in the series, one followed vaginal hysterectomy and the other abdominal hysterectomy for fibroid. In cases of broad-ligament cyst he performed enucleation, subsequently closing the cavity with sutures. As regarded the cases of salpingo-oöphorectomy, when there was no pus in the tubes the symptoms were out of all proportion to the amount of disease present. The condition did not as a rule threaten life, but was very chronic, persisting for many years. He did not operate until after a long trial of palliative measures, and when possible removed the appendages on one side only. He held that in cases under these conditions operation was absolutely justified and necessary. When the uterus was fixed in retroflexion he stitched the fundus to the abdominal wall. In the cases in which pus was present there would be no doubt as to the propriety of operation, and in these cases he always removed the organs on both sides. Oöphorectomy for myoma was not now considered the best treatment. He considered that extra-uterine gestation was always tubal. With respect to cancer of the cervix, he had done vaginal hysterectomy when adhesions were present as long as mobility of the uterus had not entirely disappeared. For small fibroids he preferred vaginal hysterectomy. No objection could be urged against hysterectomy for prolapse when the menopause had passed. Safety after abdominal section depended on asepsis and avoidance of too long operation.

Dr. A. Warden, of Paris, said he had worked with Dr. Doyen for six months. He would remove chronically inflamed appendages by vaginal rather than abdominal section, and thought forceps quite as good as ligature in hysterectomy. Doyen's new clamp forceps exercised a pressure of two thousand kilos on tissue included in its grasp. This was placed on the broad ligament. An erroneous impression had arisen that Doyen trusted to this forceps only; that was not so. He placed a silk ligature in the groove it had formed. During the six months he had been with Doyen he had seen no cases of secondary hemorrhage.

Dr. Tate, of London, had found that in cases of chronic inflammation of appendages more disease was often found on abdominal section than had been anticipated from the bimanual examination. He would not advise vaginal hysterectomy for cancer when there was fixation, but in some cases in which there were one or two bands, which did not, however, prevent the uterus being drawn down, one might operate as a palliative measure. He recalled Professor Martin's dictum that "where the operation was easy it was a good operation, where difficult a bad one."

Mr. J. W. Taylor, of Birmingham, thought the combined operation very good for many cases of fibroid. He did all preliminary work, including separation of the cervix and ligature of the uterine arteries, from the vaginal aspect, with the patient in the lithot-

omy position, and then completed the operation from above. He thought that chronic salpingitis was well treated by vaginal section when operation became necessary, but found that many cases were due to the combined infection of gonorrhœa and syphilis, and these yielded to treatment by potassium iodide and mercury.

**Treatment of Carcinoma of the Uterus.**—Dr. More Madden, of Dublin, read a paper on "Some Methods Employed in the Modern Treatment of the Uterine Cancer." He said that cancer cases formed three per cent. of all the gynæcological cases coming under his care. Of fifty-four cases, forty-seven were found to commence in the cervix; thirty-seven were in multiparæ. As regarded age, between forty and fifty years there were thirty-seven cases, ten above fifty years of age, and eight under forty years. One died of the disease at the age of sixteen years. The diagnosis was made by the careful examination with the microscope of all suspicious conditions of the cervix. When the margins of the os were found to be reddened and shot-like nodules were felt with the finger, and bleeding followed examination, a nodule was excised and examined under the microscope. He advocated early amputation of the cervix uteri. He had performed vaginal hysterectomy in only five of his cases. All the patients recovered from the operation, but only one lived more than two years without recurrence. The results of amputation of the cervix were that there had been no mortality from operation in the whole of his thirty-one cases; in ten cases there was no return in ten years. His method of operating was to transfix the cervix with steel wire, pull it down, and remove it by thermocautery. In non-operable cases he injected methylene blue or absolute alcohol into the growth. He found injections of turpentine relieved the fetor, and for pain he gave morphine.

**Causes of Dystocia.**—Dr. Archdall Reid, of Southsea, read a paper on "The Causes which Render Difficult the Labors of Civilized Women." He thought there was an increasing disproportion between the fœtal head and the pelvis. Forceps was now used six times more frequently than at the beginning of the century. He had attended one thousand cases with three deaths. Ruptured perineum was much more frequent after unassisted labors than when forceps was used. The labors of civilized women were so severe that many would perish if unassisted. Why are the labors of civilized women more difficult than those of savages? Sir James Simpson suggested that education entailed an enlargement of the head which became an hereditary transmission. The doctrine he did not think would bear investigation. His opinion was that even in savage women there was sometimes disproportion, and the result was the loss of both mother and fœtus; among civilized women many or most of these cases would be saved, and so perpetuate the difficulty.

Dr. Purslow, of Birmingham, said that in his opinion the difficulty and delay in the labors of civilized women as compared with savage arose not so much from disproportion of head and pelvis as from weakness of the expulsive muscles. This latter was due to want of their exercise, and probably also to the wearing of corsets. He thought that the squatting position almost always assumed by savage women in parturition had a decided mechanical advantage over the recumbent position assumed by civilized women.

**The Syphilitic Factor in the Diseases of Women.**—Dr. Shaw-Mackenzie, of London, then read a paper on this subject. He urged the more general recognition of syphilis as a cause of disease, especially of cases of menorrhagia accompanied by erosions of the cervix, and had found these cases much improved by treatment with mercury.

**Puerpural Infection.**—Dr. A. Warden, of Paris, read a paper on "The Treatment of Puerperal Infection in the Maternity Hospitals of Paris." He said that serum was largely used, but the results did not justify so far the recognition of any serum as a specific curative agent, and we were yet in ignorance of conditions which should govern the choice of a serum. The treatment of puerperal infection by the Paris accoucheurs was an immediate and routine one. He thought that we ought to consider that the plan of waiting for severe symptoms before commencing treatment was a bad one. There should be prompt recognition of the infected state and prompt local treatment. We recognized infection by rise of pulse and rise of temperature. Pinard advised preventive measures in cases likely to develop infection, such as long labors, placenta prævia, version, etc. Treatment was begun by intra-uterine douche, and if that did not cause a fall of temperature the uterus was curetted, but not before the third day. This was done without chloroform. Vulsella were used, and the curette was a blunt large one. Afterward the uterus was swabbed out and subsequently packed with iodoform gauze. In cases which did not yield to this treatment he would bleed and subsequently perform intravenous transfusion of saline solution, using large quantities.

This concluded the business of the meeting. A vote of thanks to the president was proposed by Dr. Purslow, of Birmingham, seconded by Dr. Shaw Mackenzie, of London, and carried unanimously.

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## Surgical Suggestions.

**Vaginismus.**—I agree with several writers who say that they have absolutely no results from any plan of treatment other than that which is radically surgical. The various ointments, suppositories, and lotions are useless. Cauterization is also valueless. Rapid and gradual dilatation has been without results in my hands. The treatment should be radical, and consists in total extirpation of the hymen, both posteriorly and anteriorly, if the hymen extends to and is continuous with the urethra. If any considerable portion of the hymen is allowed to remain, all the symptoms may recur. In some instances cure has been secured only by excising the urethral orifice to eradicate every vestige of the hymen.—William A. Edwards.

**Abscess of the Liver: Pathology.**—(1) Abscess of the liver is a micro-organismal disease. (2) The principal factor is a streptococcus. (3) Dysentery is produced by the streptococcus; the amœbæ play no rôle in the pathogenesis of the affection. (4) The point of entrance of the micro-organisms found in the liver is chiefly the intestinal tract, whence they pass to the liver either through the portal blood or the general circulation.—Zancarol.

**Surgical Hints.**—In syphilitic ulcer of the tongue, the floor of the mouth is usually not involved, so that the tongue may be moved quite freely. In epithelioma it becomes involved early, with consequent loss of motion.—If a patient should happen to become salivated during mercurial treatment, do not at once give iodide, since this drug, by increasing the elimination of mercury, will at least temporarily increase the trouble.—Never remove a large sequestrum or a foreign body situated near a blood-vessel of any importance, without being ready to tie the vessel in case of hemorrhage. In one case the carotid artery had to be tied for hemorrhage resulting from the removal of a necrosed portion of the lower jaw.—In urethral stric-

TURE, complete retention may occur even when the stricture is not of a very small calibre. If any inflammation is present, a very slight spasmodic action may suffice to close the canal, and this spasm will continue, and even grow stronger, until a catheter is passed. Always begin with a fair-sized instrument.—IN RETROPHARYNGEAL ABSCESS it used to be advised to empty the abscess first with a trocar, in order to avoid flooding the larynx with pus and causing suffocation. If we can open the abscess with a knife, while the patient's head is lower than his body, in the position adopted for feeding intubation cases, the danger is avoided and the opening will be more thoroughly done.—IN SEVERE PAIN in the testicle occurring in old men, if we can exclude the presence of inflammation due to the ordinary infectious conditions, inquire into the possible presence of gout. In this disease an attack occasionally begins in the testicle, and gives rise to excruciating pain. Colchicum in full doses is a specific for this. Heat is usually grateful to the patient. Cold applications are not indicated.—IN CASES OF STRANGURY occurring in old men, after operations upon the rectum, the condition may sometimes persist for two or more days, especially if there is any prostatic trouble or urethral stricture. This may often be cut short by leaving the catheter in for a few hours. There is no danger in this if our asepsis has been thorough. It is also important to remember that in such cases we may remove only a small part of the urine contained in the bladder. To avoid this percuss the bladder as soon as the urine stops flowing. If we have reason to believe that any urine is left, we should turn the patient over on one side, and we will often see several ounces more gushing out quite fast.—*International Journal of Surgery*, February.

**Legrand's Solution Anæsthésique-Hémostatique** has the following formula:

| | |
|---|---|
| ℞ Gelatin. pur | 2.0 |
| Sodii chloridi | 0.7 |
| Acidi carbol. cryst | 0.1 |
| Eucain. hydrochlor. B | 0.7 |
| Cocain. hydrochlor | 0.3 |
| Aquæ destill ad | 100.0 |

M.

The solution can be sterilized and kept for a long time without deteriorating. The technique of injection is the same as for Schleich's cocaine infiltration anæsthesia. The special value claimed for this solution is the absence of a secondary vasomotor dilatation following the primary vasomotor contraction produced by the cocaine. Gelatin acts as the hæmostatic.

**Abscess of the Liver: Etiology.**—(1) Abscesses of the liver are micro-organismal in origin. (2) They may be monomicrobic or polymicrobic. (3) They develop in the course of diverse affections of the intestinal canal. (4) They are usually pyocholic in origin, rarely pyæmic. (5) They should be opened and drained as soon as recognized.—LOISON AND ARNAUD.

**General Septic Peritonitis.**—Probably as many patients recover from general septic peritonitis by stimulants and purgatives as do by operations. In either event, if it is a case of true general septic peritonitis, the mortality will not be far from ninety-five per cent.—J. M. CARTLEDGE.

**Mammary Carcinoma.**—While I have removed with the breast both pectoral muscles, along with lymphatic glands of the axilla and supraclavicular region, and probably prolonged the life of the patient, such cases should probably be regarded as inoperable, as remote infection has likely already taken place.—H. MCGUIRE.

**Acute Infections of the Gall-Bladder** are very serious; surgical intervention is almost always demanded. Left to themselves, the cases are liable to result in rupture, or even in gangrene, with escape of septic fluid either into the adherent contiguous viscera or into the general peritoneal cavity.—M. H. RICHARDSON.

**Causes of Hernia.**—I have frequently observed in operations for radical cure in adults that the conjoined tendon is unduly narrowed, very thin, or the muscles attached to it are ill-developed. Félizet has described in infants imperfect development of one or both of the pillars of the external ring. The fact should not be lost sight of that the immediate cause of hernia is in a large proportion of cases an increase of the intra-abdominal tension, either persistent or intermittent. This is especially obvious in the hernia of infants. Defective closure of the vaginal process may be present at birth, but a hernia often does not develop because the determining factor is absent. This is supplied in a large proportion of cases by distention of the abdomen with tympanites due to chronic gastro-intestinal catarrh, often associated with rickets; or there may be phimosis with adherent prepuce, vesical calculus, ascarides, prolapsus ani, causing straining during micturition or defecation. It is often noted that the hernia was first observed during an attack of whooping-cough. Ascites is also an important determining cause.—FREDERIC EVE, *The London Lancet*, January 21st.

**To Remove Blood from the Hands.**—When you have blood upon your hands, first wash them in pure water. Using soap at first is a mistake, as soapy water does not dissolve blood rapidly. Clear water and a nail brush should come first, soap next.—*International Journal of Surgery.*

**Section of Stomach.**—At the French Academy, on November 11, 1898, Dr. Périer showed a woman, aged fifty-five years, upon whom a year before he had operated for tumor of the stomach, making an annular excision which left the two cul-de-sacs entirely separated. A double layer of sutures had been introduced and the outer wall had been strengthened by an epiploon covering.—*La Presse Méd.*, November 16, 1898.

**Decinormal Salt Solution.**—Ordinarily, not more than one ounce per minute should be injected into the tissues or vein. Pulmonary œdema, dyspnœa, headache, vertigo, mental excitement, delirium, hallucinations, severe pain in the left side, with engorgement of the liver and spleen, occur from overdistention of the blood-vessels with salt solution.—J. WESLEY BOVEE.

**Tuberculous Peritonitis.**—Laparotomy was performed by Dr. Brault (*Gaz. des Hôpitaux*, No. 80, 1898) on a girl of five years. The surface of the liver was found studded with foci; also the intestines, which were matted together and partly covered with false membrane. The wound was closed without drainage after breaking up adhesions and wiping clean the surface, removing all tuberculous foci. The stitches were removed on the eighth day, and the cure was regarded as perfect.

**Local Anæsthesia.**—Guaiacol in solution in oil is used as a local anæsthetic, especially for the turbinals and for the removal of polypi in the nose and ears. Anæsthesia is obtained in ten minutes. Eucaine, which is less poisonous than cocaine, is used in a solution of five to eight per cent.—LUCAS CHAMPIONNIÈRE.

**A New Method for Extracting Foreign Bodies from the Nasal Fossæ in Children.**—Inject through the sound nostril a current of warm salt water at a

moderate pressure, which, returning by the posterior nares on the occluded side, forces the foreign body out, or at least allows of its being seized with forceps. —Felizet.

**Puerperal Sepsis.**—Four simple things, if universally and carefully used to-day, would very nearly banish puerperal sepsis. They are: (1) The hand scrubbing brush; (2) The bichloride of mercury or equivalent solution for hands and external genitals; (3) The baked (*i.e.*, sterilized) napkin; (4) The clean suit.—George Erety Shoemaker.

**Syphilitic Iritis.**—The chief symptoms are (1) ciliary congestion with a certain amount of pain referred to the forehead or temple, photophobia, and lacrymation; (2) discolored iris, sluggish action of the pupil, which dilates irregularly under atropine; (3) adhesions to the lens, deposit of uveal pigment, nodules of lymph in or on the iris.—Jonathan Hutchinson, Jr.

**Strictures of the Rectum.**—According to the statistics from the large hospitals in London, stricture of the rectum in females is ten times as frequent as in males; hence we can readily see how these strictures would be produced by careless people, particularly the lower classes, who never stop to think when they have a gonorrhœal vaginitis, but use a syringe which infects the rectum.—J. B. Bacon.

**Anthrax.**—Frequent injections of a three-per-cent. carbolic solution about the pustule. Free stimulation, hot applications. It is said that a temperature of 42° C. completely arrests the growth of anthrax bacilli.—Strubell.

**Intracranial Drainage.**—In hydrocephalus it may be considered proven that if permanent drainage can be secured from the ventricles to the subdural space, nature will provide for the absorption of the fluid and prevent recurrence of the ill results of intracranial pressure.—Sutherland and Watson.

**Bernay's Artificial Sponge** (tightly compressed cotton pads) is highly recommended for plugging the anterior or posterior nares by Dr. W. Kelly Simpson. Dr. Antony Roche, of Dublin, recommends for epistaxis, when local pressure and astringents have been tried without success, a very hot linseed poultice to the back of the neck. In many cases the bleeding will stop at once.

**Entero-Vaginal Fistula.**—The danger of fistula in hysterectomy in which clamps and forceps are used leads Schiller to point out the necessity of great care in the application of the latter and the advantage of subsequently protecting their extremities with pledgets of gauze.—*Zeitschrift fur Geb. und Gynäk.*, Bd. xxxviii., Hft. 1.

**Dangers of Nasal Douche.**—Douches should be used only when there is something to remove, as increased secretions and crusts, since disturbance in the sense of smell, headache, and suppuration of the middle ear may be occasioned.—Lichtwitz.

**Tuberculosis.**—It has been the experience of those who see many cases of tuberculosis that creosote should be given with caution or not at all in those patients who have a tendency to hæmoptysis, and in those who have marked febrile movement.—*Ther. Gazette.*

**Keloid.**—These three principles—compression, incision, and electricity—are the most promising means at our command for the treatment of keloid. They should be used separately or in combination.—Shoemaker.

**To Preserve Needles.**—Keep them in a saturated solution of washing soda. Carbolic oils and watery solutions dull all cutting instruments, and in alcohol they will soon rust. Albolene has an unpleasant oiliness but is otherwise good. Calcium chloride in absolute alcohol is efficacious but expensive.—Dawbarn.

**Intratympanic Injections of Hydrogen Peroxide.**—This has been used in obstinate cases of chronic suppuration, without unfavorable result that could be rationally ascribed to it, any more than to the boric acid against which Schwartze and his school have so much inveighed. But when the full-strength solution (three per cent.) of hydrogen peroxide is injected through a small perforation into an acutely inflamed tympanic cavity, we surely put its powers for evil to crucial test.

**Appendicitis.**—However light the clinical expression of appendicitis may be, and how much it may appear to be in favor of a speedy temporary recovery, the operation is always justifiable. As the strength of the infection can never be known with certainty from the beginning, it appears to be wiser to take each appendicitis seriously. Among two evils the smaller should be chosen, and operation is the smaller evil.—Carl Beck.

**Conservative Surgery of the Uterine Appendages.**—The following facts should be borne in mind: (*a*) If the Fallopian tubes are removed, conception is sacrificed; (*b*) if the uterus is removed, menstruation is sacrificed; (*c*) if the ovaries are removed, their secretion is sacrificed. When the ovaries are removed the uterus should always be saved, for the patient will then be free from the unpleasant symptoms which arise when everything is taken out.—Howard A. Kelly.

**To Thread a Needle** hold it with the ring and little fingers of the left hand, instead of with the thumb and forefinger as is the usual way. This method, according to Dr. Joseph M. Jackson, leaves the thumb and forefinger free to grasp the smallest bit of silk or other suture material as it passes through the eye and pull it to a safe distance on the other side. This does away with the slipping back, so common in the old way of changing hands, and incidentally decreases profanity.

**Spinal Caries.**—Open the post-pharyngeal abscess by an incision corresponding to a line of the internal carotid and not through the mouth. In dorsal abscess laminectomy should be performed. Inasmuch as Calot's operation, rhachiclasis, neither deals with the abscess nor guarantees interruption of further progress of the disease, and possesses no advantage over simple laminectomy, but is simply an operation for the forcible reduction of the resulting deformity, it is not viewed with much favor.—Horsley, *British Medical Journal*, October, 1898.

**Oxygen in Wounds.**—Dr. George Stoker (*Medical Press and Circular*, February 8th) relates a number of cases including recent wounds, chronic senile gangrenous ulcer, and lupus, treated by this method. The points suggested in the latter disease are: (1) to remove the diseased surface by scraping. (2) The skin grown under oxygen being almost physiologically perfect is more capable of resisting further pathological attacks than an ordinary cicatrix. (3) The formation of oxidized toxins on the wound itself, and the use of these artificially prepared, not only assist the healing, but also attack outlying lupoid areas, causing them first to break down, afterward to heal, and in this way tend to prevent a later extension of the disease. It is

gratifying to note that these results were attained not only in this case, but also in others of a similar nature.

**Treatment of Wounds.**—The antiseptic method, if contact of strong antiseptics with raw surfaces be avoided, allows an ideal wound healing. In an uninfected wound no drainage is necessary. For the arrest of hemorrhage, torsion should replace ligature in the great majority of cases. Buried catgut sutures are the best for securing apposition of the deeper structures and the skin, for by their use stitch abscesses and the pain and trouble of removing sutures may be avoided. All clean wounds should be left undisturbed for ten days, and should then be healed.—Rutherford Morison.

**Questions for the Woman to Answer.**—When the question is laid before women fairly, whether they had rather retain their organs and have a qualified result from a palliative operation, or lose their organs and be insured immunity from future pelvic inflammatory lesions, some will unhesitatingly choose the former course. There are women who prefer to retain their special organs, suffer occasionally, but yet feel that they are women. There are other women to whom the loss of their organs is worse than death. These, I know, are sentiments difficult for us to appreciate.—W. R. Pryor.

**Total Emasculation for Cancer of the Penis.**—Pantaloni, of Marseilles, reports three instances in the *Archives provinciales de Chirurgie*, November 10, 1898, and reviews the cases previously recorded. It is considered that this is one of the operations for cancer which has given the best results, although this form of epithelioma is less malignant than many of the carcinomas. In one case, that of Chalot, the patient remained cured for three years, and the second patient presented no signs of recurrence at the end of sixteen months. In the author's second observation, the cure already extends over a period of three months. The local results have been satisfactory in almost all instances.

**Spasmodic Torticollis.**—By the use of a spring and clamp of simple construction, made of spring steel similar to that used as trouser fasteners by cyclists, Dr. H. J. Hall (*Medical and Surgical Journal*, August 18, 1898) has cured one patient and relieved a second. A tail-piece runs from the middle of the spring about six inches down the back, so as to keep it in position. A gentle pressure is thus exerted on the back and sides of the neck as far forward as the anterior border of the sterno-mastoid muscles. After a month the spring could in one case be discarded for several hours a day. As a final result there remained slight painless and fixed torticollis due to permanent contraction of the affected muscles, but the patient could turn her head freely and there was no retraction. The second case, of five weeks' duration, was relieved at once, and in three months was practically cured by the clamp and gymnastic exercises.

**Surgical Treatment of Trifacial Neuralgia.**—I think the operation should be done only when the autopsy is performed; in other words, I have never seen more than two permanent successes, and—to be very Hibernian—I doubt very much if they were permanent, because the patients passed away from under my observation within three years. If you should look up the "Index Medicus" and Chipault's French work, you will find that there is an enormous literature upon this subject, from the analysis of which you will perceive that the operation is a very foolish one, except from the point of view of making a surgeon's reputation; and I think almost any remedy, like aconitia and others of the same ilk, will show just as large a number of successes.—Landon Carter Gray.

I have never removed the Gasserian ganglion and never expect to do it. I believe the operation will become obsolete in the near future.—Nicholas Senn.

I have never as yet had occasion to advise the Gasserian-ganglion operation. I have found the medical treatment of the severe trigeminal neuralgia, on lines similar to those advised by Dana, more satisfactory than is often believed, and I have more than once obtained complete relief for a considerable period. In but one case, in fact, have I had to advise an operation, and then I began with a simple excision of the peripheral branch of the nerve. This is not always of permanent benefit, but the period of relief is often very considerable, and I can now recall few cases that have been compelled or been willing to resort to the severer operations back toward the foramina. I hold the removal of the ganglion as the last resort after medical treatment and the lesser operation have failed, and I have not yet been compelled to advise it. As to the pathology, there is certainly in the excised portions of nerve a degeneration. Whether there are also central changes is as yet undetermined.—Philip Coombs Knapp.

I have removed the Gasserian ganglion but once—in a very old lady, and with a fatal result.—W. S. Halsted.

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## Correspondence.

### OUR LONDON LETTER.

(From our Special Correspondent.)

PREPARING TO MEET THE PLAGUE—OTOLOGICAL CONGRESS—MAJOR ROSS' EXPEDITION TO SIERRA LEONE—SEAMEN'S HOSPITAL SOCIETY—THE LATE SIR EDWARD FRANKLAND, F.R.S., K.C.B., ETC.—DEATHS IN THE SERVICES.

London, August 18, 1899.

Interest in the Portsmouth meeting is disappearing so rapidly that it will soon be looked upon as "ancient history." Of course those who read papers retain a paternal solicitude in their progeny and the sections in which they were presented, but the march of events brings other things to the front, and who shall stay the flight of time? Certainly not the numerous members who have gone for a holiday, nor the toiling ones who have been unable at present to start.

The arrival of plague in Europe is a cause of considerable apprehension in several countries, and is regarded here as a serious warning. For more than a month various assertions have been made as to the presence of the disease in Oporto. A policy of denial was adopted, but at length the government has been obliged to admit the fact. The delay is unfortunate, and our Portuguese neighbors are naturally excited. The disease has spread to Lisbon and probably to other cities. The secret policy is almost always disastrous. Here we make our preparations, publish the facts, and await the event in confidence. The local government board is awake, and its medical inspectors have already begun a survey of the ports, with a view of strengthening our defences. The medical officers of health of these localities will no doubt be glad of any help or suggestions the inspectors may offer, especially in the smaller ports, for it is there that a stray case is most likely to be introduced. Some of them have a trade with Portugal, and are, of course, not so well equipped for the work as the great fronts. However, the local sanitary authorities of minor ports are too often parsimonious and cannot be persuaded to spend money. Some of them pay their officers of

health a mere trifle, and isolation is unprovided for, and even disinfection accommodation inadequate.

We have had the International Congress of Otology here—the sixth of the series—and a very interesting one it proved. It must also be pronounced a success. For four days, morning and afternoon, sittings were held without exhausting the long list of papers. The museum was the greatest attraction. Professor Politzer voiced this at the last meeting when he said: "Every congress has an outstanding feature. That of this congress has been the museum."

The tropical expedition under Major Ross has arrived safely at its destination, and the colonial governor has promised to do all he can to assist it.

Several well-known men have joined the teaching staff of the London School of Tropical Medicine. So the committee of the Seamen's Hospital Society can laugh at their former staff and repudiate the need of mending their manners. Just as I predicted. It is always so.

Sir Edward Frankland died on the 9th inst. in Norway, where he was taking a holiday. His death was therefore unexpected, and he succumbed after a few days' illness in the seventy-fifth year of his age. He was professor of chemistry at Owen's College from 1851 to 1857; then at St. Bartholomew's Hospital until 1867; at the Royal Institution 1863-67, and the School of Mines 1865-85. He was president of the Chemical Society 1871-72. He was government analyst of the Metropolitan Water Supply, and as such for nearly thirty years responsible for annual reports to the local government board on the condition of that supply. In the course of his long and active career he received many honors from British and foreign societies, among them the fellowship of the Royal Society, of which he became the foreign secretary. Oxford University made him D.C.L. in 1873, and Edinburgh added her LL.D. in 1884. He was also a justice of the peace and received the K.C.B. in 1897. I well remember him in his laboratory during one of the cholera epidemics, surrounded by various specimens for investigating the water and conversing freely on the subject of the disease and its relation to the water supply.

The deaths are also announced of Professor Bunsen, who was a fellow-student of Frankland's, and whose name is deeply engraved on the progress of chemistry during the last half-century; Deputy-Inspector-General William Richardson on the 4th inst.; Brigade Surgeon G. Y. Hunter on the 11th inst., aged sixty-eight years; Surgeon-General J. Alexander W. Thompson in his seventy-eighth year. He retired in 1881 after thirty-seven years' service.

Lieut-Col. C. J. W. Meadows, aged fifty-five years, died on the 2d inst. Surgeon-Major W. C. B. Eatwell died on the 7th, aged eighty years.

## EPIPHORA IN TABES.

To the Editor of the Medical Record.

Sir: In the very comprehensive and able article upon "Epiphora," by Dr. J. H. Woodward, which appeared in the Medical Record of August 12, 1899, I am surprised at his failure to mention the watery eye that is so frequently a symptom of tabes. The article is so comprehensive and methodical in its consideration of epiphora in all its phases, that an omission to mention this not uncommon cause is certainly an oversight. Perhaps I am made rather critical by a quite recent experience, which, in fact, is the duplicate of one of a few years ago—that of a case of beginning tabes, in which a very able oculist had slit up the canaliculi but a few months previously. Knies states that epiphora is a very frequent sympathetic affection of tabes, and Berger claims to have seen it in fully half of his cases. It is usually considered a direct disorder of secretion, but Berger appears to think that it may also be due to an imperfect action of the orbicularis palpebrarum. Knies has observed one case in which obstinate epiphora without objective findings was the initial symptom of tabes. True "crises lacrymales" are occasionally observed. Mendel says that the upper twigs of the facial nerve spring from a separate nucleus in close proximity to that of the oculomotorius. This might explain the reflex excitability of the secretory nerves to the lacrymal apparatus, and thus be an analogue to the facial hyperidrosis sometimes seen in tabes dorsalis.

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## URIC ACID IN THE ETIOLOGY OF ANGIO-NEUROTIC ŒDEMA.

To the Editor of the Medical Record.

Sir: In your issue of August 19th appears an article by Dr. Baruch on "Angioneurotic Œdema," in which he says that "the treatment has not so far been very satisfactory." This could hardly be otherwise, for no cause for the condition is certainly known. However, some features in the reports of his cases point both to a cause and to the remedy therefor.

In Case I. the urine showed "numerous uric-acid crystals"; the attacks were invariably in the morning, and seemed to be caused by the use of cold water, but that test proved negative after the morning hours were passed, and the attacks ceased, when the urine was found "neutral in reaction; specific gravity, 1.010; no uric acid."

In Case II. the attacks were also in the morning, but examination of the urine was negative in its results. In Cases III. and IV. the symptoms were severest in the morning, and in both they were preceded by constipation. Nothing is said as to the condition of the urine.

The blood shows its greatest alkalinity during the early morning hours—*i.e.*, before nine o'clock. Hence in people who are of the uric-acid diathesis, more uric acid is then circulating in the blood than at other times. Activity favors its excretion, and the passivity of sleep its retention.

The irritation of uric acid and the alloxuric bodies acts more generally upon the vasoconstrictor fibres, but may also irritate the inhibitory nerves, causing general or local capillary relaxation. In the cases in question we have evidently an angioneurotic irritant, producing local capillary relaxation and exudation, acting in the morning hours.

In Case I. the exciting cause was the application of cold water, but this was inoperative after the morning hours, and after treatment with an alkaline and non-nitrogenous diet; just as would be expected if it was known that the irritant was uric acid. Cold water caused the cutaneous capillaries to fill, but as they were relaxed under the influence of uric acid, œdema occurred, and the extremities naturally were much affected, being farthest from the heart.

In Case II. it is difficult to determine just why the local œdema should have attacked the tongue only, except that such local affection is occasionally the result of the action of uric acid. The "great mental and physical depression and fear of impending death" show a general nervous effect from some unknown cause, and the general similarity of this case to the other three certainly places it in the same class.

In Case III. the application of cold compresses to the swollen penis and scrotum simply aggravated the condition, as did the cold bath in Case I.

In Case IV. the capillary relaxation was more general, involving larger areas of skin and also the gastro-intestinal tract. In both of these cases there was a history of constipation, but that itself may have been caused by uric-acid irritation.

All these cases seemed to show a common cause. In the first the presence of uric acid in the urine and the cure by abstinence from meats and sweets and the use of alkaline drinks declare directly the uric-acid diathesis.

Administration of calomel may be a necessity to relieve an acute attack, but the cure of the condition requires the elimination of uric acid from the system, and such hygiene and diet as will prevent its future accumulation. Sodium phosphate and some of the lithia salts will secure the former. Exercise to increase oxygenation, iron to increase the oxygen-carrying powers of the blood, strychnine for the nerves, together with regulation of the diet—especially of the nitrogenous element—ought to prevent a recurrence of such attacks.

That examination of the urine gives negative results in such cases does not at all disprove the presence of uric acid in the system. It may then be in excess, but temporarily, so to speak, not finding exit through the kidneys, in consequence of some systemic failure, thus producing auto-intoxication.

Numerous tests of the urine for a period extending over several days may be necessary to prove or disprove its excess.

FLORENCE C. BAIER, M.D.

OWATONNA, MINN., August 25, 1899.

## RITUAL CIRCUMCISION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The paper on the evils of the ritual practice of circumcision, in a recent number of the MEDICAL RECORD, tends, I believe, to convey a wrong impression to the minds of surgeons unfamiliar with this practice among orthodox Hebrews. Referring to the men who perform this operation, the writer informs us that "they possess neither medical knowledge nor surgical skill; they have no idea as to the existence of germs and understand nothing about the theory of sepsis and antisepsis." Some months ago I was invited to attend an operation performed by one of these practitioners, and being anxious to learn their methods from actual observation, I accepted the invitation.

The operator possessed a case which contained a vial of carbolic acid, iodoform powder, absorbent gauze, absorbent cotton, styptic cotton, and an extremely sharp knife. The penis and adjacent parts were washed, first with water and then with a weak carbolic solution which the operator prepared. The prepuce having been pulled forward, a portion was cut off and the remainder rolled back. The parts were again washed with the carbolic solution, a dressing of iodoform was applied, and the child was put to bed.

The operator did not suck the first blood to stop the hemorrhage, this being a practice which, I believe, has long since been abandoned. He possessed enough surgical knowledge to know how much of the prepuce to remove, and must certainly have known of the existence of germs, because of the cleanliness with which he performed the operation. As to the results obtained, these compare very favorably with those of the surgeon.

In conclusion I wish to state that, though I believe that the operation should in every case be performed by a surgeon, yet I have written the above merely to prove that the evils resulting from the ritual practice are not so great as generally imagined.

MAXWELL BENJAMIN, M.D.

196 ALEXANDER AVENUE.

## New Instruments.

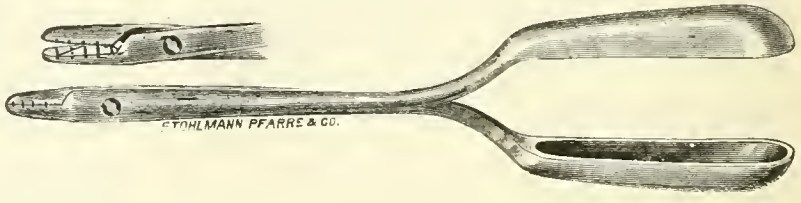
### A STRONG AND SIMPLE NEEDLE FORCEPS WITHOUT A CATCH.

BY W. L. BURRAGE, M.D.,

BOSTON.

THE accompanying cut represents a needle forceps which was made after my design by Messrs. Stohlmann, Pfarre & Co., of New York, about eight years ago, with the addition by the same firm recently of several improvements.

A needle forceps without a catch has several advantages over one with a catch, notably that it takes less time to seize and let go of the needle; there is less twisting of the needle when the grasp is loosened, and without a catch the operator can change his hold, a desirable procedure in driving a long, full curved needle through hard tissues, and whenever by any chance the needle has taken the wrong direction. It is true that it requires more practice to accustom one's self to the use of a catchless forceps, but when the knack is once required it is never lost.




This forceps is simple, consisting of two steel blades joined by a French lock. The handles are hollow to lighten their weight. The jaws are narrow so that they will not break needles, and yet strong so that they will hold firmly and so that they may be used also as shot compressors. There are four horizontal grooves in the jaws of graduated sizes and bevelled at the edges of the jaws so as to hold any size of Hagedorn or full curved needle. The forceps is long and slender, and is therefore especially well adapted to working in the vagina and in the pelvis.

In use the male blade is held by the thumb and forefinger while the female blade swings free (it is essential that the lock should not be tight so as to make the blades work hard on each other). The forefinger is inserted between the handles to open the jaws.

I have used the unmodified forceps in gynecological operating for the past eight years, and have no hesitation in recommending this improved form to those of the profession who want a strong forceps without a catch.

**Cholecystitis.**—In acute cholecystitis of whatever origin, pain is the first, the most important, the most invariable symptom. It is usually severe and paroxysmal. It is situated in the right half of the abdomen, though not always localized in the region of the liver; it may be in the normal situation of the gall bladder; it may be in the epigastrium, or it may be referred directly to the usual seat of the vermiform appendix. In many cases the pain becomes localized in the region of the gall bladder; in a few it persists in areas remote from the liver.—MAURICE RICHARDSON.

## Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending September 2, 1899:

| | Cases. | Deaths. |
|---|---|---|
| Tuberculosis | 206 | 151 |
| Typhoid fever | 79 | 12 |
| Scarlet fever | 53 | 4 |
| Measles | 83 | 1 |
| Diphtheria | 104 | 23 |
| Laryngeal diphtheria (croup) | 9 | 6 |
| Cerebro-spinal meningitis | 0 | 14 |
| Chicken-pox | 1 | 0 |

**Congenital Tuberculosis.**—It has been so frequently stated within past years that tuberculosis as a disease is not inherited that cases of manifestly congenital disease demand some notice. At the meeting of the Pathological Society of London, on May 2d last, Professor Macfadyen exhibited part of a tuberculous calf, making the third instance of congenital disease observed by him since 1897, prior to which date he had seen only one example. In the first case since 1897 there was advanced tuberculous disease of the maternal uterus; nothing was known of the condition of the mother in the second; and in the third the lungs were tuberculous, but the uterus was not examined. In the second calf the disease was present in the liver, spleen, lungs, and myocardium, and in the third in the liver, spleen, kidney (to a slight extent), lungs, and the lymphatic glands, hepatic, mesenteric, etc. Calcification was noticed in the second calf. In the adult bovine the lungs, pleura, and peritoneum are usually infected, the spleen rarely.—*English Public Health.*

**Food in Hot Weather.**—The summer weather is upon us with a vengeance as I write, and the difficulties of the housewife in the way of keeping her food supplies pure and wholesome are once more repeating themselves in our seasonal heat period. There is every need to watch this aspect of the food question very closely, for spoiled food is in itself a fertile source of danger. There is another phase of things worthy of our attention at the present time. Food and milk which have been on the verge of spoiling have preservatives added to them by way of keeping them in what is supposed to be an eatable condition. In the case of milk it is to be feared that such "doctored" milk is often added to fresh milk and the mixture sold as the pure article. That no food preservatives can be quite harmless is very generally admitted, but when I read that formalin is actually being employed in restaurants to arrest decomposition in eatables, it is high time a warning should be given that such a practice is a dangerous one. Another caution appropriate for the hot weather is that of warning mothers to see to the purity of the milk on which their infants are fed.—Andrew Wilson in *London News.*

**A Daymare.**—Dr. Tom Robinson, in an article in the *Medical Press and Circular* entitled "Daymare," ends in the following manner: "No one is so selfish as the self-absorbed. Give these patients what name we like, either neurotics, hypochondriacs, or hysterics; say with Shakespeare that 'their flesh is mad,' the fact remains that to us they look for assistance. With disease which has a morbid anatomy we experience but little difficulty, because we to a large extent know the course which the malady will usually run; but these individuals whose whole tissues seem crazy, whose special senses do not appear to see the world as others see it, who, in one word, want common sense—these constitute an enormous bulk of those who appeal to us. What we can do is to listen patiently to their complaints, to examine every organ carefully, and then to speak with absolute frankness. Many of the most gifted men and women which the world has ever seen have had daymare. Martin Luther threw the ink-pot at the devil; Napoleon the first used to say he had heart disease. Sam Johnson was profoundly imaginative. My late gifted teacher, Dr. Sutton, said with so penetrating a truth: 'It really is a grand thing to be nervous; often much unpleasantness and pain are mixed with it, but that is owing to abuse. The world's work is done by the nervous. We may see that the greatest workers are the most nervous, the most sensitive among men.'"

**Injurious Bicycle Saddles.**—The *Sanitary Record* says: "Medical men have not given much attention to the construction of bicycle saddles, but have left the matter to mechanics who know but little of anatomy and physiology. A leading cyclist, who is considered an authority on anything concerning a bicycle, recently displayed his lack of anatomical knowledge by saying: 'When I slip forward in order to keep from bruising my sternum bone on the back of the saddle, my legs go to sleep from lack of circulation of the blood.' He meant that in order to save his coccyx, he slips forward till both ischia drop over in front of the saddle, and allow the edges to press into the sacro-sciatic nerves. It requires anatomical knowledge to design a perfect saddle, and mechanical art to execute the work as designed. The saddle should be too soft to bruise and too firm to give. The best padding is wool felt. Hair is not good because it soon becomes displaced, packs down, and gets hard. The pneumatic pad is not so good as hair because it is too hard when well inflated and when only partly filled presses at one point, allowing the part making the most pressure to come in contact with the hard structure of the saddle. It is also liable to burst or get punctured."

**Inebriety.**—Professor Sims Woodhead, speaking the other day before the Society for the Study of Inebriety in England, came to these conclusions: He held most strongly that a direct transmission of the taste for alcohol never occurred. Of course he accepted very fully the fact that certain nervous diseases and degenerations involving certain altered and weakened inhibitory powers are transmitted from generation to generation. These, however, did not always assume the same form, the manifestation of the effect often taking on very different characters in different generations. But whatever character they assumed, the result as regards alcohol was inevitably the same, and until far more evidence was brought forward than had yet been presented, he should strongly maintain that what was so often spoken of as an inherited taste for alcohol was an inherited weakness and lessened self-restraint affecting many other things besides drink, and that a direct transmission of the taste for alcohol from parents to children in a constitution otherwise healthy did not occur. As with tuberculosis the disease was not transmitted, but only the weakly and unbalanced condition of the tissues.—*The Hospital.*

**Sunshine and Rain in Europe.**—According to a recent report issued by the French Bureau of Agriculture, at 78 Rue de Varennes, Paris, Spain and not Italy should have the adjective "sunny" placed before it On the average it is said Spain enjoys about 3,000 hours of sunshine a year, while Italy has 2,300. France has almost as much sunshine as Italy, her fig-

ures being 2,200. Germany has at her disposal much fewer hours, while England, the land of fogs, has to get along with 1,400, less than half of Spain's amount. The average fall of rain, however, in England is greater than that of any other European country. In the northern part and on the high plateaux of Scotland it is estimated that about 381.25 inches fall each year. In Central England the rainfall averages 234 inches. London is said to have on the average 178 rainy days in the year. Northern Germany has a rainfall of 1,290 mm. In Alsace the rainfall is reckoned at 1,360 mm. Among the Alps St. Bernard receives the greatest rainfall; the annual average register there has been 2,564 mm. In Paris the averages do not go beyond 560 mm., which is about one-tenth of the quantity that falls upon London.—*Sanitarian.*

**Death Rates of Abstainers and Drinkers.**—Of 4,234 deaths collected by the British Medical Association—divided for reference into five classes, namely, (*a*) total abstainers; (*b*) habitually temperate; (*c*) careless drinkers; (*d*) free drinkers; (*e*) habitual drunkards—the ages of death of these in each class were registered, together with the cause, and the average of death for each class computed with the following result: Total abstainers lived on an average 51.22 years. Habitually temperate lived on an average 62.13 years. Careless drinkers lived on an average 59.67 years. Free drinkers lived on an average 57.59 years. Habitual drunkards lived on an average 52.03 years.

**Hygienic Value of Paint.**—Regarding the effect of various paints upon bacteria, Dr. Heimes has recently (*Farben-Zeitung*) delivered a notable lecture before the Greifswald Medical Society. With what kind of paint the walls are covered does not appear to be an unimportant matter for the sanitary conditions in a building. Dr. Heimes conducted the following experiments: He took equally large pieces of oak, poplar, and pine wood, and of iron and cement plates, and covered each with oil paint, size, lime paint, or enamel paint. After the paint had dried perfectly the plates were coated with cultures of various pathogenic bacteria. In this condition the plates were laid in an incubator in which an ordinary room temperature was maintained. From time to time a little was scraped off from the surface of the plates in order to examine them as to the amount of live bacteria present. The result was that upon oil-paint coatings the bacteria were found to die off quicker than on articles coated with other pigments. On enamel paint the bacteria died more slowly, and still slower on lime and size paint. This behavior is probably not due to the chemical properties of the paints, but to their different physical properties, especially to the fact that the liquids containing bacteria dry more slowly or quickly upon the various paints. In consequence of the results of these experiments it is recommended that oil paint only be used in hospitals, schools, barracks, and other buildings where many persons are housed.—*Sanitarian.*

**Health and Doctors.**—By the Federal census of 1870 there were 62,445 physicians and surgeons in the United States. By the census of 1880 the number had increased to 85,671. By the census of 1890 the number was in excess of 100,000, and it is computed from the figures of the various medical associations that the total number by 1900 will be in excess of 125,000, or about double what it was thirty years ago. There were at the date of the last official computation 28,000 physicians and surgeons in the whole of Great Britain, an increase of nearly 6,000 beyond the figures of ten years ago. It is usually computed that the United States, exclusive of newly acquired territory and lands under their protectorate, will show a population of 75,000,000 in 1900, as against 62,000,000 in the census of ten years ago, and if the estimate of the number of physicians and surgeons is correct, the proportion of physicians and surgeons to the whole population would be 1,666 to the million, or a larger proportion than in any other country. These figures seem to indicate that an affirmative answer must be given to the question, Do doctors and health go together? The country in which there are relatively to the whole population the fewest doctors is Russia, in which there are only one-fifth as many as in the United States, though the population of Russia is materially larger. As against 125,000 physicians and surgeons in the United States, there are only 25,000 in Russia, a smaller number than are to be found in Great Britain, though the total population of the Russian Empire, Europe and Asia, was 129,000,000 by the last official census, that of 1897, as against 38,000,000 in Great Britain, and the total area of the Russian Empire is 8,660,000 square miles, as against 120,000 in Great Britain. The death rate in England is low and is constantly getting lower by the adoption of wise sanitary and hygienic measures, but is high and remains high in Russia. There are about 25,000 physicians and surgeons in Germany. There are about 15,000 physician and surgeons in France, 12,000 in Italy, 2,500 in Belgium, 2,000 in Holland, and 6,000 in Spain. Holland, which has a very low death rate, has a larger proportionate number of doctors than any other continental country of Europe, and Norway, in which the conditions are normally favorable to good health, has a small number of doctors and quite a high death rate—the two apparently going together.—*The Sun.*

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended September 1, 1899:

SMALLPOX—UNITED STATES.

| | | Cases. | Deaths |
|---|---|---|---|
| Florida, Jacksonville | August 26th | 1 | |
| Louisiana, New Orleans | August 26th | 1 | |
| Massachusetts, Boston | August 26th | .. | 1 |
| Fall River | August 26th | 1 | |
| Michigan, Battle Creek | August 26th | * | |
| Ohio, Cleveland | August 26th | 2 | |
| Pennsylvania, Philadelphia | August 26th | 1 | |
| Washington, Spokane | August 10th | 1 | |

* Reported present.

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Argentine Republic, Buenos Ayres | June 1st to 30th | .. | 1 |
| Austria, Budapest | August 6th to 12th | 1 | |
| Belgium, Antwerp | August 5th | 3 | 1 |
| Brazil, Rio de Janeiro | July 14th to 27th | .. | 11 |
| Egypt, Cairo | July 22d to August 2d | .. | 9 |
| England, Hull | August 19th | .. | 3 |
| London | August 6th | .. | 1 |
| Greece, Athens | August 5th to 19th | 5 | 2 |
| India, Bombay | July 23d to August 1st | .. | 22 |
| Madras | August 15th to 21st | .. | 1 |
| Mexico, Chihuahua | August 20th | .. | 1 |
| Mexico | August 13th to 23d | 6 | 3 |
| Nuevo Laredo | August 12th to 18th | .. | 1 |
| Russia, Moscow | July 24th to August 14th | 6 | 1 |
| Odessa | August 5th | 1 | 2 |
| St. Petersburg | July 29th to August 12th | 15 | 2 |
| Turkey, Erzerum | August 5th | 2 | |

YELLOW FEVER.

| | | | |
|---|---|---|---|
| Argentine Republic, Buenos Ayres | June 1st to 30th | 8 | 6 |
| Brazil, Rio de Janeiro | July 14th to 27th | .. | 6 |
| Colombia, Barranquilla | August 6th to 13th | .. | 2 |
| Cuba, Havana | August 14th to 27th | .. | 7 |
| Matanzas | August 21st | 1 | |
| Santiago | August 12th to 19th | 3 | 4 |
| Mexico, Tuxpan | August 14th | .. | 5 |
| Vera Cruz | August 17th to 24th | .. | 32 |

CHOLERA.

| | | | |
|---|---|---|---|
| India, Bombay | July 25th to August 1st | .. | 7 |
| Calcutta | July 18th to August 3d | .. | 73 |
| Japan, Yokohama | July 29th | .. | 1 |

PLAGUE.

| | | | |
|---|---|---|---|
| Egypt, Alexandria | July 30th | 4 | 3 |
| India, Bombay | July 25th to August 1st | .. | 132 |
| Calcutta | July 18th to August 3d | .. | 7 |
| Straits Settlements, Penang | July 7th to 14th | .. | 71 |
| Singapore | July 1st to 15th | 7 | 4 |

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 56, No. 12.
Whole No. 1506.

NEW YORK, SEPTEMBER 16, 1899.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### FLOATING LIVER AND ITS CLINICAL SIGNIFICANCE.*

BY MAX EINHORN, M.D.,

NEW YORK.

THE occurrence of floating liver was first noted upon the dissecting-table by Sauvage,[1] later by Portal,[2] and subsequently demonstrated clinically on living subjects. Cantani[3] was the first to describe a case of floating liver in a woman in 1866. He was followed by other authors who reported isolated cases of this affection, as, for instance, Piatelli,[4] Meissner,[5] Winkler,[6] Sutugin,[7] Chvostek,[8] Wassiliew,[9] E. Smith,[10] Kisbert,[11] and others.

In 1885 Landau[12] published a special monograph entitled, "Floating Liver and Pendulous Abdomen in Women," in which he discussed this subject in an exhaustive and masterly manner. This able clinician called attention to the relative frequency of floating liver, especially in women who had gone through frequent childbirths, and, besides, have a pendulous abdomen. Cases of floating liver in males have also been described, on the whole in comparatively small numbers. Graham[13] has tabulated all cases of floating liver cited in the literature, altogether sixty-eight (inclusive of Landau's fifteen cases). He has also communicated three cases of his own, in one of which the condition was due to an acute luxation of the liver resulting from a trauma, in a young man seventeen years old. As regards sex, fifty-five cases in his table related to women, and thirteen to men.

In 1889, just ten years ago, I[14] presented to the Society of Physicians of the German Hospital and Dispensary (May meeting) a case of floating liver in a man, which was published later in the *New-Yorker Medicinische Monatsschrift*. In again bringing this subject to your attention, I do so, not because I consider floating liver as of rare occurrence, but rather for the reason that I am convinced of its relative frequency; and further, since, when overlooked, it may often give rise to diagnostic errors. You will, perhaps, permit me to present to you the clinical picture of floating liver based upon my own experience, and then return to its significance.

**Definition.**—By the term floating liver (movable liver, hepar migrans, ectopia or luxatio hepatis, hepatoptosis) we designate in general a liver which has fallen downward, and can usually be restored to its normal position, partially or completely, by certain manipulations.

**Etiology.**—The etiology of floating liver has not as yet been entirely elucidated. As in the case of floating kidney, the corset has here also been held responsible, especially by Cruveilhier.[15] It must indeed be conceded that the tight lacing with this modern apparel may exert a detrimental influence upon the position of the abdominal organs; yet floating liver occurs in persons who have never worn a corset. Frequent pregnancies, which often produce pendulous abdomen, have been regarded by Cantani and Winkler as a cause of this condition. This fact, however, although certainly very significant, cannot operate in all cases, for floating liver is also found in virgins and males.

Meissner and Leopold[16] have elaborated a new theory, namely, that occasionally the preformed ligamentum hepatis is elongated in the form of a mesohepar. This is said to furnish the predisposing factor, and upon supervention of other causes, such as pendulous abdomen, lifting and carrying heavy burdens, falls, etc., ectopia hepatis may arise. Landau has never observed a congenital mesohepar in autopsies on children, and considers this theory as strained and not conclusive. According to this author, the factors which are chiefly to be held responsible for the occurrence of floating liver are: (1) Lacerations of the ligamentous structures of the liver (ligamentum coronarium, ligamenta triangularia, and the other peritoneal bands), which may originate through an acute trauma, and much more frequently through repeated ones. (2) An enlargement of the capacity of the abdominal cavity followed by the dislocation of the abdominal and pelvic organs, and indirectly of the liver; for the latter, normally, through the girdle-form support of the abdominal walls, is carried upon the intestines like a cushion; if the intestines slip down, a descent of the liver will then readily take place. Lacerations of the ligaments can occur either through a sudden trauma, such as lifting heavy burdens, falls, etc., or—and this occurs much more frequently—through repeated traumas; among these must be placed sudden and forcible expirations, as in cough, sneezing, and paroxysms of laughing. Thus, Landau described a case of luxation of the liver in a girl twenty-one years old, who, while lifting a piano, experienced suddenly a feeling of tearing in the abdomen. In another case, also in a woman, the patient had had frequent attacks of hay fever and suffered from violent and persisting coryza, with frequent attacks of sneezing. Garnett[17] has also described a case of a sudden development of floating liver, occurring in a woman after exertion. This case is the more important since a rapid cure ensued after five days' rest in bed. I believe likewise that I have observed a case of suddenly appearing floating liver, in a man forty-three years old, after lifting a burden of three hundred pounds. On the following day the patient suffered from slight somnolence and icterus. On examination I found the liver as a prominent tumor beneath the ensiform process, while the area of hepatic dulness on the right half of the thorax was almost entirely absent. As I had never seen the patient before, I could not, of course, say whether dislocation of the liver had not previously existed. As regards the significance of frequent forcible expirations, I observed a case of floating liver in a singer (Abraham S——), and am positively of the opinion that the laborious work of the diaphragm incident to this vocation may lead to laceration of the hepatic ligaments.

The enlargement of the abdominal capacity may result from rapidly progressive emaciation (disappearance of the adipose layer of the omentum, kidneys, etc.), through which more space is left free in the

* Read before the German Medical Society of New York, June 5, 1899.

abdominal cavity, or after childbirths and removal of abdominal tumors. That this factor is of great significance in the occurrence of floating liver, as well as ptosis of the other abdominal organs, is beyond doubt. In most instances, however, this condition, *per se*, is not sufficient to produce floating liver; ordinarily other predisposing factors must co-operate in the development of this affection.

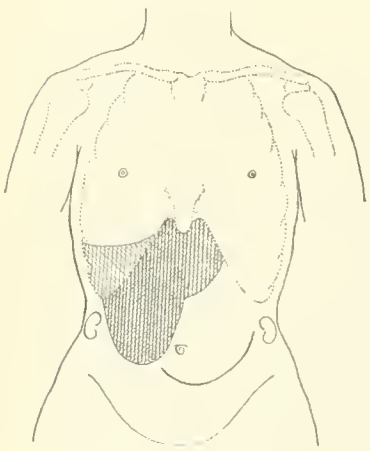


Fig. 1.—Mrs. Sara D——.

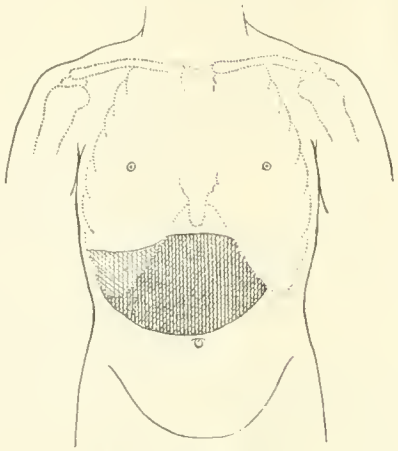


Fig. 2.—Abraham G——.

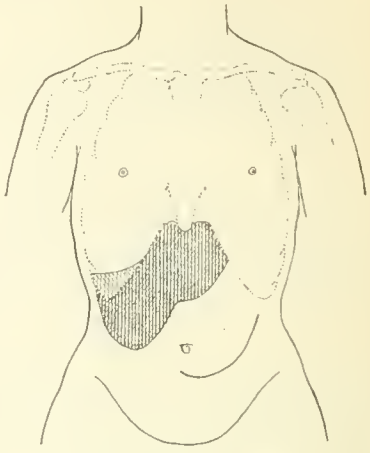


Fig. 3.—Mrs. N. Z——.

Glénard,[18] in much the same manner as Landau, ascribes floating liver to a general splanchnoptosis; that is, he regards it as one of the phenomena of the loosening and gliding down of other abdominal organs.

As regards the frequency of floating liver, Landau stated that he regarded this condition as quite common. In 1887 Glénard observed in thirteen hundred patients fifty-one cases of hepatoptosis, among which thirty-two were complicated with movable kidney, thirty occurring in women and two in men.

In the last ten years, since I have given the subject of dislocation of the liver my attention, I have frequently noted this anomaly; but as I did not accurately examine every patient with reference to this point, the total number of cases observed by me is too small in order to compute the frequency. In the following I will therefore only make use of material which I have had occasion to observe in the last five months of this year (January to May, 1899). All these patients were accurately examined as to the position of the liver as well as of the other abdominal organs, and therefore the acquired figures must be approximately correct. During the period referred to above, I have seen in my private practice eight hundred and four patients (particularly subjects of gastro-intestinal diseases). Among these there were four hundred and thirty-five men and three hundred and sixty-nine women. Of these eight hundred and four patients thirty were cases of floating liver; twenty-one women and nine men. Expressed in percentages the total number of those affected with floating liver would be 3.7 per cent. of all persons suffering from digestive disorders. If we compute the relative frequency of floating liver separately for both sexes we obtain 5.6 per cent. for the female, and two per cent. for the male sex. Among twenty-one women with floating liver, ten also had floating kidney, which was bilateral in three cases. There was no sign of pendulous abdomen in five of the women, while the remaining sixteen had a moderate degree of abdominal flaccidity.

My figures with regard to the frequency of occurrence of floating liver in connection with floating kidney, while resembling those given by Glénard, do not coincide with Landau's views. This author writes as follows: "Inasmuch as movable kidney originates in most instances from the same causes as movable liver, it would appear surprising that these organs are not more commonly found dislocated conjointly than is actually the case. On the other hand, it seems to me that the prolapse of the one organ from the cavity of the thorax is actually the reason why the other aids in filling the space rendered vacant; so that the dislocation of one organ must be considered rather as an obstacle to the dislocation of another. Notwithstanding this, movable liver and movable kidney have been observed simultaneously in four instances, inclusive of one of my own." According to my data, the above conditions of movable liver and movable kidney coexist quite frequently; in female patients in almost one-half of all cases of floating liver. In men, however, this conjoint existence is of rare occurrence.

**Symptomatology.**—Cases of floating liver can be divided into the following five groups:

1. Cases unaccompanied by symptoms, in which the floating liver gives rise to no disturbances.

2. Dyspeptic cases, with indefinite digestive disturbances in conjunction with a feeling of weakness and certain other nervous symptoms.

3. Cases of hepatalgia, in which almost constantly pains are present on the right side of the abdomen (hepatic region), which often radiate toward the back and shoulder blades. These pains frequently subside in the recumbent posture. In many instances sensations of a drawing and tearing character are present.

4. Cases of hepatic colic, in which colicky attacks occur similar to gall-stone colics. In these no icterus is commonly present, although it may appear in rare instances.

5. Asthmatic cases, in which a feeling of fulness and constriction in the upper abdominal region, associated with slight dyspnœa, is especially prominent.

I have often had occasion to observe floating liver without any special symptoms, and such cases are also cited in the literature, as, for instance, the case of Hughes.[19]

In the following I will describe in brief a number of cases, for the purpose of illustrating the four different groups attended with symptoms.

The following cases belong to the dyspeptic group:

Case I.—May, 1899. Mrs. Sarah D——, thirty-seven years old, had gone through seven pregnancies; since a year she had suffered from weakness, loss of appetite, and constipation; had lost much in weight (forty pounds), and lately had been unable to sleep. The patient appeared pale; the abdominal organs were normal. Inspection revealed a slight degree of pendulous abdomen. The area of liver dulness beginning in the right mammary line at the seventh rib extended

from four to five inches below the navel. By means of palpation the liver could be traced downward below the umbilicus. The lower edge could readily be felt and the shape of the liver accurately determined (Fig. 1).* In the recumbent posture the tumor could be readily reduced. The stomach also was markedly displaced, and its curvature extended down to the symphysis. Both kidneys could be readily palpated, and were found movable in the third degree. The patient was directed to wear an abdominal bandage, and to take an abundant diet. After fourteen days she reported that she had increased four pounds in weight, and felt much stronger.

Case II.—May 25, 1899. Abraham G——, fifty years old, has suffered for ten years from varying pains in the chest and in the lower abdominal region. Appetite not good; eructation often present, together with constipation.

Status præsens: Thoracic organs apparently normal. On examination of the patient in the standing posture there is noted a slight protuberance of the upper portion of the abdomen, which is particularly marked somewhat below the ensiform process. Percussion shows that the area of liver dulness in the mammary line commences 1.5 cm. above the border of the ribs; in the median line at the ensiform process, and, perhaps, somewhat lower (0.5 cm.), a clear tympanitic sound is present. From this point to the navel dulness exists. In the recumbent posture the conditions just described remain unaltered. On palpation the entire convex surface of the liver can be readily palpated, and also the lower border of the organ in the umbilical region can be felt (Fig. 2). In the dorsal position the liver can be pushed up to a certain extent, and the area of dulness can then be traced somewhat farther above the right border of the ribs, but the difference, on the whole, is very slight.

Case III.—Floating liver complicated with membranous enteritis. September 25, 1898. Mrs. N. Z——, about forty-four years old, had suffered since early youth from headaches, and now and then from dyspeptic disturbances. For six years obstinate constipation had been present. Periodically the patient is attacked with violent colicky abdominal pains, which are associated with a slight desire for defecation. This is followed by the passage of mucous stools, occasionally of pure mucus, after which diarrhœa occurs for a few days, when the patient feels easier.

Status præsens: Thoracic organs normal; no pendulous abdomen. Liver dulness commences two fingers' breadth above the right border of the ribs. In the recumbent position of the patient the convex surface of the liver can be felt by pressing the hand under the right border of the ribs. Below, the liver fills the entire lumbar region, and its right lobe can be traced down to a point three fingers' breadth below the navel, while the left lobe terminates about two fingers' breadth above the navel (Fig. 3). In attempts to force the liver upward the patient experiences pains, and hence further efforts at reposition were not made. The treatment consisted in the application of an abdominal bandage and the use of oil enemata. The patient was also placed on a liberal diet, and directed to spend much of her time in the open air. She gained considerable in weight, and her disturbances steadily subsided.

The third group of simple hepatic pains (hepatalgias) is well illustrated by the following case:

May 9, 1899. Mrs. E. A. S——, fifty-five years old, had suffered for twelve years from sensitiveness in the epigastrium, and for seven years from constipation and eructations, which were occasionally present. For the past two years pains had appeared in the right lower portion of the abdomen, which persisted almost constantly. Three years ago the patient went through the so-called Saulsbury treatment (a diet consisting of meat and hot water with an addition of zwieback). During this time her weight was reduced from one hundred and twenty-seven to eighty pounds. Later she again increased, and then weighed one hundred and six pounds.

Status præsens: The area of liver dulness begins two fingers' breadth above the right border of the ribs. The liver can be palpated almost a hand's breadth below the navel. The stomach is situated quite low down, extending almost to the pubis; both kidneys are movable, the right in the fourth and the left in the third degree (Fig. 4). The patient was ordered to wear an abdominal bandage, and to take five meals daily. Since then she has felt much better, and the pains on the right side have been much relieved.

The fourth group, the liver colics, is probably the most important, since here erroneous diagnoses are for the most part made. For this reason I have subjoined the histories of several cases:

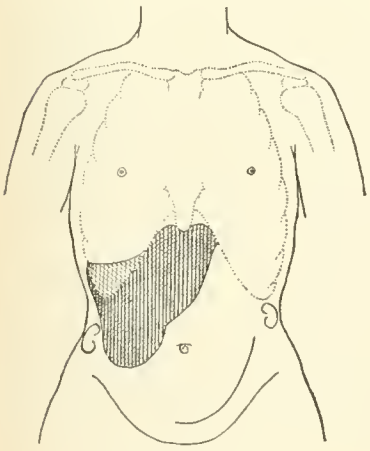


Fig. 4.—Mrs. E. A. S——.

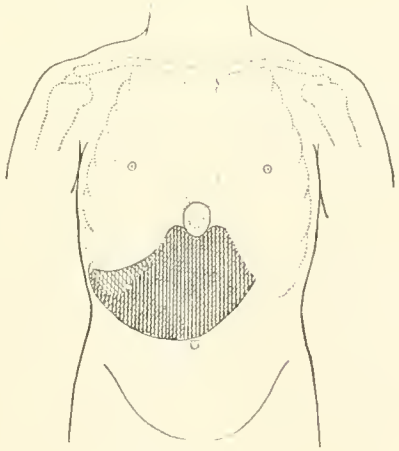


Fig. 5.—David L——.

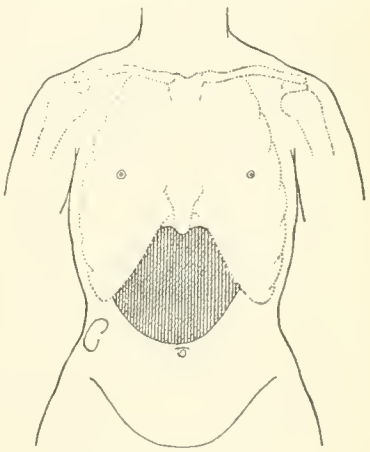


Fig. 6.—Mrs. Minna F——.

Case I.—May 27th. David L——, forty-one years old, had suffered for six weeks from violent pains in the right upper half of the abdomen, of sudden development. The pains were relieved by lying down. Vomiting occasionally appeared during the attacks, of which the patient had five. He was constipated, but had a good appetite; appeared pale and was quite emaciated, but lately had lost much in strength.

* In all the annexed figures, the intensely dark places mark the configuration of the liver accessible to palpation; the slightly darkened, the area of dulness on percussion of this organ. The line drawn below the navel on the left side of the abdomen shows the outline of the greater curvature of the stomach. The kidneys are sketched only if accessible to palpation.

Status præsens: The thoracic organs are intact. In the standing position of the patient inspection reveals that the upper half of the abdomen is occupied by a slight spherical prominence, which extends downward to about a finger's breadth above the navel. On percussion dulness is present in this region, and palpation reveals a tumor with a smooth surface, having the exact shape of the liver (Fig. 5). In the recumbent posture the liver slips back, and then reaches only to a line three fingers' breadth above the navel.

Case II.—April 20, 1899. Mrs. Minna F——, twenty-seven years old, had suffered for seven years at times from violent attacks of gastralgia. These occurred suddenly, and subsided only after injections of morphine. At first the attacks appeared every two or three months; then after the third year an interval of freedom from the attacks took place, which lasted for three years. During the last year the painful paroxysms appeared very frequently; every week, and sometimes more frequently. The appetite and the bowels were normal. The patient had lost twenty-five pounds during the year.

Status præsens: The thoracic organs are normal. The liver is situated low down in the abdomen; the lower margin can be distinctly palpated in the umbilical region: even the incisure can be easily felt (Fig. 6). When the patient lies upon the left side the liver dulness at the right border of the ribs disappears completely. The organ is not enlarged. The right kidney is movable in the fourth degree, but remains in its position when the patient is placed upon the left side. Examination of the stomach contents reveals normal conditions.

Case III.—March 9, 1899. Mrs. L. M. R——, thirty-six years old; had always been in good health; formerly weighed one hundred and sixty pounds. A year ago she was attacked with violent pains in the abdomen (without fever). These were relieved by hot poultices, but nausea occurred and persisted uninterruptedly. The pains in the abdomen recurred frequently in paroxysms; they became more frequent, until lately they have appeared every week. The patient has lost thirty pounds in weight.

Status præsens: The thoracic organs are normal. The area of liver dulness begins in the mammary line, about a finger's breadth above the right border of the ribs, and extends from here into the right lumbar region, almost completely occupying the latter. The left hepatic lobe can likewise be accurately traced; it extends upward to the ensiform process, and downward in the linea alba and to the left of the latter, up to a point about a finger's breadth above the navel (Fig. 7). By palpation the boundaries of the liver as given above could be confirmed. Both kidneys are movable in the fourth degree. The stomach is situated low down and extends with its greater curvature to the symphysis. Pendulous abdomen is not present.

The patient was ordered to wear an abdominal supporter and to live upon substantial diet. She soon began to feel better, and during the last two months increased eight pounds in weight; further attacks also failed to recur.

To the fifth, or asthmatic group, belong the following cases:

Case I.—May, 1899. Abraham S——, twenty-five years old, singer by profession, had suffered for two years from pains in the right upper region of the abdomen, accompanied by a feeling as if he was unable to breathe deeply. The appetite was normal; the bowels were somewhat costive; the patient had had jaundice six months before.

Status præsens: Inspection of the abdomen shows a pronounced protrusion of the upper portion, which extends almost to the navel, and occupies the entire right and part of the left abdominal region. Percussion shows that the area of liver dulness begins only at the border of the ribs in the right mammary line. In the right posterior thoracic region the hepatic dulness is completely absent; in the linea alba the liver dulness can be traced to a line about three fingers' breadth below the navel. By means of palpation the entire liver, the left as well as the right lobe, can be mapped out; almost the entire organ is situated below both borders of the ribs (Fig. 8). In the recumbent posture the liver may be pushed upward by the application of some force, but a complete reduction cannot be made. The urine contains a trace of albumin but no casts; sugar is absent.

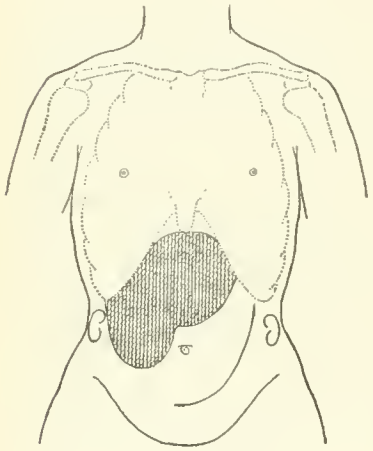


Fig. 7.—Mrs. L. M. R——.

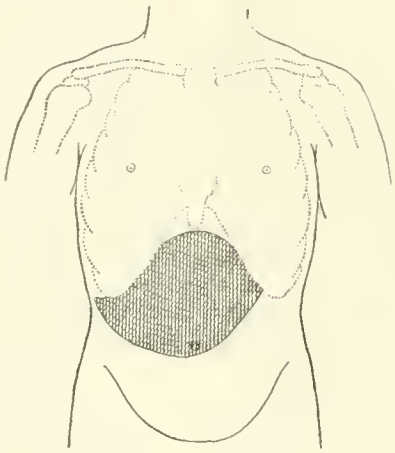


Fig. 8.—Abraham S——.

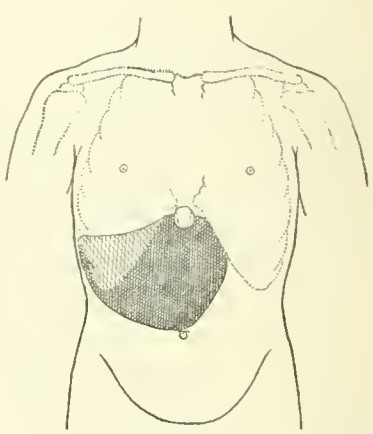


Fig. 9.—Max K——.

Case II.—April 10, 1899. Max K——, forty-seven years old, complains of gastric pains immediately after eating. These consist chiefly in a feeling of fulness. At the same time the patient has a sensation as if he cannot breathe deeply enough. On sitting down or in standing these sensations are quite marked, but on lying down they almost disappear completely. The patient states that he has suffered from these disorders for about two years.

Status præsens: Examination of the lungs and heart fails to reveal anything abnormal. Percussion shows that the area of liver dulness in the right mammary line begins at the margin of the seventh rib and extends almost to the navel. Over the ensiform process tympanitic resonance is found, while farther down distinct dulness is present. Palpation reveals that almost the entire liver can be palpated (Fig. 9). On placing the patient on his left side the liver is displaced considerably toward the left. In the dorsal posture the liver can be pushed upward and toward the right; if

the organ is held firmly in place with the hands, then dulness is present in the thorax.

Of course, cases of floating liver occur in which the symptoms do not correspond exactly to the above-described groups, or in which disturbances exist which belong under two or three groups. What has been said above, however, applies to the majority of cases.

**Diagnosis.**—The diagnosis of floating liver is based upon the demonstration of the fact that this organ has left its normal limits above in the thorax and has been displaced more or less forward and downward. Percussion will show that the upper boundary of the area of liver dulness in the thorax is no longer situated at its normal place, but has been shifted downward. While normally the area of liver dulness begins in the right mammary line at the fifth intercostal space, it is now to be detected at the level of the seventh rib, or at the border of the ribs. Corresponding with this, the zone of dulness at the back of the thorax is also placed more deeply. Occasionally a tympanitic sound is detected over the ensiform process, and this is of special importance since it shows that the intestines or stomach lie above the left lobe of the liver.

Downward from the right margin of the ribs, in the mammary line and extending toward the right from this point, where normally liver dulness terminates, there is found an area of dulness extending downward to the navel, or even to within a few centimetres above the symphysis. In order to determine exactly the upper line of dulness we may percuss from the border of the ribs downward until we meet the tympanitic intestinal resonance; or better still, we may practise percussion from below upward, that is, commencing in the lowermost abdominal region and proceeding in a straight line upward until we discover the dull sound of the liver. It should be remarked, in this connection, that percussion is to be carried out quite delicately, since through forcible tapping the tympanitic resonance of the intestines subjacent to the liver becomes perceptible, and the object of percussion is thus marred.

In the examination of floating liver palpation is of the greatest significance; as in the case of floating kidney it is the most valuable method of examination. By means of palpation alone it is possible in many cases to make a diagnosis of floating liver, although sometimes it must be further elucidated through percussion.

Palpation is here best carried out without the exertion of strong pressure, and by means of the palmar surface of the fingers and often of the entire hand. It is most advantageous to commence the examination closely below the right border of the ribs, and palpating slowly to proceed from here in a downward direction. In cases of floating liver we are always able to find a portion of the liver surface at this place; usually the liver can then be traced downward as far as the navel, or still farther below this point, in the form of a tumor with a smooth surface. Often at the lower margin of resistance the lower liver border, with its incisure, can be accurately palpated. Occasionally by passing the fingers somewhat farther up between the lower border of the ribs and the liver it is possible to discover the convex surface of the liver. In marked cases of ptosis of the liver nearly the entire organ can be palpated both above and below, and the right as well as the left hepatic lobe mapped out exactly.

Palpation, as well as percussion, should be carried out both in the recumbent and upright posture, because in cases of highly developed mobility of the liver the organ sometimes shifts back spontaneously more or less to its normal position when the patient lies down. As regards percussion in the erect position, Harley[20] already recommended this method of examination. In his book on liver diseases it is stated: "In all doubtful cases of 'movable liver' it is therefore necessary also to percuss the organs while the patient is in the erect position. For although cases of atrophy are not rare, cases of abnormally loose suspensory ligaments are common in delicately formed individuals, both male and female."

Palpation also reveals the different degrees of movable liver. These, according to Landau, are as follows:

1. Moderate descent with anteversion or retroversion of the liver.

2. Marked descent: (*a*) With lateral displacement of the liver *in toto* toward the right: (1) With special descent of the right hepatic lobe and raising up of the left; (2) with special descent of the left hepatic lobe and raising up of the right. (*b*) With anteversion or retroversion of the liver.

3. Vertical or oblique displacement of the liver, in which the right lobe usually remains in its normal position, or is displaced toward the right, while the left lobe descends into the abdominal cavity.

Inspection shows in some cases a prominence either of the entire upper abdominal region or a slight protuberance of the abdomen upon the right side. Inspection often contributes toward awakening a suspicion of floating liver, but is never sufficient alone to establish the diagnosis.

The condition of mobility of the liver is investigated in a recumbent posture of the patient. After having practised palpation we attempt by means of pressure upon the abdominal walls with one hand, or, in case of large size of the liver, with both hands, to move the organ in a direction from below and behind, upward and forward. If a complete or partial reposition is possible, and the liver is retained in its new position by an assistant or by the patient himself, the line of dulness at the right side of the chest is found to have been shifted upward. As a matter of fact, reposition cannot be carried out in all cases of floating liver. Occasionally the mobility of the organ from the right toward the left, and *vice versa* from the left to the right, can be demonstrated, while its displacement upward meets with difficulties, especially in patients with tense abdominal walls.

**Differential Diagnosis.**—To make a positive diagnosis of genuine floating liver, it is not sufficient to determine that the organ has left its normal position, but it must also be shown that no diseases of the intrathoracic organs has caused a filling up of the thoracic cavity, and thus has given rise to a downward displacement of the liver. This is, of course, very easy, since such processes (pleuritic exudations, subphrenic abscess, etc.), if developed in a high degree, can be recognized without difficulty. On the other hand, if not marked, they do not lead to descent of the liver.

Enlargement of the liver or hepatic tumors, aside from their peculiar shape, are in general recognized by the fact that the liver is to be found in its normal position (as shown by percussion of the thorax) and that these tumors directly merge in the organ. Errors in the diagnosis of floating liver in cases in which other tumors are present, have often been made, as, for example the case of W. Legg.[21] On the other hand, floating liver has been frequently mistaken for a renal tumor or hydronephrosis; thus, for instance, Smith has described a case in which during life floating kidney had been diagnosticated, while at the autopsy a floating liver was found. Peters[22] has published a case in which he operated for hydronephrosis, but found a prolapsed liver, the kidney being healthy and in its normal place. Mundé[23] reports a case of floating liver which was diagnosticated as floating kidney.

These mistakes will, however, rarely or never occur with thorough methods of examination. A constricted liver will scarcely ever be mistaken for floating liver,

since in the former the liver is situated in its normal place, and only part of it is found farther downward.

**Treatment.**—The treatment of floating liver resembles, on the whole, that of enteroptosis, and especially that of floating kidney. Here, also, the chief measure is the application of well-fitting abdominal bandages, which support the lower half of the abdomen in an upward direction and increase the tension of the abdominal walls. A special pad for pressing the liver still farther back is of as little service here as in floating kidney. Aside from this, so to speak, orthopædic treatment of the abdomen, other physical and dietetic means must be considered. General massage, and hydrotherapeutic measures which have for their aim the strengthening of the organism, are of high value. In the front rank of all these methods is an appropriate diet. In most weakly individuals an abundant diet (or rather forced feeding) must be prescribed. The patient should be directed to take as much food as other healthy persons, and a little more. If, besides the ordinary diet, an additional quarter of a pound of butter is ordered daily, much will be accomplished by this means alone, and most of the patients will soon show an increase in weight. On the other hand, persons who are heavy eaters and rather inclined to corpulency should reduce the amount of food within proper limits.

Gymnastic exercises in the open air, and, in cases with a tendency to constipation, special exercises for the abdominal muscles, are likewise of value. Occasionally, particularly when the gastric and intestinal symptoms are strongly pronounced, these must be treated according to the commonly accepted rules.

In surgical practice the attempt has been made to remove the disease by suturing the liver to the abdominal walls. Such operations have been performed by Billroth,[24] Tscherning,[25] Marchant,[26] and Richelot.[27] It seems, however, that these operations have never attained any popularity, and probably will not come into general use. As already remarked above, we know indeed that floating liver is commonly one of the phenomena of enteroptosis, and that through an operation (hepatopexy) the original trouble is not removed. Here also, as in the case of floating kidney,[28] I am completely in favor of medicinal treatment, that is, mechanical and dietetic, and am opposed to operative procedures.

Having almost exhausted the subject of floating liver, permit me to say a few words regarding the clinical significance of this affection. From the figures cited by me above it appears that this affection is not of such rare occurrence. Every physician now and then will have occasion to discover cases of floating liver by means of accurate examination, and should therefore give this disease his attention. In the second place, recognition of floating liver is of special importance, since otherwise errors in diagnosis may be made which may prove detrimental.

In the last two years I have met in my own practice with four cases of floating liver, in which well-known physicians in New York and Philadelphia had been led to make errors in diagnosis. In three cases of floating liver in women, the diagnosis of gastric cancer had been made owing to the presence of a tumor situated below the right border of the ribs, and extending toward the left. In one case of floating liver in a man, the diagnosis of appendicitis had been made by one physician and of gall stones by another; and both advised urgent resort to operative treatment. The patient, however, soon recovered after the application of a simple abdominal bandage.

The group of cases of floating liver with hepatic colic is often confounded with cholelithiasis. I have certainly observed five cases of this kind in which erroneous diagnoses had been made. One of these cases I reported about six years ago to the Society of Physicians of the German Hospital and Dispensary of this city. The subject was a man, sixty years old, who for ten years had frequently suffered with violent colicky pains in the region of the liver, so that injections of morphine had always to be administered for the relief of the attacks. The patient had gone through all the various gall-stone cures, but without the least improvement. Operative procedures had therefore been advised by almost every one of the medical men whom he had consulted. The patient, however, objected to an operation, and in the course of his wanderings happened to come to me. I detected a typical floating liver, and ordered the patient to wear a well-fitting abdominal bandage, and since that time he has had no further attacks, and has enjoyed perfect health.

I cannot, therefore, urge too strongly the diagnostic importance of floating liver, and would further remark that appropriate treatment of this affection is crowned with the most brilliant success in the majority of cases.

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## THE PRACTICAL TREATMENT OF TYPHOID FEVER.[1]

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You will pardon me if I ask your indulgence for presenting a paper on a subject that has been written threadbare in every medical society. Few, indeed, are the programmes that have no paper upon this disease. Though discussed by us all, still we have only approached the land, anchored in a small inlet, and picked up a few pebbles along the beach of knowledge of typhoid fever. This is a disease that we all meet, and it claims its victims of all ages, from the cradle to old age, the weak and the strong, the rich and the poor. I will not burden you with text-book theories or temperature charts—these you can get at your leisure—but will give you facts as they have come from original research. Neither will I discuss pathology—it is the patient and not the disease that demands our attention.

As typhoid fever is a self-limited disease, we cannot abort or even cure. Those cases that are aborted are not typhoid fever. We are only nature's assistant, or else we are *particeps criminis*. In our treatment of diseases we occupy one of two places—we either aid the patient or the disease. There is no neutral ground unless it is outside the patient's house. Gentlemen, when you weigh this statement carefully you will find it the truth. Every dose of medicine requires some antagonism. When the body is at war with disease, struggling for the survival of the fittest, every dose the patient takes necessarily occupies the attention of the organs of elimination. Toxins and medicines alike pass out together. Then, if our remedy is an irritant, upon which side do we stand? An enemy under false colors? These organs will quickly give you the alarm if you are firing at your own men. Pills and bullets are blind, and therefore wound friend and foe alike. The coma vigil, wild delirium, thready pulse, revolting stomach, all point with unerring finger to the mistakes in doses and diet. When the poor, miserable patient has the disease and the doctor both to fight, he deserves promotion if he survives the desperate attempts of both to kill. You may think this a little harsh, but when you recall the lingering cases of typhoid fever on your list, you may well say that ninety per cent. could have been different. I do not mean those cases in which Bright's disease or some chronic trouble already has a foreclosed mortgage on the patient, but those cases that began with typhoid fever.

The course and duration of a case of typhoid fever depend upon the physiology and pathology of the patient, and our conduct.

We all have the title of doctor of medicine, but in typhoid fever we are not doctors but judges. We hold the same relation to the disease and patient as his honor does to defendant and plaintiff. We are not called upon to give medicine because we have that privilege, but to sit at the bedside and judge, as it were, the issues as they are presented; in fact, to keep out factions and party jealousies among the organs and to bring the case to trial between germs and patient. Gentlemen, this means more than using the thermometer, feeling the pulse, or looking at the tongue. It means more than using text-books as our compass. Each day of the disease is a day unto itself. The disease is divided into stages of weeks, but we must divide it into stages of days. Each day gives you light upon that day only.

One has wisely said, "The proper study of mankind is man." To be successful, then, "know your patient"; unless you do, he will not know himself long.

When called to a case of typhoid fever at any stage, open the journal and examine carefully the liabilities and assets. Like love, that levels all ranks and hides a multitude of faults, there is one word in our language that covers all knowledge, though it be always hid. This word is "why." It is the alpha and omega in all consultations. It is a question that I ask myself about every symptom. At every bedside I am always twins and we hold a consultation. Is the patient older than his age? If so, why? Is he anæmic or plethoric? If so, why? Is his temperature too high? If so, why? Is his pulse too strong, too weak, or too quick? If so, why? Is he nervous, full of pains and aches? If so, why? Is his tongue foul, are his sweats acid, his bowels too active? If so, why? There is no necessity for foul tongues, delirium, acid sweats, pains, headaches, sick stomachs, insomnia, high temperature, and weak pulses in typhoid fever. If we will practise physiology instead of medicine, we will avoid these.

The sum total then, gentlemen, is, when you get a typhoid-fever patient in bed, give him a rest; I mean, a rest from the crown of his head to the soles of his feet. There will be a drain on the system, a disturbance of the equilibrium between assimilation and waste. The patient lives on himself to a certain degree. Then it is that we must minimize waste in any organ. When one is financially embarrassed, he must cut off unnecessary expenses if he expects to be established. The same rule applies to us physically.

The patient's mind must not be upon his business. If he has been irregular in his habits, we must at once establish a regularity. In fact, we must as nearly as possible re-establish his organic harmony and let each organ do its work. I don't mean that it is possible to anoint a man with clay or by a simple touch of the hand work a miracle and give him a new set of organs; but I mean, if a man has been poisoning himself or has been irregular in habits, we can withdraw the poison or make regular his habits, and thus help the cause.

In seven years' experience with typhoid I have lost few patients. Four deaths occurred from hemorrhages caused by ignorant nurses meddling with the cases—either giving purgatives or bad feeding. The fifth case was complicated by inflammatory rheumatism. I have never had any bad results; the patients always got well without after trouble, so common in fevers.

I have given you a few general principles preliminary to the treatment of a case of fever. I will now enter into the treatment in detail. When I say in detail, I do not mean the treatment of typhoid fever in general, but the treatment of the patient. To give the general outlines for treatment would contradict my statement that I would not give you text-book theories which are treatment in general for typhoid fever.

Let us divide our cases into two classes—those who were healthy prior to the acute disease, and those who have had chronic diseases for years. In the first class we are at an advantage, and in the second we are laboring under great difficulties, and it requires sound judgment to keep on the right side.

[1] Read before the Kentucky State Medical Society, at Louisville, May 19, 1899.

Case A is in the first class. He is a young man of twenty and a perfect type of physical manhood. He has been complaining for a week and has called at the doctor's office several times for medicine. Once or twice the doctor found him with a degree or two of fever. He was given calomel for biliousness and quinine for possible malaria, or something for the young man to take. He gradually grows worse, and after having a restless night with headache and general pains, he sends for the doctor. Right here, gentlemen, is a chance for brilliant success or a fatal and criminal mistake. He has a temperature, perhaps, of 103° F. He has had a hard chill. His pulse is rapid but regular and of good volume. Now, for your question why? The functions of the stomach are threefold—the Trinity, as it were. They are digestive, absorbing, and germicidal. To impair one necessarily impairs the other two. Here is the keynote to the whole matter—keep in harmony with the Trinity. To reject one part is to reject the others as well. The patient has taken medicine irritating to the stomach and has been eating indiscriminately since the first symptoms of his trouble, and the chill, high fever, and headaches tell us of the fact. Now, gentlemen, allow me to use here a theory for reference: "Give liquid nourishment and stimulants." Right here is where we are deceived—stimulants—a dangerous weapon, indeed! He is given another purgative, more quinine, and he is directed to take a glass of milk every three hours, and a tablespoonful of whiskey or brandy every four hours until you return. Have any of you ever been guilty of this mistake? Think of it! I repeat it: A "glass of milk every three hours, and a tablespoonful of whiskey every four hours until you return!"

Well, you may ask, "What of it? I can show authority for such directions!" So can I show where the Jews crucified their Saviour, too. A stomach when in perfect health cannot digest food long oftener than three times a day. But when the healthy stomach of Case A takes typhoid fever, and, repeating my words, it needs a rest for the long task it has before it, you cause it to work constantly by giving food every three hours. What does this do? It breaks the link in the Trinity by hindering digestion, and, of course, hinders secretion and the germicidal power of the stomach. This is kept up for a week or more until the patient begins to vomit. His temperature is running to 104° or 105° F. His expression is dull and he is delirious. His pulse is growing weaker, and you are increasing your stimulants. What is the matter, and what, in the name of Heaven, are you doing? Take an old expression: "When the cat's away, the mice will play." When digestive and germicidal functions are crippled, germs take charge of the glasses of milk and the patient poisons himself hourly. Each glass of milk gives impetus to the trouble. No wonder it takes him weeks and months to recover. The disease and the doctor make a combination disastrous to any patient, though he be made of steel. This is where the dull characteristic expression, the delirium, the tympanites, the gurgling in the right iliac fossa, the feeble pulse, the emanation, the aches and pains, the diarrhœa come from. The text-books tell you how to diagnose a case of fever from the above symptoms. Is it possible that we must get a patient into the above condition before we can safely say he has typhoid fever? I am proud to say you will find the above symptoms lacking in my cases. The bright face, clean tongue, smooth skin, regular bowels, no pain, no delirium, no vomiting, a pulse that is scarcely above normal, a low temperature, peaceful sleep at night, a general good feeling, all tell a tale that gives me a different picture from the one I have just given you.

Now, about the whiskey you have been giving. Here is another criminal mistake. Why? Because the pulse laboring under the poison from overfeeding is accelerated. You mistake this for an indication for stimulation. If any of you ride a bicycle, or ever walk up a hill, you know that the best way to reach the top with little exertion is to walk or ride as slowly as possible, and thus save your energy. But, upon the other hand, if you start from the bottom in a run, and increase as you go up the hill, you will find yourself exhausted and unable to go further. So it is with the heart in disease. It needs rest instead of stimulation to over-exertion. This causes heart failure and cannot but result disastrously. Let the heart alone. It knows its own business better than we do. Never, never, under any circumstances try to stimulate a weak heart muscle. It causes only exhaustion. I have told you what you ought not to do, so I will now give you my treatment of case A.

The first thing I never give is a purgative. Why? Because there already exists an inflammation in the bowel and it is unsurgical to cause severe muscular action over any inflamed area. Calomel in this case, then, is unsurgical, if you please. Some may argue that bile is an antiseptic. Then, if it is, the jaundiced only would have typhoid fever. Bile can do nothing with the typhoid-fever bacilli that are already in Peyer's glands. These are the ones that concern us.

If the patient is nauseated, I withdraw all food for twelve or twenty-four hours. Then I feed him three times a day; not every three hours. If he is not hungry at the meal time, I direct him to wait till he has an appetite. This waiting will not occur very often. His food consists of beef tea, beefsteak scraped into a pulp or run twice through a meat chopper, crackers rolled fine, eggs either raw or cooked lightly, and soups in small quantities. The food is in small quantities and highly nutritious. Solid food I know is against the advice of every authority. But let us look into digestion. Does beefsteak pass out of the stomach a solid or liquid? Do eggs, milk, crackers pass out as solids or liquids? Milk, the great fever killer, and the only reliable food some advise, always becomes a solid after it enters the stomach. So where is the difference? Solid food is not dangerous if it is taken in a condition and in a quantity that the stomach will digest. Never allow your patient to eat anything that he is required to masticate, but always prepare meat and other food, so that it needs only to be mixed with the saliva. Then his stomach will digest perfectly the food and the patient will be nourished and the germs starved, and his stomach will get the needed rest, and then there will be no self-poisoning from decomposed food that passes out of his stomach every three hours—food rotten enough to kill a well man.

Orange or lemon juice at intervals will be grateful to the patient, and will do no harm. If there is no fermentation, the patient may take gelatin with rich cream over it. This gelatin and cream should be given in small quantities and on an empty stomach. Let all food be highly nutritious and small in bulk and easily digested—food that will leave the stomach in proper time and will not over-stimulate gastric secretions.

When the temperature runs over 101° F., I use as an antipyretic antifebrin. I usually give three doses during the day and one at night if the patient is at all restless. As a rule, I give medicine for its effect on the patient and not on his friends. I do not give medicine until I see a dose is indicated. Some may want medicine because they are sick; and if they persist in it, I quote one of Solomon's proverbs to them. Solomon was a very good physician. The one to which I refer is: "He who meddleth with strife is like one that taketh a dog by the ears." The entire

organism has all it can attend to without our throwing any straws in the way by giving useless remedies. If the patient is a little restless for a few nights, I give him a sedative. I like bromidia very well because it has no bad after-effects. As a rule, patients will rest well if the nurse will not disturb them every two or three hours during the night to give nourishment and stimulants. This is a point that I wish to emphasize: avoid as much as possible disturbing a patient during the night. Rest is essential to health, and, of course, a patient needs it. Let him sleep until he awakes of his own accord. If the tongue is dry, I give for a day or two small doses of turpentine in capsules, or else I give a small dose of creosote or carbolic acid and tincture of iodine. I have the patient's mouth cleansed three or four times a day, and direct him to chew tolu an hour or two every day until the tongue becomes moist. I direct him to take as much water as his stomach can conveniently absorb.

As I pay special attention to the stomach, I do not forget the rectum and colon. These require as much attention as the stomach. I have the colon irrigated two or three times a day with warm sterile water, and if there has been a diarrhœa I use boric acid or a very weak solution of permanganate of potassium. These injections free the lower bowel and prevent any putrefaction or absorption, and thus relieve the system of what gives us that dull, characteristic expression, the foul tongue and sordes upon the teeth, the low muttering delirium that our text-books call the typhoid state. This is a phrase that I am sorry has ever found its way into our vocabulary. I hope it will soon become obsolete.

I have the patient's entire body sponged in warm water once or twice a day. If a bath tub is available, I have the patient immersed in the warm water, and the bath is kept up for from ten to twenty minutes. The body is wiped dry and the patient returned to bed. A warm bath given at night produces sleep like a sedative. I never use cold water, for it is not grateful to the patient and causes shock that is unnecessary. I find the warm water has sufficient antipyretic effects. It keeps the skin active. If water is not taken by the stomach in sufficient quantities, I give an injection of about one pint of decinormal saline solution into the colon after it has been irrigated.

I pass to Case B. This class of cases gives us much trouble, because we begin the struggle at a disadvantage, but we have an opportunity to use the same care and judgment as in Case A. Most chronic diseases are in the lungs, kidneys, heart, or alimentary canal. Of these the diseases of the alimentary canal are the most difficult. I have had consumptives pass through typhoid fever as easily as a robust patient, but those unfortunate dyspeptics are a source of worry to the physician. We must watch digestion with special care. If there is myasthenia with fermentation, we must give a very small amount of food, easily digested and slow to ferment. The white of an egg suits this class of patients better than any food. The myasthenic stomach digests it better and it usually leaves the stomach empty in two hours, and this leaves about sixteen hours' rest for a stomach that does not know what rest means, and I assure you it will be glad that its owner has had typhoid fever. Do not give milk to a patient with weak digestive power. Antiferments may be given if necessary. Bismuth, turpentine, carbolic acid, or two or three grains of chloral act very well. The stomach tube is the best preventive that we possess.

If the stomach is irritable or there is hyperchlorhydria, give sedatives just before food is taken. A cup of hot water and a large dose of bismuth will usually prove efficient. These cases improve as the food is decreased in quantity and changed in quality. I have found that irritable stomachs with hypersecretions are the result of too much food improperly masticated or cooked.

Complications must be watched for, and each met by proper remedies.

The colon is irrigated and the baths are used as detailed in Case A.

By promoting digestion and preventing indigestion, and keeping the alimentary tract from stomach to anus free from absorbable toxins, we will have no necessity for an average temperature of over 100–101° F., and a pulse 72 to 80 per minute. The sum total is: Favor digestion, prevent absorption of toxins, and promote thorough eliminatation of the toxins unavoidably absorbed.

## FACTS AND FALLACIES IN URANALYSIS.[1]

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For some time it has been my desire to write upon a subject pertaining to uranalysis to which writers on urinary diagnosis have paid but little attention in recent years. I wish to emphasize the fact that there are certain points in analysis of the urine, especially those pertaining to the clinical significance of certain ingredients in the urine and their relationship to disease, which need further elucidation.

Although I admit that our present knowledge of this subject may be said to be in perfect accord with the advances made in the other departments of medicine, yet I am constrained to remark that certain facts, well known only to those who have made an extended and thorough study of the subject, are not generally known to the practitioner of medicine at large. Many look upon the methods of uranalysis as rather occult and shrouded, as it were, with a kind of chemical mystery. Chemistry has always been a bugbear to the average medical student and practising physician.

What I purpose to say this evening is possibly a little ultra to what is generally believed by those who have not had the time or leisure to give the subject the attention which it deserves. To begin with, I will take up the boiling test for albumin in the urine, which I will demonstrate to you as rather unscientific and misleading, although tenaciously adhered to by many practitioners of medicine. It seems to be a paradox that man cannot move out of the sphere of antiquated beliefs and customs. The boiling test, historically speaking, is one of the oldest tests for the presence of albumin in the urine. Purdy, in his otherwise very excellent work on uranalysis, mentions the name of Contugno, to whom he ascribes the honor of having first made the boiling test for albumin in the urine in 1770. I find, on searching for further historical data, that Purdy is mistaken in claiming the priority for Contugno. Richard Neumeister, in his valuable work entitled "Lehrbuch der physiologischen Chemie," which is one of the best of its kind published on physiological chemistry, gives the honor, on page 807, to Friederich Deckers, a professor of medicine in Leyden (1647–1720), who was the first who employed the boiling test with the addition of a few drops of acetic acid for the detection of albumin in the urine. He observed that the clear, albuminous urine assumed a milky-like turbidity on heating, and that by adding one or two drops of acetic acid on cooling a white coagulum was produced, whose caseous particles were thrown down, while others floated upon the surface, the urine behav-

[1] Read before the Kansas City Academy of Medicine, June 3, 1899.

ing very much like diluted chyle.[1] (Translated from the German by the writer.)

The boiling test for albumin is an unreliable as well as unscientific procedure, and should not be depended upon at all. Why physicians should cling to it so tenaciously I cannot explain except upon the psychic ground of the influence of beliefs; for a belief, right or wrong, ultimately develops into a blind faith. It is the purpose of this paper to expose the fallacy of the belief in the efficacy of the boiling test. The majority of physicians rely upon this test for albumin altogether, because it is so simple and easy to perform.

"If a sample of clear urine be heated and if a turbidity result, it may be either due to albumin or earthy phosphates. On the addition of a few drops of acetic or nitric acid the turbidity due to earthy phosphates will at once be cleared up, while the cloudiness due to the presence of albumin will not disappear; on the contrary, will be increased. A clear, faintly acid, or amphoteric urine, containing no albumin, is liable to become turbid on heating. If not enough acid be added to amphoteric urine, the precipitate of calcium phosphate is liable not to dissolve completely, and this may cause it to be mistaken for an albumin precipitate. If a little nitric acid be added so as to render the urine slightly acid, a fact which must not be overlooked, the urine will not give a precipitate on boiling, although a considerable amount of albumin may be present. The reason for this is that the addition of only a little acid occasions a combination between it and the albumin, producing an acid albumin or syntonin, which is not coagulated by heat. The same thing may happen when the urine is very highly acid from the natural causes of its acidity. If now no precipitation occurs, the acid albumin may readily be precipitated by the further addition of nitric acid. If, on the other hand, says Purdy, the nitric acid is insufficient distinctly to acidify the urine, and the phosphates are in excess, a part only of the basic phosphates may be acidified, while the albumin may combine with the remainder, forming a soluble alkali albuminate, which will not be precipitated by boiling. From what has just been stated it will appear evident that a precipitation occasioned by boiling a sample of urine cannot be positively ascribed to albumin, and that an accurate diagnosis for nephritic disease cannot be made by heating the urine alone. If a precipitation occurs on the addition of nitric acid, which is dissolved at once on boiling and then again forms on cooling, we have to do with albumose. The natural acidity of the urine is due to dihydrogen-phosphate; besides this we have in almost every sample of urine a considerable proportion of free carbonic acid which holds the earthy phosphates in solution. A previously acid urine becomes neutral or even alkaline on boiling, with the formation of a sediment which dissolves at once in acetic or nitric acid. An excess of nitric acid does not dissolve a precipitate produced by boiling a sample of albuminous urine. The boiling test should be principally used to differentiate samples of turbid urine, the turbidity being due to an excess of urates or phosphates. A turbid urine due to an excess of urates becomes clear on heating, while one due to phosphates does not. On slightly warming an albuminous urine rendered turbid by the presence of urates, the latter are dissolved and the urine becomes clear.

"Although the boiling test gives apparently good results in the hands of experts, it is on the grounds just mentioned not to be recommended to physicians as a positive and reliable test for albumin."[2]

As the precipitate due to calcium phosphate so strikingly resembles the one due to albumin in appearance, it will, as a matter of fact, occasion confusion. The writer of these lines has seen time and time again physicians simply boiling samples of urine when testing for albumin. This misleading test rejects an applicant for life insurance, and makes an otherwise healthy person unhappy and subjects him or her to unnecessary medication. This error, let the truth be said, is repeated every day by physicians engaged in private as well as hospital practice. The errors alluded to may all be avoided by not boiling the urine at all, and resorting to the nitric-acid, picric-acid, and ferrocyanide-of-potassium and acetic-acid tests, which are very simple and reliable tests for albumin in the urine. If the urine be turbid it should be first filtered before applying the tests.

Right here is the proper place to make some pertinent remarks in regard to the so-called clinical significance of the phosphates in the urine. From the transformation of tissues rich in proteid or phosphorized nerve substance in the body we might perhaps expect an equal relation between the nitrogen and phosphoric acid in the urine. Many investigations have been made upon this subject by Zuelzer, Struebing, and Edlefssen; but all the conditions which affect the elimination of phosphoric acid are not yet sufficiently known. It is difficult to draw any definite conclusions from observations thus far made. The phosphoric acid of the urine originates to a small extent from the burning of organic compounds, nuclein, protagon, and lecithin, within the organism (Hammarsten). In this connection I should not forget to mention the observations of Edlefssen, who pointed out the relation existing between the destruction of leucocytes and the excretion of phosphoric acid.

Little is positively known in regard to the elimination of phosphoric acid in disease. The statements in regard to the amount of phosphoric acid excreted in a number of diseases are contradictory and need further confirmation. As is apparent from the data given, our knowledge concerning the excretion of phosphoric acid is as yet in its infancy, and the causes producing variations in its amount are very obscure.[1]

It is also apparent that important conclusions cannot be drawn, on the whole, from a knowledge of the absolute phosphatic elimination, for the greater part originates from the phosphates of the food, and the quantity of eliminated phosphoric acid is greater when the food is rich in alkaline phosphates in proportion to the quantity of lime and magnesia phosphates. The extent of the elimination of phosphoric acid by the urine depends not only upon the total quantity of phosphoric acid in the food, but also upon the relative amounts of the alkaline salts in the food (Hammarsten).

In accordance with these considerations there appears to be no demonstrable relationship existing between the excreted and variable quantities of phosphoric acid in the urine and the pathological tissue change, although this has been repeatedly claimed, even in very recent times.[2] (Translated from the German by the writer.)

Observations made upon the phosphatic excretion during muscular exercise have not given uniform results, apparently depending upon the nature of food, as a decrease, no effect at all, and an increase have been reported by different observers. Mental exercise appears to cause a diminished excretion of alkaline phosphates and an increased elimination of the earthy phosphates. The latter also takes place during sleep

[1] Friederich Deckers: "Exercitationes practicæ medendi methodum." Lugduni Batav., editio ii., 1695, p. 338.

[2] "Text-Book of Physiological Chemistry," by Olof Hammarsten, translated into the English by John A. Mandel, 1897, p. 395.

[1] "A Manual of Clinical Diagnosis by Means of Microscopic and Chemical Methods," by Charles E. Simon, M.D., 1896, p. 275.

[2] "Lehrbuch der physiologischen Chemie," von Richard Neumeister, p. 733.

(Simon). From what has just been said it will appear at once obvious that we must place the phosphates in the doubtful list, as far as their clinical significance is concerned, and an estimation of their total amount can benefit only the urinalyst and not the patient. Will the average chemist and urinalyst tell you this? I doubt it.

We now come to a phase of the subject which is attracting the attention of the medical profession, and that is the reputed rôle of uric acid[1] in disease. Uric acid is nowadays held responsible for a large number of pathological conditions. It is claimed by many writers to be the causal factor of at least thirty-nine separate morbid conditions.[2]

The uric-acid theory is now the great pathological fetish of the medical profession. It is contended by many writers, foremost among whom is Haig, the great apostle of the uric-acid theory, that uric acid is the responsible factor, the *fons et origo mali*, of a large number of ills and aches. This is a great question, and it is the firm conviction of the writer that the day is not far distant when we shall be obliged to give up the uric-acid hypothesis altogether and be compelled to look for causes elsewhere. The amount of uric acid excreted in twenty-four hours ranges from 0.4 to 1 gm. (gr. vi. to xv.). The quantity of uric acid in the urine should never be presumed to be excessive from the mere fact of deposit of uric-acid crystals in the urine upon cooling, as in fact such may, and very often does, occur when the uric acid is both relatively and absolutely deficient. The conditions of the urine which tend to precipitation of uric acid are as follows: (1) High grade of acidity of the urine; (2) poverty in mineral salts; (3) low percentage of pigmentation; (4) long standing. Any urine upon standing will deposit uric-acid crystals in consequence of the changes culminating in ammoniacal decomposition.[3]

Now a word or more in regard to the so-called brick-dust sediment of the urine. I will say that it is usually not of much diagnostic value, although physicians frequently attach great importance to it. A uric-acid sediment is observed in cases in which an increased excretion of uric acid occurs, but it should be remembered that, as a rule, it is not permissible to infer an increased production or elimination from the presence of an abundant deposit of urates alone. Brick-dust sediments are frequently observed in the urine during winter months; but nothing would be more erroneous than to infer an increased elimination from such an observation, as the phenomenon in nine out of ten cases is explained by the fact that uric acid is far less soluble in cold than in warm water. According to Bunge,[4] it takes about fourteen litres of water at the ordinary temperature of the room to dissolve 1 gm. of uric acid; at the boiling temperature it requires two litres, and at the temperature of the body seven to eight litres. The acid urate of sodium dissolves in eleven hundred parts of cold and one hundred and twenty-four parts of boiling water. Much more difficultly soluble are the urates of ammonium and those of the alkaline earths. (Translated from the German by the writer.)

During summer months a deposit of urates is less frequently observed, although an increased amount may nevertheless be present, being held in solution owing to a higher temperature. The more concentrated the urine and the more uric acid it actually contains, the more readily will a deposit of the kind occur. Uric-acid sediments are most often encountered in very acid urines (Purdy). Horbaczewsky and others have shown in recent years that enormous amounts of uric acid are excreted under a diet rich in nucleins, thymus having been employed in the cases observed.

Now permit me to express a few words in regard to the so-called uric-acid diathesis, particularly gout and its relationship to uric acid. It has long been a matter of doubt in my mind as to whether uric acid has actually any causal connection with the varied manifestations pictured under the name of uric-acid diathesis. Recent investigations seem to show in a very conclusive manner, notwithstanding numerous statements to the contrary, that the excretion of uric acid in gouty patients moves in the same wide limits as in the healthy. In this disease the urates are neither increased nor diminished in any stage. An increase of uric acid in the blood of gouty patients has not been established with any great degree of certainty. Von Noorden has arrived at the conclusion that the gouty condition is independent of the presence of uric acid in the blood. This experimenter holds the opinion that the gouty process can be traced back to a specific local inflammation of the respective tissues. Changes occur which show partly the character of an inflammation, partly that of a necrosis. The acuteness of the process and other conditions may produce a slight or an abundant deposit, or even a deposit entirely free from uric acid. The uric acid which is once formed remains *in loco* at the necrotic areas, because it is insoluble in the fluids, notwithstanding their alkalescence. In leukæmia the presence of uric acid is greatly increased in the blood and in the tissues, and yet no gouty deposits nor symptoms characteristics of gout occur. This late view of the nature of gout seriously questions the rationale of the treatment at present advocated against the malady in question. Besides, clinical experience teaches clearly enough the absolute immunity of gouty nodules against alkaline medication.[1] (Translated from the German by the writer.)

From what has been just stated it will appear obvious that the value of a quantitative estimation of uric acid and the clinical deductions drawn therefrom will remain an open question. Much more could be said on this interesting subject; by extending it I would be obliged to write a separate paper.

In recent years much attention has been paid to the clinical significance of calcium oxalate in the urine and certain deductions drawn from its presence in that menstruum in a number of pathological conditions. Oxalic acid was first discovered in the urine by W. H. Wollaston.[2] Subsequently it was detected in the same fluid by A. F. de Fourcroy,[3] and its constant occurrence was established by C. G. Lehmann.[4]

It is my conviction that calcium oxalate should be placed in the doubtful list as far as its significance is concerned in disease. The group of symptoms described as characteristic of oxalic diathesis may be due to other causes, for it has not been positively established whether oxaluria may occur as an independent disease. Here, as elsewhere, the faking urinalyst has an opportunity to prey upon the confidence of unsuspecting physicians. In almost every sample of urine crystals of calcium oxalate can be detected. "Numerous crystals of the oxalate may be seen, when a quantitative estimation actually shows a diminution of the normal amount" (Simon). In certain pathological conditions oxalic acid is greatly increased; the cause of this, however, we cannot explain. As it passes un-

[1] Uric acid was first discovered in human urine in 1776, by C. W. Scheele.

[2] *Vide* Osler's "Practice of Medicine," p. 733.

[3] "Practical Urinalysis and Urinary Diagnosis," by Charles W. Purdy, M.D., 1896, p. 32.

[4] "Lehrbuch der physiologischen und pathologischen Chemie," von G. Bunge, 1894, p. 306.

[1] "Lehrbuch der physiologischen Chemie," von Richard Neumeister, 1897, pp. 681, 682, 683.

[2] Philosophical Transactions, 1797.

[3] "Système des connaissances chimiques," Paris, 1801

[4] "Lehrbuch der physiologischen Chemie." Leipzig, 1853, p. 43.

altered from the system, it can be easily detected in the urine, when certain kinds of vegetables are partaken of as food.

The most popular method of searching for the presence of sugar in the urine has been the Fehling's-liquor test, and yet how many physicians have had their troubles with it! Why? Because some degree of experience is necessary in order to make a satisfactory test for sugar. The chief objection to Fehling's solution is its instability. Reducing substances in the urine frequently change the blue color to a slaty green. In testing with this solution errors are made almost every day by physicians, for precipitations and discolorations due to natural causes (phosphates, uric and oxaluric acids, etc.) are often attributed to sugar, when the urine is entirely free from the latter. It is needless for me to repeat that some degree of practice—the tactus eruditus—is necessary in order to determine the exact point of reduction.

We have heretofore been generally taught the great significance of tube-casts in the urine, which were regarded as indicating invariably a grave lesion of the kidney. This view, says Simon, has been abandoned, however, for the same reasons which led to the rejection of the theory that albuminuria invariably indicates Bright's disease. In examining for tube-casts it is essential to draw a distinct line of differentiation between true casts, pseudo-casts, and cylindroids. Only the true casts, consisting of a uniform, transparent, gelatinous matrix, to which other elements, such as epithelial cells, red blood corpuscles, leucocytes, and salts in a crystalline or amorphous form, may accidentally have been attached, should be regarded of great diagnostic value. Inexperienced students and physicians often mistake cotton fibres and cast-like formations, which consist entirely of amorphous urates, leucocytes, and even bacteria, for coarse granular casts.

Mucous casts are frequently mistaken for regular tube-casts, but the absence of albumin, together with the other conditions of the urine to be elaborated, will render a mistake in diagnosis in these cases highly reprehensible.[1]

Hyaline casts, too, even in urine with or without albumin, have been noticed temporarily during certain fevers, which might be mistaken by the novice for acute nephritis. Hyaline casts have been noticed at times in the urines of apparently healthy persons.

As desquamative processes are continually going on in the epithelial lining of the various cavities and channels of the body, we should naturally expect to find in every urine representatives of the different forms of epithelium occurring in the urinary organs, from the Malpighian tufts down to the meatus; their presence in large numbers in the urine, however, should be regarded as pathological. Were it possible, says Simon, in every case to determine the exact origin of the cells observed, it is clear that information of great value could be thus obtained, and that it would be a comparatively simple matter to localize the seat of lesion. Unfortunately this is not always possible, as the form of the cells is dependent to a certain degree upon the reaction of the urine, an alkaline or neutral reaction causing the cells to swell and to appear larger and rounder than is the case in acid urines. The cellular type is practically the same in the bladder, ureters, and pelvis of the kidneys.

What I have said of the histological elements, the epithelial cells along the urinary tract, applies also to the leucocytes. Leucocytes are encountered, though in very small numbers, in almost every healthy urine. I have repeatedly detected them in a number of normal urines. A marked increase, however, should always be regarded as indicating the existence of disease somewhere in the course of the urinary tract. By the leucocytes alone we are not able to locate the particular area of disease in the urinary tract. In females the presence of a large number of leucocytes may be due to an admixture of leucorrhœal discharge, containing large pavement epithelium of the vaginal type.

Before closing I would like to make a few remarks in regard to the clinical significance of Ehrlich's diazo reaction for typhoid fever. This reaction has been regarded as pathognomonic of typhoid fever. In the past I have made a number of experiments with urines of typhoid fever and other diseases, and have arrived at the very same conclusions expressed by von Jaksch, that we cannot ascribe any clinical significance to this test whatsoever. The color reaction characteristic of typhoid fever I have noticed even in perfectly healthy urines.

[1] "Diagnosis by the Urine," by Allard Mumminger, M.D., 1899, pp. 73, 74

## DEMONSTRATION OF TWO CASES OF EXSTROPHY OF THE BLADDER, WITH SUGGESTION FOR A NEW OPERATION.[1]

By J. H. BRANTH, M.D.,
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Exstrophy or extroversion of the bladder is a fissure in the lower abdominal wall, extending backward into the bladder. The posterior wall of the bladder is pushed through this fissure, protrudes, and spreads out everted on the surface. Of course, the ureters conduct the secretion from the kidneys through this fissure into the bladder wall, and one can see here the mouths of the two ureters. The two cases I present are so much alike that a demonstration of one will also answer for the other. As the parts are more prominent in the older patient, a boy of nine years, I will use this patient first for illustration. This child and also the younger patient, a boy of nine months, have been photographed.

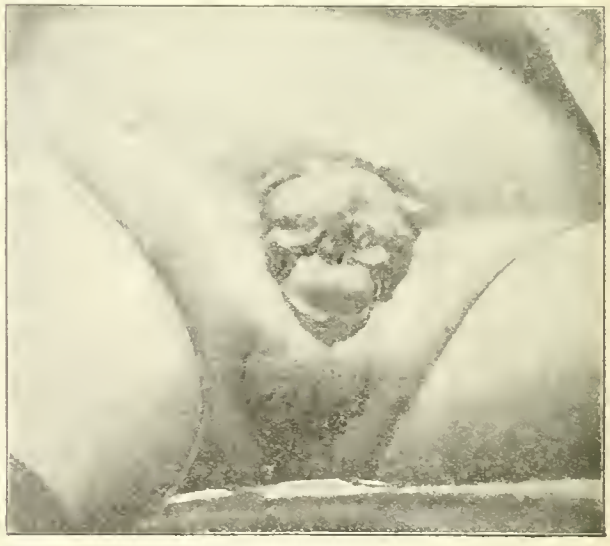

Fig. 1.

The mouths of the ureters continually weep; at times, on abdominal pressure, they spurt out the kidney secretion. The abdominal muscles are behind the bladder. The penis is epispadic, which means that the part above the roof of the urethra is missing. The penis in all the cases I have seen is located above the pubic commissure; the pubic bones I have noticed in all cases to be abnormally small.

[1] Presented at the meeting of the Medical Association of the Greater City of New York, held at the Fifth Avenue Hotel, June 12, 1899.

As the cause of this somewhat rare malformation I would advance the theory that in the first weeks of fœtal life, when the abdominal cavity is open, and the allantois and umbilical vesicle communicate with it, when the fœtal body is bent in a crescentic form, when

Fig. 2.

the bony structures are in a very soft and flexible condition, by some accident the pubic bone tissues are twisted on their horizontal axis, by which the tissue to form the penis (the latter is covered with elements to form true skin) is brought out over the pubic commissure. Now, the skin element of the penis covering will prevent union of the two sides of the linea alba; the bladder will later be pushed through and everted, and so a non-union of the linea alba up to the point of insertion of the umbilical cord will result. If we examine a skeleton of a six months' fœtus, a glance at the pelvis will show what a small displacement, such as I have mentioned above, could produce the effect as seen in these two patients. I have here also a photo-

In operating on these cases, Simon, of St. Thomas' Hospital, diverted the renal secretion into another channel, but the patient, a boy of thirteen years, died from disease of the ureters and kidneys, caused by the new association of organs. Lloyd and Athol Johnston's patient, similarly treated, died from peritonitis. In Ashhurst's "Surgery" it is stated that plastic operations of varying details have been employed by several surgeons. Professor Pancoast, of Philadelphia, has the honor of having performed in 1858 the first successful plastic operation to cover up by skin flaps the protruding, everted, and misplaced bladder. In the same year Ayres, of Brooklyn, made a successful plastic operation. F. F. Maury, of Philadelphia, had two successful cases. Wood, of King's College, London, has had eight cases. In all of these operations the plan was to cover the bladder with double skin flaps, turned on the pedicle. Natural voidance of urine is out of the question; all that is aimed at in this operation is to cover the exposed mucous membrane and shield it from irritation. I have never seen such a case after operation, but think that the true skin, inverted to make an anterior wall for the bladder, would insufficiently perform the function of mucous membrane, and would continuously suffer from excoriation, causing misery to the patient. The growth of pudendal hair on the then inner surface of those flaps must cause additional trouble; however, nature would probably leave an opening large enough to permit the introduction of a pincette to remove hairs and incrustations.

In Bigelow's operation the mucous membrane is peeled off, and skin is shifted over it to cover the tumor, of course leaving the ureters untouched, in this manner reducing the exposed portion to a small area. Now, as the fundus of the bladder and the penis rise over the pubis, climb over it, if you please, all the above operations will leave a weak spot, a notch, over the pubis, which region is liable at any time to yield like a notch in the selvage of cloth.

Some three years ago I operated on Charley C——,

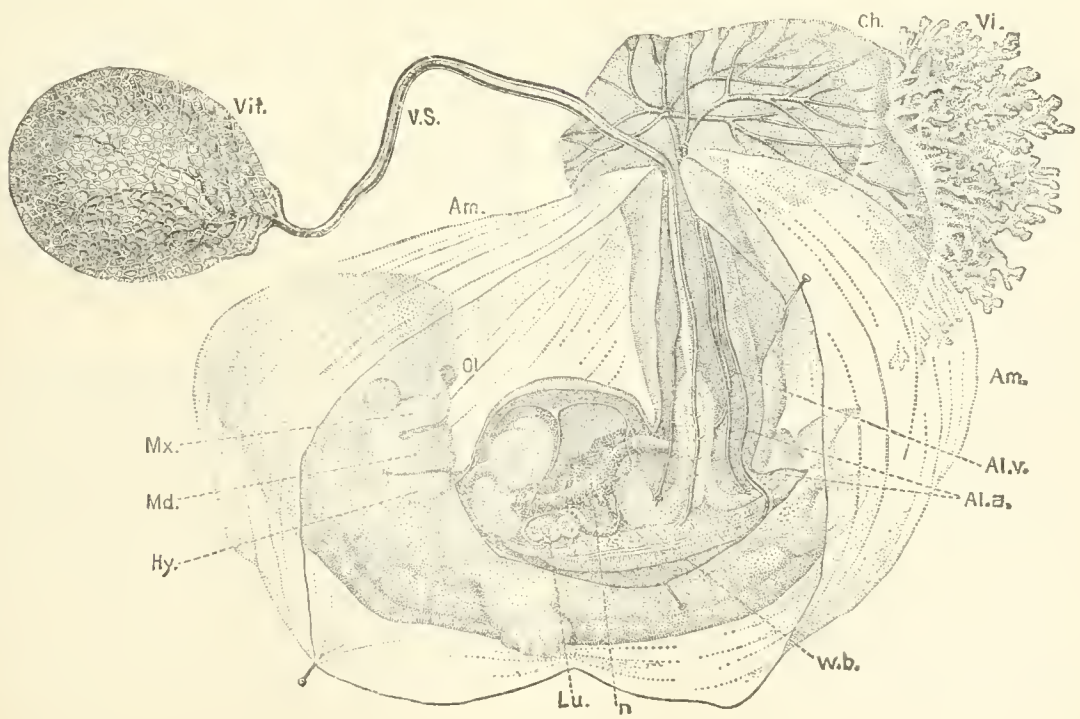


Fig. 3.

graph of the Coste fœtus, copied from the "Reference Handbook of the Medical Sciences," which shows the position of the abdominal organs on the thirty-fifth day of fœtal life.

the elder patient, assisted by Dr. W. T. Warster as etherizer and several others, on a plan partially described hereafter, except that I did not transfix the penis from its improper position, nor did I lower the

bladder into the pelvis. The ureters were catheterized by thin rubber drainage tubes, which were led out over the epispadic penis, so that no renal secretion should reach the bladder during repair. The bladder was closed by Lembert sutures and crowded into the fissure behind the muscles into the abdominal cavity. After this it was no hard task to close the fissure, stitching the raw surfaces together layer by layer, with catgut. All went well until by accident one rubber tube became clogged; it was freed, however, by suction with a syringe; then the other tube became dislodged by violent tossing caused by an attack of toothache; the renal secretion then ran over the operative field, and we had to open the wound. Partial union had occurred, but in a few days nearly everything parted again. I have gained something, however; that is, a thick wall of tissue, so that the patient can now wear a cup connected with a urinal. This thick wall of tissue will enable me to make a stronger suture and union of parts at a future operation, which will include reposition of the bladder and penis, by which procedure the bladder will be lowered behind the pubes and into the pelvis, making the whole work much more easy.

I shall make an incision just anterior to the scrotum and below the pubes, and by a hook draw out the penis through this incision. The fundus and almost the whole bladder will be lowered into the pelvis, behind the pubes, where it will be fastened by catgut stitches. Of course the bladder will before this be closed by Lembert sutures and detached from adhesions above. The root of the penis will be made raw and stitched to the edge of the wound through which it now protrudes. We shall now have the bladder in the normal position. The tendinous portions of the transversalis and oblique muscles, ensheathing the rectus muscles, can now be easily stitched together (the parts lie almost together) by continuous and recurrent suture, similar to that used in modern perineorrhaphy, to secure a firm union; drainage of the renal secretion through the groove in the epispadic penis, the defective urethra, will of course be necessary. Later on efforts to build a roof to the urethra will become another problem, which seems a possible achievement, if the plan up to this stage be successful.

Considering first all the older operations, none of which attempts a restoration to the natural position and relations of the parts and organs, and then considering my plan, I think I shall have the aid of nature to lead to success; and if the operation is successful normal function and natural position will be approached.

Let me make, in closing, a remark about the testes. They are in the groin in both cases. If they remain in their present position, they will probably not undergo the change to puberty, and hence the patients will probably always be sterile. This is a common observance in all cases of undescended testes. If I meet with success in my above-described operations, I shall then attempt to bring down the testes to their proper receptacle, where they are comparatively shielded from injury.

183 West Eighty-seventh Street.

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**Digitalis in Granular Kidney.**—A persistently high tension, to whatever cause due, is of itself pernicious, but not so with granular kidneys, paradoxical as this may seem. The patient is best without granular kidneys, but if the kidneys be granular it is better that the tension should be high rather than low; in other words, the patient is worse with a low tension, and this explains the benefit of digitalis in such cases; it does so much good by raising the arterial tension. —Samuel West, *Pacific Medical Journal*, April.

## Progress of Medical Science.

**Post-Anæsthetic Paralysis.** — As the result of a study of the paralytic states that develop in the sequence of some surgical operations performed under general anæsthesia, Mally (*Revue de Chirurgie*, July 10, 1899) concludes that two groups of cases appear to be in no way related to the anæsthesia, namely, those presenting hysterical and reflex palsies. Central palsies due to cerebral hemorrhage are rare in which the anæsthesia appears to have induced rupture of a vessel through purely mechanical influences. Peripheral palsy is, however, a common complication. It always results from compression, and the influence of the anæsthetic is only indirect, permitting involuntary and accidental compression of nerve-trunks or plexuses. The anæsthetic may besides exercise some toxic or depressing influence upon the nervous system, but this is purely hypothetical. The preventive treatment consists in the avoidance of strain, pressure, or constriction. Peripheral palsy due to compression should be treated with localized faradization as early as possible unless degenerative atrophy be present. Impaired mobility at the shoulder may be averted by early passive motion. Profound reflex palsy should not be treated with local electrization, but with sedative applications of the static current to the nape of the neck, and, in accordance with indications, with revulsion of the vertebral column by means of the actual cautery.

**The Nature of the Gouty Nodule.**—As the result of an experimental investigation, Freudweiler (*Deutsches Archiv für klinische Medicin*, Bd. 63, Hft. 3 u. 4) attributes the formation of the gouty nodule to the inflammatory reaction of the tissues to the irritation excited by the deposition of sodium biurate and manifested by inflammatory infiltration, with swelling of the affected structures. It is considered improbable that the crystalline deposit is preceded by tissue-necrosis, inasmuch as on the one hand sodium biurate is incapable of causing complete necrosis, while on the other hand the crystalline needles have been found in anatomically intact tissues. The disappearance of gouty nodules is attributed to the activity of phagocytic cells, as there is no evidence to show that the crystalline deposit is removed by the simple physical or chemical action of the fluids of the body. The restoration of the deficiency thus resulting is effected through centripetal hyperplasia of the connective tissue of the adjacent structures, which at the same time surrounds the area with a more or less dense fibrous capsule, so that eventually it is cut off from all relation with its surroundings.

**The Treatment of Diphtheria with the Antitoxin.** —Wenner (*Archiv für Kinderheilkunde*, B. 27, H. 6, No. 2) reports the result of an analysis of the cases of diphtheria treated in the diphtheria department of the Children's Hospital at Zurich from October 25, 1894, to December 31, 1898. There were received five hundred and twelve patients, of whom fifty-two died (10.1 per cent.). Diphtheria bacilli, however, were found only in four hundred and thirty-two, of whom forty-four died (10.18 per cent.). Of these four hundred and thirty-two cases only eight were, for various reasons, not treated with antitoxic serum. Comparative observations show that the mortality for all cases has been reduced from forty-three per cent. between 1874 and 1894 to ten per cent. between 1894 and 1898; in the cases in which intubation or tracheotomy was required the mortality has been reduced from 63.7 per cent. to 19.4 per cent., and in those requiring no operative intervention from 15 per cent. to 5.8 per cent. It was found that as a result of the use of the serum

the temperature declined rapidly to the normal in the majority of cases, whether the injection was made early or late in the progress of the disease. Exfoliation of the deposit is more rapid and in almost all cases uniform. The influence upon the stenotic manifestations is most distinct. After the injection extension of the disease to the pharynx and the larynx and exacerbation of the stenosis are not observed. Marked albuminuria, nephritis, and paralyses are not to be considered as sequelæ of the injections, but as a result of the activity of the diphtheria toxin. The serum causes various exanthems, often even fever, but these are never attended with further serious consequences. Individual serums present differences in this respect. In no case has death or injury to health resulted from the injections. For the foregoing reasons the employment of the serum is warmly indorsed for both hospital and private practice.

**The Early Diagnosis of Pulmonary Tuberculosis.**—At a recent meeting of the Société Médicale des Hôpitaux, Fernet (*Lancet*, August 12, 1899) described a special combination of physical signs in the incipient stage of pulmonary tuberculosis, and to which he attributes diagnostic significance. This consists in the simultaneous existence of physical signs on the same side at the apex of the lung, in the interscapular region at the level of the bronchial glands, and at the base of the lung. At the apex there occurs modification of the percussion note, with change in the respiratory murmur and adventitious sounds on auscultation. Tracheo-bronchial adenopathy gives rise to dulness on percussion and resistance to the finger in the interscapular region on the side of the diseased lung at the level of the upper dorsal vertebræ, while on auscultation hollow, almost cavernous breath-sounds are heard, the expiratory sound being the louder and the longer. At the same time there is often axillary adenopathy on the diseased side. Finally, impairment of percussion resonance and subcrepitant râles are found at the base of the affected lung posteriorly. Sometimes, however, there is in some places slight tympany, with enfeeblement of respiratory murmur, harsh respiration, or fine crepitation.

**Successful Removal of One Testicle for Prostatic Enlargement in a Man Aged Eighty-seven Years.**—Drs. Webber and Duffet report in *The Lancet*, August 1, 1899, the case of an unmarried man, eighty-seven years old, who complained of difficulty of micturition, which he attributed to a chill acquired two days previously. A mixture containing potassium bicarbonate and tincture of hyoscyamus was prescribed, together with an aperient dose of magnesium sulphate. Very little urine, however, continued to be passed, and the bladder was found to be distended, its fundus reaching almost to the umbilicus. The prostate was uniformly enlarged. With the help of the finger in the rectum a No. 8 rubber catheter was introduced into the bladder and about two pints of normal urine were withdrawn. The catheter was thus employed daily, with increasing difficulty, for five days, when no instrument of any sort could be introduced. The distended bladder was accordingly tapped above the pubes with a trocar and cannula, which was tied in place until the following day, when it was replaced by a No. 7 catheter closed by a plug. This was pulled out by the patient, and leakage of urine resulted. A large bed-sore formed, and the urine became ammoniacal. After a while, the symptoms increasing in gravity, it was decided to remove one testicle under local anæsthesia, and if necessary and possible to remove the other later. Accordingly, after injection deeply of seven minims of a four-per-cent. solution of cocaine and application of a spray of ethyl chloride, the left testicle was removed. On the following day a soft catheter was without difficulty introduced into the bladder, but for several days subsequently this was impossible. Later, however, introduction of the catheter again became possible, and after the lapse of a little more time urine could be voided spontaneously by the urethra, while at the same time the prostate was found to be reduced in size. All of the wounds ultimately healed, and the patient recovered perfectly, reaching his eighty-eighth birthday in good health.

**Chronic Idiopathic Dilatation of the Stomach** may be looked upon as a symptomatic manifestation, of diverse and often obscure origin, occurring at any age and attacking the two sexes alike. To increase in the dimensions and change in the form of the stomach is added diminished muscular power, with lessened vermicular activity, stasis of the gastric contents, and abnormal decomposition and fermentation. Neurasthenia is often an associated condition, and sometimes floating kidney. In the treatment of this condition Glynn recommends exercise, especially out of doors, encouraging such movements of flexion and extension of the trunk as tend to strengthen the abdominal muscles. Douches and baths are useful adjuncts. A suitable support should be worn, and electricity may be employed. In some cases the rest treatment is to be preferred. Lavage may be practised with advantage. The diet should be light and nutritious. Liquids in excess are to be avoided, as well as alcohol, sweets, oils, and fats. Benefit often follows a sea voyage or a sojourn at a spa. Alkalies and bitters may be administered before meals, to improve digestion. Large doses of hydrochloric acid well diluted are useful one or two hours after meals. When there is evidence of much decomposition and fermentation a large dose of salol and of bismuth salicylate may be given at night. Thymol often relieves flatulence speedily, and antipyrin the discomfort and slight pain. In the failure of all other measures surgical intervention may be demanded. —*Liverpool Medico-Chirurgical Journal*, July, 1899.

**Fatal Poisoning with Crystals of Potassium Permanganate.**—Dr. Box reported in *The Lancet* of August 1, 1899, the case of a married woman, forty-seven years old, of intemperate habits, who, after drinking heavily, took a "handful" of crystals of potassium permanganate, and, throwing them into a teacupful of beer, drank the mixture. In a short while she vomited, and later became pale and unable to speak, although retaining consciousness. The lips, chin, fingers, and the front of the right forearm were stained dark brown. The tongue was much swollen and almost black in color. The breath smelled strongly of stale beer. The skin was dry; the pulse was moderately rapid and of fair tension. When, after a few moments, the woman struggled into a sitting posture, her breathing became accompanied by slight stridor. Preparations were immediately made for tracheotomy, but before anything could be done she fell back pulseless, and the respiration ceased. The heart could be heard beating faintly and slowly after the pulse was no longer perceptible at the wrist. Artificial respiration induced one or two respiratory movements, but beyond this was of no avail. The heart-sounds ceased altogether a few minutes later. Death occurred thirty-five minutes after the ingestion of the poison. Upon post-mortem examination, in addition to the deep brown staining of the chin, the lips, and the interior of the mouth, the front part of the tongue was found to be swollen and almost black, while the back part was of a deep mahogany color. The upper part of the epiglottis was blackened, as was also its laryngeal aspect. The glottis was œdematous in a moderate degree. A small speck of blackening was seen on the anterior wall of the trachea

below the glottis, but, with this exception, the mucous membrane of the trachea was natural in appearance. The stomach was moderately distended and presented no sign of inflammation externally. It contained about two pints of fluid with which was mingled a black, insoluble powder and some parchment-like masses, the latter probably portions of food. The gastric mucosa was coated with a black, granular powder, which was closely adherent and could not be washed off. On scraping away the incrustation the mucous membrane was found to be intensely hyperæmic and presenting a bright pink blush. The destructive action of the salt was evidently very superficial. A little of the black deposit had escaped into the duodenum, the mucous membrane of which also was hyperemic, but without incrustation. The liver was enlarged and appeared fatty. The portion of the spleen near the stomach was soft and pultaceous; the rest of the organ was normal. The kidneys were tough and somewhat diminished in size; their capsules were adherent and when stripped exposed granular surfaces; the cortices were wasted. The left ventricle of the heart was hypertrophied and exceedingly firmly contracted. The cusps of all the valves were thickened. The lungs were deeply congested and œdematous. There was somewhat extensive atrophy of the left superior frontal convolution of the brain, and a considerable subarachnoid collection of fluid lay over it.

**Leukæmia and Leucocytosis.**—At the German Congress for Internal Medicine recently held at Carlsbad, Löwit (*Wiener medizinische Wochenschrift*, August 1, 1899) pointed out that, while leucocytosis and leukæmia are both characterized by increase in the number of normal leucocytes, they represent two distinct processes that should be strictly separated because of their differences in nature. Leucocytosis is only a symptom of varying etiology. It may appear gradually and disappear abruptly, and vice versa. Leukæmia is always attended with leucocytosis, which is, however, not simple, the increase in leucocytes being always due to a specific cause. Reliable conclusions as to the source of the abnormal cells cannot be based upon the form and constitution of the leucocytes. As the result of his studies of leukæmia, Löwit expresses the opinion that in cases of myelæmia the peripheral blood contains a leucocytic hæmamœba, which multiplies by sporulation; permanent spores can be demonstrated in the hæmatogenic organs after death. It has not yet been determined whether multiplication takes place through chromatozoids in the blood. In cases of lymphæmia the peripheral blood rarely contains hæmamœbæ; but after death a different hæmamœba is found in the hæmatogenic organs than in cases of myelæmia. In some cases of leukæmia both forms of organism are found (mixed infection). In pseudo-leukæmic anæmia of infants and in pseudo-leukæmia of the adult hæmamœbæ are sometimes found. Leukæmic infection can be transmitted to susceptible animals, the resulting disease resembling leukæmia, pursuing the course of a chronic infection and causing death rarely within a few days, but more commonly after the lapse of several months. As a rule the blood is at first the seat of a marked, but later of a variable, increase in the number of leucocytes, with change in their constitution. The presence of hæmamœbæ can be constantly demonstrated in fresh, unstained blood; they may be less numerous in the blood-forming organs, the leucocytic parasitism appearing to manifest itself especially in the peripheral blood, although the hæmatogenic organs are also involved and may be hypertrophied. The leukæmic infection can be transmitted from animal to animal by inoculation. Artificial culture of the hæmamœbæ appears to be possible, but this is not yet established with certainty.

**Bronchiolectasis, Ulcerative Broncho-Pneumonia, Ulcerative Bronchiolitis, or Honeycomb Lung,** is described by Buchanan in the *Liverpool Medico-Chirurgical Journal* (July, 1899) as a more or less acute pathological condition affecting the finest bronchial divisions and occurring, especially in poorly nourished children, in the sequence of bronchitis, either primary or secondary to some acute disease, notably measles, whooping-cough, and diphtheria. The lesion is essentially the result of an acute catarrhal bronchitis and peribronchitis, with multiple and widely diffused secondary collapse. It is characterized by dilatation of the bronchioles throughout extensive areas of the lung or the whole of both lungs. The lung presents, on section, a worm-eaten, honeycombed appearance, from the presence of innumerable small cavities, and on its surface small vesicles filled with air. The changes may be associated with miliary tuberculosis, but in most cases thus far recorded this has not been so. In chronic cases there is, besides, irregular formation of fibrous tissue in all stages of organization, and the lung may be smaller than usual. Cough is always present and tends, as the disease progresses, to become paroxysmal. The breath, as a rule, has no fetid odor, and there may be an absence of expectoration, as young children usually swallow their sputum. Vomiting may accompany the cough, with the ejection of much pus from the lungs. The condition may not during the whole period be accompanied by fever, but close observation will reveal a rise of temperature at some time or other, reaching to from 103° to 105° F. The fever may not last long, and hence may escape observation. It is usually the expression of an intercurrent attack of acute pneumonia, which may result in another focus of the disease or the extension of one previously existing. When cyanosis is marked the temperature may fall below the normal. Clubbing of the fingers develops as the cases become more chronic. There is no proportionate relation between the extent of the lesion and the general condition. The physical signs are variable. The percussion note may be normal, or high in pitch and deficient in resonance. When the lesion is localized, and especially at the base, the note may be dull. The breath-sounds may be tubular and accompanied by sharp clicking or ringing râles; as the dilatations increase in size the râles may become gurgling or even cavernous in character. In the acuter cases tubular breathing may be absent and the râles crepitant, but diffused over large areas. Other adventitious sounds may be present, from coexisting bronchitis or pneumonia, such as rhonchi, finer crepitation, and râles. None of the physical signs mentioned is diagnostic, but they change constantly from day to day in intensity, quality, and amount. The prognosis depends to some extent upon the antecedent illness and the general nutrition of the patient. Death may supervene rapidly, or complete recovery may take place, or, finally, the condition may become chronic. The most favorable cases are those in which the lesions have been limited in extent from the first, or from having been diffuse have partially cleared up and left only a localized patch of affected lung. The treatment resolves itself into that of acute capillary bronchitis generally and especially the prevention of stagnation of secretion in the tubes. In the presence of signs of deficient aeration of the blood, inhalations of oxygen may render useful service. The general nutrition of the patient must be well sustained. In the more chronic cases cod-liver oil and tonics are requisite, with an abundance of good food. Children over six years of age may use a creosote vapor bath. Other antiseptic inhalations may be administered by means of an atomizer. When possible, change of air in a dry and sheltered locality should be recommended.

# MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 51 Fifth Avenue.

New York, September 16, 1899.


## THE CLINICAL COURSE OF GASTRIC ULCER.

IT is probable that gastric ulceration depends in most cases upon some alteration in the relation between the reaction of the gastric juice and that of the circulating blood, and this may be materially contributed to by the state of the circulation and the nervous control. Most of the statistical studies on the subject have been based upon pathological evidence, and it is obvious that the conclusions thus reached must differ widely from those arrived at from clinical investigation. In the hope of shedding light on the possibility and advisability of surgical intervention in a larger proportion of cases of gastric ulcer than have hitherto been subjected to operation, Greenough and Joslin (*American Journal of the Medical Sciences*, August, 1899) undertook a study of this disease as it presented itself at the Massachusetts General Hospital between the years 1888 and 1898. During this period there were received into the medical department of the hospital thirteen thousand and ninety-seven cases of all kinds, among which there were one hundred and eighty-seven instances of gastric ulcer, a proportion of 1.4 per cent. This figure corresponds closely with that mentioned by Welch in Pepper's "System of Medicine" for Europe, but is double that of Lebert for Zurich and Breslau. A study of the comparative frequency of gastric ulcer in Baltimore, Chicago, Denver, and Boston yielded the following figures respectively: 0.43, 0.32, 0.15, 0.12 per cent., which partially confirm the statement that the disease is more common in northern than in southern countries.

Of the cases at the Massachusetts Hospital, one hundred and fifty-seven occurred in females and thirty in males, a proportion of 5.23 to 1, which is somewhat higher than that usually given. The average age of the male patients was 36.75 years, of the female 27.1 years. Three-quarters of all of the cases occurred between twenty and forty years of age. No relation could be clearly made out between trauma and the development of gastric ulcer, and occupation appeared to play an insignificant rôle in the etiology.

The symptoms present exhibited the following order of frequency: Vomiting in 95.7 per cent. of cases, pain in 92.5 per cent., hæmatemesis in 78.6 per cent., pallor in 70.1 per cent., tenderness in 69.57 per cent., constipation in 65.8 per cent. The vomiting took place at no constant time. In eighty-three per cent. of cases the pain was referred to the epigastrium, and in fifty-three per cent. it was confined to this locality. Pain in the back also was present in a considerable number of cases. In a large proportion (fifty-nine per cent.) of the cases the pain followed the ingestion of food. In a small proportion (7.4 per cent.) there was no complaint of pain at all. In half of these cases the onset was attended with severe hemorrhage, and three of this number terminated fatally. Of the remainder several also were attended with marked hemorrhage. Hæmatemesis occurred in eighty-one per cent. of the cases, and in forty-five per cent. it was severe. It ushered in the symptoms in nineteen cases, in three of which, as well as in four other cases, it led to a fatal termination. Of these fatal cases, five (seventeen per cent.) occurred in males and two (1.27 per cent.) in females. These patients also exceeded the average age for their respective sexes. Repeated hemorrhage seemed more prone to cause death than a single copious extravasation. Operation for hemorrhage was performed under unfavorable conditions in two cases, and with fatal results. Pallor was observed in eighty per cent. of cases. In most of the cases in which the blood was studied the number of red blood corpuscles was diminished, and in even greater degree the percentage of hæmoglobin. Tenderness was present in only seventy per cent. of the cases; and constipation was observed in eighty-one per cent.

Perforation occurred in six cases (3.2 per cent.), in all of which symptoms of ulcer had previously been present. As a rule the perforation set in suddenly, and in all cases it terminated fatally, although in one case the patient lived for seventy days and died of parenchymatous nephritis. In four of the cases the perforating ulcer was situated on the lesser curvature; in two of these the perforation took place anteriorly and in one posteriorly. In one case the ulcer was on the anterior wall, and in one the situation of the ulcer could not be learned. General peritonitis resulted in two cases, the ulcer being situated on the lesser curvature, in one anteriorly and in the other posteriorly. In two cases a local abscess formed, the ulcer being situated on the anterior wall in one and on the lesser curvature and perforating anteriorly in the other. In one case perigastritis prevented any untoward results, and in the sixth no autopsy was held. Only one patient suffered from perforation while on a starvation diet, and this one alone survived, dying later of nephritis, with only a fibrinous perigastritis to mark the site of the ulcer. Operation was performed in one case six hours after perforation, but as the patient had been taking large quantities of liquids the fatal result was not unexpected.

Of the whole number of cases, sixty-four per cent. were considered cured when discharged, eighteen per cent. relieved, and eight per cent. had died. Of ninety-nine of the cases investigated after an interval averaging five years, there had been recurrence in forty-one, death in fifteen, cure in forty-three; and in the fifteen fatal cases, the cause of death was gastric in eight, non-gastric in three, and doubtful in four.

The mortality was much higher among males than among females.

The results of treatment, as determined at the time of discharge from the hospital, turned out much the same whether the patients received no food by the mouth for the first few days, or only a small quantity of milk and lime-water was given for the same period. Under the first-named condition the patients remained longer in the hospital than under the second-named; and a larger proportion of the latter remained well after leaving the hospital, but these were chiefly the severe cases.

This study demonstrates, among other things, that the prognosis of gastric ulceration is less favorable than is generally stated; that hemorrhage is more fatal and the mortality generally is higher among males than among females; and that there is greater need for surgical conference to the end that operative measures may be instituted opportunely when necessary.

## PUBLIC FUNDS FOR PRIVATE CHARITY.

It is quite evident, as the result of Comptroller Coler's opposition to the needless expenditure of public moneys for private charities, that the general question of providing for such institutions from the tax levy will be viewed in future in an entirely new aspect.

To a certain extent the existence of private charities has become a recognized necessity in view of the fact that the city is avowedly unable to care for all of the sick and needy that require help.

The proper way would be for the municipality to have entire control of the expenditure of all public funds and guarantee their pro rata allotment. This has seemingly been so impossible heretofore that the unequal distributions to certain favored charities have grown into a monstrous abuse, the aggregate amount appropriated in lump sums to these private hospitals and asylums amounting during the past year to a million dollars in excess of that used by the charity commissioners.

The rule has been, notwithstanding the amount of money voted for special objects, to spend the same in some way or other during the year, and, without giving any strict business account for so doing, to ask for more when the time arrived for the next appeal. The fact that all the money was used was to be taken as the proof that it was actually needed. Naturally the demands increased instead of diminishing, and many of these institutions were not only creating paupers of their inmates, but were in turn becoming pauperized by a careless and easy dependence on public bounty.

In some instances the funds were used to pay mortgages, to add to buildings, and to balance the extravagant salaries of self-appointed officials. This was safe enough to do so long as no particular accounting for money expended was demanded. It is a well-known principle in economics that when money is easily obtained there is a corresponding tendency to unnecessary and lavish expenditure. Particularly is this the case when the responsibility of the act is distributed in the ill-defined accountability of a shiftless board of management, which is so often manifested in the stretching of official conscience to shape purely business details in conformity with the main desire to increase the value of the plant. It is plain to see from such a standpoint that the purposes of real charity are thus openly and shamefully diverted. Consequently, the determination of the comptroller to learn how the money is actually used in each case is a very proper one. The more thorough his methods are to such an end the better it will be for those bona-fide charities which do good work. If some of the alleged charities are thus driven out of the business of misappropriating funds, the better it will be for such as are fittest to survive. If these institutions cannot demonstrate their right to exist by the good work they do, they are evidently unnecessary.

In the matter of medical charity at least the medical profession has long been convinced that the subscribing public has gone to the extreme of misdirected generosity.

There is a great need for a general sifting of claims for money on the purely business basis of pro rata equivalents of service rendered. The comptroller has perfect right to insist on the most thorough investigations to such an end, and to compel a rigid accounting for all money received and disbursed. If he consistently adheres to his purpose, some very interesting developments may be brought to light concerning many of the questionable methods of obtaining public moneys which are constantly practised by not a few of the managing boards of our so-called medical charities.

## SMALLPOX AND VACCINATION.

Although the medical profession all over the world, with but few exceptions, believe in the efficacy of vaccination both as a preventive of smallpox and as a means of mitigating its severity, yet the fact is notorious that there is a large, and it would appear an increasing number of persons, especially in Great Britain, who profess to have no faith in the prophylactic properties of the measure. Within the past year the ground, as regards the merits or demerits of vaccination, has been so thoroughly gone over that is it difficult to imagine anything further remains to be said. However, the antivaccinationists are of a different opinion, and proceeding probably on the principle that "continual dripping will wear away a stone," are as active as ever in prosecuting their campaign. This being the case, it behooves the upholders of the rite to display an equal amount of energy in proving by incontrovertible facts the wonderful benefits conferred on the human race by it. The *Edinburgh Quarterly Review*, published in June of this year, contains one of the most convincing articles on the subject yet written; indeed as an argument in favor of vaccination its reasoning appears conclusive. The article in question commences by giving a lengthy history of vaccination and of the good accruing therefrom, a portion of which we will here quote: "In Sweden the population and the

smallpox mortality have both been known year by year since 1774. Before vaccination the mortality from smallpox averaged 2,045 per million. With permissive vaccination from 1802 to 1816 it was reduced to 480; during seventy-seven years of compulsory vaccination the mortality averaged 155 per million, and for ten years ending 1894 it has been put down at two per million. If Sir John Simon's estimate as to the smallpox mortality in Great Britain before vaccination, being 3,000 to 5,000 per million, be accepted as fairly accurate, and if we compare it with the mortality for the ten years ending 1894, we find that for ninety-nine people who died of smallpox in the eighteenth century only one person dies now. . . . The two conditions, a crowded and a mobile urban population, are those which chiefly favor the spread of smallpox. These conditions are present in the large towns of the United Kingdom, they are much more frequent now than they were fifty years ago, and yet the mortality from the disease has everywhere greatly diminished. . . . In Prussia vaccination has been enjoined, and revaccination has been compulsory in the army since 1874. The general mortality has been reduced to seven per million, and the army has had no smallpox mortality for years."

In other countries in which vaccination is in force the decrease of smallpox is equally well marked; in truth, the evidence in support of vaccination is everywhere overwhelmingly strong. How then does it occur that there is so great a resistance to its performance? The first in the category of its opponents are the cranks and faddists, that class of persons who, either for the sake of personal notoriety or because they possess the spirit of contrariety, are willing to overturn anything and everything. Next in order come their followers, the ignorant, those people who are ever easily led astray by a new doctrine, and who, never having experienced the fearful ravages brought about by a severe epidemic of smallpox, simply do not believe in its virulence. It should, nevertheless, in fairness be said that some of the prejudice against vaccination must be attributed to faulty administration in times past. Now that this cause of complaint has been removed, the statement may be made without fear of contradiction that nothing but good can come of vaccination. The antivaccinationists always make a strong point of sanitation, and declare that it is to efficient sanitation and not to vaccination that the doing away of smallpox is due. This contention, however, will not bear a close analysis. Those who have made a careful study of the matter say that there is no reason to suppose that smallpox is ever developed out of defective sanitary conditions. The disease is as contagious in the rich man's dwelling as in the squalid home of the poor. A striking proof of the value of vaccination and of the unimportant part played by bad sanitation in the development of smallpox has recently been afforded in Manila. Assistant Surgeon Ritchie, Thirteenth Minnesota volunteers, writing from that town says: "April and May are the smallpox months in Manila. Two hundred and fifty deaths a month was not considered an excessive number, and this under ordinary conditions and not considered an epidemic. Since our occupation no such number has occurred, and owing to the untiring efforts of Major Bourne, the mortality is almost *nil*. He told me a short time ago that there were but ten cases all told, and most of them were varioloid, so that smallpox within our lines is under control. . . . Over fifty thousand persons have been vaccinated, most of them several times, and the good work goes on." In regard to the sanitary condition of Manila, Surgeon Ritchie has this to say: "Consider its location, built upon swamp land, where every tide affects the rivers and streams for miles into the interior, so that only surface drainage can be had." Before leaving the subject of smallpox, and in view of its prevalence in parts of this country, we would again call attention to the importance of a correct diagnosis. Mistakes in diagnosis are sometimes made through the lack of a sufficient acquaintance with its lesions, and at other times owing to the type of the disease being modified by vaccination. Extreme care should be taken to ascertain with certainty whether the disease is smallpox. If it is, and is not recognized as such, the consequences to the neighboring community will probably be disastrous, for it must be remembered that so far as spreading infection is concerned the mild type of the disease is almost as dangerous as the severe, and furthermore, if the cases are not isolated, will in the course of a comparative short period develop into virulent confluent smallpox.

## FAITH CURING IN ILLINOIS.

Recently in Illinois there has been a very novel judicial decision bearing upon the legality of curing by faith. In a case of death from typhoid fever, due to neglect of proper medical treatment and the substitution of spiritual methods, the learned attorney-general held that the laws of Illinois do not prohibit the treatment of disease by the mental and spiritual machinations employed by Christian Scientists or others when no medicines are used, and further, that when a patient dies under such treatment it is not an offence under the criminal code of the State. The ingenuity with which the law is construed to that end is one of the curiosities in jurisprudence. The following is the text of the remarkable rendering:

"I am of the opinion that the criminal code has not been violated. Section 42 of an act to amend an act entitled 'An act to prevent and punish wrongs to children,' is the only provision of the criminal code that can by any possibility be held applicable to such a case. It reads: 'It shall be unlawful for any person having the care and custody of any such child wilfully to cause or permit the life of such child to be endangered or the health of such child to be injured, or to wilfully cause or permit such child to be placed in such a situation that its life or health may be endangered.'

"I am of the opinion that the word 'wilfully' as used excludes it from application to the case in hand. As there used it means 'intentionally' or 'designedly' and does not cover cases of mistaken judgment, where

the parents or persons in charge of the child honestly believe in the efficacy of the treatment adopted.

"I am also of the opinion that under the act of 1899 concerning medicine and surgery, persons may minister to or treat the sick or suffering by mental or spiritual means, without the use of any drug or material remedy, without a license from the State board of health. Christian Scientists claim to heal or cure the sick, or those who think themselves sick, by such means, and that is exactly what was done, or attempted to be done, in this case."

It will be interesting to discover what the Illinois State Society can do to offset this legal sanction of a monstrous fraud.

## News of the Week.

**Yellow Fever** has appeared at several points in the South, in New Orleans, Mississippi City, Jackson, Miss., Port Tampa, and Key West. The number of cases at Key West is quite large and increasing daily, there having been about two hundred cases to date. The disease is in mild form and very little alarm exists. A strict quarantine is, however, maintained against the infected places. Four passengers, brought to this port on a steamer from Key West, were found to be suffering from the disease, and one has died at quarantine. A dispatch from Merida, Yucatan, announces that the yellow fever has entirely disappeared from that town. Many of the Mexican coast towns are, however, still suffering severely from visitations of the disease.

**Public Funds for Private Charities.**—The comptroller of this city submitted last week to the board of estimate and apportionment his report on the private charities, for which appropriations have been made by the city, and recommended a radical reform of the present system. He said that the city is excessively liberal in its gifts to private institutions, and in support of this assertion he submitted the following table, showing the amounts of the subsidies to private charities in various cities:

| | |
|---|---|
| Chicago | $2,796.00 |
| Philadelphia | 151,020.00 |
| St. Louis | 22,579.30 |
| Boston | Nothing |
| Baltimore | 227,350.00 |
| Cincinnati | Nothing |
| Cleveland | Nothing |
| New Orleans | 30,110.00 |
| Pittsburg | Nothing |
| Washington | 194,500.00 |
| Detroit | 8,081.00 |
| Milwaukee | Nothing |
| Newark | 7,500.00 |
| Jersey City | Nothing |
| Minneapolis | 2,000.00 |
| New York City | 3,131,580.51 |

He urged that these appropriations be reduced very materially and in some cases cut off entirely, for he was convinced that ultimately the cause of charity would benefit rather than suffer from this course, for a serious objection to the whole subsidy system, he said, is that it tends to dry up the sources of private benevolence. The following is the part of the report which deals with hospitals and dispensaries: "The medical charity system should be changed so that the work of the several dispensaries of the city be limited to certain districts, with the view of preventing an unnecessary duplication of work, and that the cases treated by dispensaries should be certified to the State board of charities, which board (by means of inspectors of its own appointment, but paid for by the dispensaries) would inspect such cases and certify such of them as are proper charges against the city to the comptroller's office for payment. In the event of this plan being deemed impracticable—and thus far I have received no assurance from the State board of charities that it will be carried into effect—I suggest that the amounts allowed to dispensaries be limited to fifty per cent. of the amount received from private benevolence during the fiscal year last preceding the year in which the budget is made, the amount allowed in any one year, however, not to exceed by twenty-five per cent. the amount allowed in the preceding year, and in no case to exceed fifty per cent. of the amount actually disbursed for dispensary purposes. Fourteen hospitals in the borough of Brooklyn have dispensary attachments for which public appropriations have heretofore been made, but the finances of these dispensaries not being kept separate, it is impossible to apply the foregoing rule. In these cases I would recommend, as a temporary measure for the ensuing year only, that one-half the amounts allowed by section 230 of the charter be granted for the year 1900."

**The Plague** at Oporto continues, there being one or two deaths daily attributed to that disease. The medical professors in the university have telegraphed to King Charles, asking him to come to Oporto in person and "see the uselessness of the vigorous quarantine." They belittle the seriousness of the plague outbreak. Alexandria has been declared free from the disease, the last of the plague patients having been discharged from the hospital on September 7th. The total number of cases was eighty-nine, out of which there were forty-three deaths, or almost exactly forty-nine per cent.

**American Veterinary Medical Association.**—At the thirty-sixth annual meeting of this association, held in the Academy of Medicine, New York, on September 5, 6, and 7, 1899, the following officers were elected for 1899–1900: *President*, Prof. Leonard Pearson, dean of the veterinary department of the University of Pennsylvania, Philadelphia, Pa.; *Vice-Presidents*, Drs. J. F. Winchester, Lawrence, Mass., S. Brenton, Detroit, Mich., and H. L. Ramacciotti, Omaha, Neb.; *Secretary*, Dr. S. Stewart (re-elected), 7½ South James Street, Kansas City, Kan.; *Treasurer*, Dr. William Herbert Lowe (re-elected), 188–190 Ellison Street, Paterson, N. J.

**Examination for the Position of Assistant Physician in the Government Hospital for the Insane.**—The United States civil-service commission announces that on October 4, 1899, examination will be held at any city in the United States where the commission has a board of examiners, for the position of assistant

physician, junior grade. The examination will consist of the following subjects, which will be weighted as noted by the figures: Letter-writing, 5; anatomy and physiology, 15; chemistry, materia medica, and therapeutics, 15; general and special pathology, 25; surgery, 20; bacteriology and hygiene, 10; obstetrics and gynæcology, 10. The minimum age limitation for entrance to this examination is twenty years; the maximum none. The examination is open to both men and women, but a separate eligible register will be kept for each sex. From the eligibles resulting from this examination certification will be made to fill two positions in the government hospital for the insane, one from the male register at $900 per annum and one from the female register at $600 per annum. This examination is open to all citizens of the United States who comply with the requirements. Persons desiring to compete should at once apply to the United States Civil-Service Commission, Washington, D. C., for application forms 304 and 375, which should be properly executed and promptly filed with the commission.

**An Electric Ambulance** is being built for St. Vincent's Hospital in this city. It is believed that it will be much superior to any of the ambulances now in use, the pneumatic tires reducing the jolting to a minimum.

**The Woman's Sanitary League of Pennsylvania** has been organized at Philadelphia, with the objects of advancing sanitary science, promoting public health and good government, and forming country and local auxiliaries to extend the beneficent work.

**A New Hospital in Jersey City.**—The directors at the German Hospital and Dispensary Fund Association, Jersey City, have decided to erect a hospital in the district lying between Communipaw Avenue and the Bayonne line. At present there is no hospital in this section.

**The Wyoming State Medical Society.**—The third annual meeting of this society will be held at Laramie on Tuesday and Wednesday, October 10th and 11th, under the presidency of Dr. R. Harvey Reed, of Rock Springs. The secretary of the society is Dr. E. Stuver, of Rawlins.

**An Ambulance Surgeon's Diagnosis.**—A young man in Brooklyn a few days ago became engaged in an altercation with a fellow passenger in a street car and was struck by him with a cane. The man acted strangely and the police called for an ambulance. The surgeon who came with it diagnosed the case as one of plain drunk, and the man was accordingly arrested and fined $5 in the police court. The following day he died, and autopsy showed the existence of a fracture of the skull.

**Lectureship on Evolution.**—By the will of Richard B. Westbrook, of Philadelphia, $10,000 is devised on the death of his widow to the Wagner Free Institute of Science as an endowment fund for the maintenance of a special lectureship to "secure the full and fearless discussion by the most learned and distinguished men and women in our own and other countries of mooted or disputed questions in science, and especially the theories of evolution." In the selection of lecturers, preference is to be given to those who work for the love of truth rather than pecuniary reward, although it is intended that those employed shall receive a fair and even liberal compensation. No lecturer shall be excluded because of his belief or want of belief, if otherwise qualified and of good moral character.

**School Inspectors.**—At a meeting of the New York City board of health last week, one hundred and forty medical inspectors of the public schools in Manhattan and forty-five of those in Brooklyn were appointed.

**Tuberculosis among Indians.** In a recent report Dr. Sheard, medical officer of health in Toronto, says that during the past year, in the Blood Indian reserve of the Canadian Northwest Territories, in a population of two thousand there were one hundred and twenty-seven deaths from pulmonary consumption, constituting twenty-three per cent. of the total death rate. This occurred in a tribe occupying one of the finest climates of the world, among the foothills of the Rocky Mountains, a region in which consumption is extremely rare among the white population.

**The Germans and the International Gynæcological Congress.**—In our special report of the congress recently held at Amsterdam the absence of Germans is very noticeable. According to *The Scalpel* the reason for this was a personal dislike of Professor Treub, though it is scarcely credible that any body of scientific men could be so little. The congress was evidently a success in spite of the German boycott. Our contemporary implies that the loss was a gain, for it says that "the majority received the news that the German language would not be heard 'as tidings of comfort and joy,' while the *bon vivants* rejoiced, as the gastronomic feats of the Teutons are so well known at all these congresses. 'Now we shall have something left to eat and drink.' Seriously it is lamentable at the end of the century to find on an occasion of this kind a body of scientific men, especially medical men, so childish as to stay away, no matter under what provocation. The Netherland Society of Gynæcology did everything in their power to bring about a *rapprochement*. Surely the Germans did not imagine the International Congress could not go on without them! There are no indispensables to-day. If all the German gynæcologists of repute were swept away to-morrow by death or accident their places would be taken by men of other nationalities. Though Germany has done much to assist in the development of gynæcology, Germany has really borrowed more than she has herself given to gynæcology."

**Sanitation of Picnic Grounds.**—The Massachusetts State board of health is about to undertake an examination of picnic grounds and certain summer resorts relative to their sanitary condition. Special notice will be taken of water supply at different places where persons in large numbers habitually congregate, and sewerage systems will also receive careful con-

sideration. It has been observed that typhoid fever is very prevalent in September and October, a fact which it is thought may be attributed directly or indirectly to the lack of proper sanitary arrangements in crowded summer resorts.—*Boston Medical and Surgical Journal.*

**Typhoid Fever** is reported to be unusually prevalent in Paris this summer. There has been a long drought and the water of the Seine is very low.

**Navy Department,** Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending September 9, 1899. September 1st. — Surgeon E. H. Marsteller ordered to duty in connection with recruiting rendezvous, Buffalo, N. Y., to report at the New York navy yard, September 4th. September 2d. —Passed Assistant Surgeon B. R. Ward and Assistant Surgeon J. F. Chaffee are detached from the *Boston* when put out of commission and ordered home to wait orders. September 5.—Surgeon J. C. Decker detached from the *Monadnock* and ordered to the *Monocacy*, at own expense. Passed Assistant Surgeon J. Stoughton detached from the *Monocacy* and ordered to the *Monadnock*, at own expense

**The Automobile in Paris** is a death-dealing machine which was responsible for nine deaths and over forty serious injuries to riders and pedestrians in one week last month. The authorities are being importuned to place private automobiles under more severe restrictions, which will include a lowering of the maximum of speed now allowed, and the forbidding of persons to run automobiles who do not possess certificates as to their knowledge and ability.

**"The Denver College of Medicine"** is now the corporate name of the reorganized medical department of the University of Denver. The change of name carries with it no change in the relations heretofore existing between the University of Denver and its medical department, other than placing the Denver College of Medicine in a position to have an independent legal existence, enabling it to own property, make contracts, etc.

**The Grand Army of the Republic.**—At the annual encampment just held in Philadelphia, Dr. William H. Baker, of Post 5, Lynn, Massachusetts, was elected surgeon-general of the Grand Army, and Dr. Julia Shade was elected president of the Ladies of the Grand Army of the Republic.

**Scurvy on an Island.**—A steamer recently from Clipperton Island, off the Pacific coast, reports that scurvy is causing much distress there. Five men have died of the disease, and twenty-three others are afflicted with the malady. In all there are only about fifty men on the island engaged in collecting guano for shipment to San Francisco. The captain of the steamer landed a supply of vegetables and lime juice, and improvement had already set in by the time the vessel sailed.

**Vaccination Stations.**—For the accommodation of the school children in the downtown districts, the board of health has established a branch station for free vaccination in the old school building at 68 Elm Street. This action was taken to save the expense of car-fares to the multitude of children on the lower east side and of other parts of the downtown section of the city. Children residing in the uptown districts will be vaccinated at the board of health building, Fifty-fifth Street and Sixth Avenue.

**The Potomac River Water.**—A bacteriological examination of the water of the Potomac River has recently been made by the Marine-Hospital service, and a report of the results has been published. This report is accompanied by a chart of the river basin, on which are indicated the numerous stations where infective matter was found. Thirty-six points show where colon bacilli and sewerage bacteria were found between Piedmont and Washington city. In the conclusion of their report, Drs. Sprague and Kinyoun observe: "The causal relation between the impure drinking-water and this death rate is so evident that to my mind it is almost criminal negligence to allow such an easily preventable condition of affairs to longer obtain in our midst, and it can be truthfully said that just so long as the inhabitants of this district are compelled to use Potomac water in its present state of pollution, from two hundred to two hundred and fifty lives will be needlessly sacrificed annually." —*Maryland Medical Journal.*

**The Great Things that Happen in New York.** —The London papers some time ago published accounts of two marvellous surgical feats which were alleged to have been performed in this city. The first case was that of a man who was stabbed to the heart, the ribs being parted and the heart exposed. The physicians injected saline solution to replace the blood between the pulsations, and one of them rapidly passed a needle and thread through the left ventricle, and took several stitches. The patient rallied, and when the report was issued belief in his recovery is stated. The other case is that of a millionaire, who was suffering from an abdominal ailment, the nature of which was diagnosed by the patient swallowing an India-rubber bulb, covered with photographic film. When the bulb reached the stomach it was inflated. An *x*-ray exposure was then made, the bulb deflated, and then withdrawn. The result was an excellent photograph of the interior of the stomach, revealing a large tumor. *The Hospital*, from which we learn of these reports, says that the papers gave the name of the millionaire with the gastric photograph.

**Obituary Notes.**—Dr. Charles T. Robinson, of this city, died suddenly of heart disease September 10th. He was twenty-six years old, was a graduate in arts of Manhattan College and in medicine of the Bellevue Hospital Medical College in 1895. He had been in practice eighteen months. He was married only three weeks ago.—Dr. William F. Trout died at McConnellsburg, Pa., on September 7th, at the age of sixty-six years, in the sequence of amputation of the leg for gangrene. He was graduated from Jefferson Medical College in 1856, and was a surgeon in the Union Army during the Civil War.

# Therapeutic Hints.

**Treatment of Chronic Summer Diarrhœa.—**

℞ Bismuthi subgallati ..... gr. xxiv.–xxvi.
Pulv. opii..... gr. ss.
Pepsin. pulv ..... gr. vi.–xij.
M. Trit. in pulv. No. xii. S. One every four hours, alternating with the following:

℞ Hydrarg. chlor. mitis..... gr. ss.
Cerii oxalat..... gr. ij.
Sacchar. alb..... q.s.
M. Trit. in pulv. No. xii. S. One every four hours.

—Alfred Stengel, *North Carolina Medical Journal*, April 20th.

**Diarrhœa Mixture Without Opium.—**

℞ Tr. camphor ..... ʒ i.
Tr. capsici..... ʒ ss.
Tr. lavandul. comp ..... ʒ ij.
Spts. vin. gal .....q.s. ad ℥ ij.
M. S. Teaspoonful every two or three hours.

—Rex.

**Treatment of Syphilis at Finger's Clinic.—**

℞ Hydrarg. salicylat ..... 5
Paraffin. liq..... 50
S. One Pravaz syringeful in the week by intramuscular injection.

**For Nasal Irrigation.—**

℞ Sodium bicarbonate,
Sodium biborate,
Sodium chloride .....āā gr. xxx.
Sodium salicylate..... gr. xl.
Oil of bergamot ..... ♏ iij.
Listerine ..... ʒ ss.
Glycerin..... ʒ i.
Distilled water .....enough to make ℥ viij.
M

—G. Sterling Ryerson.

**Pruritus of the Scrotum.—**

℞ Hydrarg. bichlorid ..... gr. viij.
Alcohol,
Aquæ chamomil.....āā ʒ vi.
Chloroformi ..... gtt. v.
Aquæ camphor .....q.s. ad ℥ iij.
M. S. Apply as a lotion.

—Leistikoff.

**Chronic Nephritis.—**

℞ Lithii benzoat..... ʒ iiss.
Betol ..... gr. lxxx.
Sodii bicarb ..... ʒ i.
M. Div. in chart. No. xx. S. One powder twice daily between meals.

—Lemoine.

**Colic.—**

℞ Spir. ammoniæ aromat..... ♏ vi.
Sodii bicarbonatis ..... gr. xij.
Syr. rhei aromat..... ʒ i.
Aquæ cari..... ℥ iss.
M. et ft. sol. S. Teaspoonful as often as required.

Or:

℞ Tinct. asafœtidæ..... ♏ xv.
Olei cajuputi ..... gtt. ij.
Magnes carbonat..... ʒ ss.
Syr. acaciæ..... ℥ ss.
Aquæ anisæ..... ℥ iss.
M. et ft. mist. S. A teaspoonful as required.

—Larrabee.

It may be necessary to prescribe some form of anodyne to relieve the pain of the colicky attacks until such changes have been consummated in the milk as will prevent its disagreeing with the child. Occasionally, therefore, it may be necessary to give some form of opium. Of the preparations of opium codeine is decidedly the best, as it interferes less with normal digestion and peristalsis than any other form of opium medication. At the best, however, opium by its interference with the gastric and intestinal secretion tends to keep up the colicky condition, and should be used only as a last resort. The various soothing syrups, cordials, etc., usually contain opium, and should be tabooed.— Philip F. Barbour, *Pediatrics*, May, 1899.

**To Stimulate Perspiration.—**

℞ Pilocarpinæ hydrochloratis..... gr. ⅙
Mucilag. acaciæ..... ℥ iij.
M. S. Three to six teaspoonfuls a day.

—Lemoine.

**Dyspepsia with Insufficiency of Motor Action.—** Mathieu (*La Presse Médicale*, April 5, 1899) considers ipecac in small doses as one of the best excito-motors for the stomach. It can be prescribed in the following way:

℞ Tinct. ipecac,
Tinct. calumbæ,
Tinct. gentian .....āā 5 gm
M. S. Fifteen to thirty drops two or three times after a meal at intervals of from one-half to one hour.

Or:

℞ Tinct. ipecac ..... 6 gm.
Saccharin ..... 0.10 cgm.
Menthol ..... 0.25 "
Alcohol..... 40 gm.
Simple syrup ..... 120 "
M. S. Two to four teaspoonfuls in coffee after meals.

Or:

℞ Tinct. ignatiæ..... 6 gm.
Tinct. ipecac ..... 1 "
Tinct. anisi..... 5 "
M. et filt. S. Take six drops in a little Vichy after each meal.

Or:

℞ Powdered ipecac ..... 0.02 cgm.
Sulphate of potassium,
Nitrate of potassium .....āā 0.05 "
Bicarbonate of soda..... 0.30 "
M. et ft. tablet No. i. S. Take in a little water five to ten minutes before a meal.

**Catarrhal Laryngitis.—**

℞ Chloralis..... gr. lxxv. ( 5 gm.)
Potassii bromidi ..... gr. xlv. ( 3 " )
Ammonii bromidi..... gr. xxx. ( 2 " )
Aquæ cinnamomi..... ℥ ij. (62 " )
M. S Teaspoonful, and repeat in twenty minutes if not relieved. This is for a child of five years of age.

—Joseph Holt, of New Orleans.

**Tabes.**—The use of stimulant liniment rubbed well over the surface of the body has proven also of great value in stimulating circulation, so deficient in this class of patients. The following prescription has done well in the writer's hands:

℞ Ammon. chlor ..... ʒ iv.
Glycerin ..... ʒ i.
Tinct. capsic ..... ʒ ss.
Aquæ menth. pip ..... .....q.s. ad ℥ xij.
M. S. Rub on body daily for twenty minutes with massage.

—Pearse.

**Nervous Affections.—**

℞ Sod. glycerophosphat..... 25
Aq. aurantii flor.,
Aq. destillat .....āā 50
Syr. aurantii cort ..... 20
M. S. Teaspoonful three times daily.

—Kahane, *Klin. ther. Woch.*, No. 51, 1898.

**Hay Fever.**—In the treatment of hay fever two new drugs promise well—orthoform and suprarenal capsule. Orthoform will allay the sensitiveness, the hyperæsthesia, and the paroxysmal sneezing. Its effects are in duration many times longer than those of cocaine, and it has no toxic action. When we wish to give the patient free breathing through the nose and lessen the serous discharge, the use of a solution of suprarenal capsule will accomplish the desired result without the disadvantages of cocaine.—Dr. Edward W. Wright, *New York Medical Journal*, May 6th.

# Society Reports.

## INTERNATIONAL CONGRESS OF GYNÆCOLOGY AND OBSTETRICS.

*Held in Amsterdam, August 8, 9, 10, 11, and 12, 1899.*

(Special Report to the MEDICAL RECORD.)

*Second Day—Wednesday, August 9th.*

(Continued from page 314.)

**Comparative Value of Antisepsis and of Improvements in Technique in the Results of Operative Gynæcology.**—M. RICHELOT, of Paris, opened the discussion upon this topic. He remarked that a study of the subject proposed required an investigation into (1) Our operative results. Under this heading he would describe (*a*) the evolution of antisepsis, its rôle, and its limitations; (*b*) the modifications of technique in late years and its extreme importance. (2) Our therapeutic results.

Operative results: The development of antisepsis. The speaker showed how the first few years of antisepsis, the "era of credulity," of blind trust in the results of "in vitro" experiments, had gradually given place to our later methods. He signalized sterilization by heat as the one great advance; heat was our "greatest antiseptic." Nevertheless, chemical antiseptics were still necessary for the hands, the field of operation, etc. It was a great mistake to suppose, as some did, that so-called asepsis was nothing more nor less than ordinary cleanliness; we could safely aver that the continual effort to attain asepsis by every means had brought forth the most admirable results. The speaker then dwelt upon the limitations of antisepsis. Although we could, by a rigorous antiseptic procedure, avoid infecting our patients, antisepsis itself could do nothing against infection already present. For example, a pus tube, by careless handling, burst, infected the peritoneum, and carried off the patient. Certainly some such cases ended in recovery; and in such no doubt the *vis medicatrix naturæ* played a large rôle. But we should not expect too much from *natura medicatrix;* we should aid nature as much as possible. And here came in the importance of technique, the art of surgery. Where antisepsis ended, there technique began. The value of antisepsis was within narrow limits, absolute; the value of technique was relative and without limits—it depended on the operating hand and the directing head.

Evolution of technique: The great improvements in technique had been rendered possible by the use of anæsthetics, exact hæmostasis, and antisepsis.

Instruments: Among the numerous inventions under this heading that our time had produced, the greater quantity could safely be consigned to oblivion. He acknowledged the value of artery forceps and owed much to the Trendelenburg position, but, as for the rest, he did not place too much reliance on instrumental innovations. The best results were obtained by the surgeon who knew how to use his hands and his common sense. Surgical ability, in the widest sense of the term, was comprised in the three chief qualifications—dexterity, ingenuity, and judgment. Methods were becoming more and more simplified, and in that way lay progress. The successive extraperitoneal and intraperitoneal treatment of the stump, and total extirpations in the abdominal operations for fibroid, furnished a good example. Another was found in the application of "pinces à demeure" in vaginal hysterectomy. In considering the question of therapeutic results, he would once more emphasize the fact that it was antisepsis which had enabled the surgeon to perfect technique. While many operators ascribed the success of their major operations to antisepsis alone, he would like to remark upon the tendency of so many to attach, in minor operations, a greatly exaggerated importance to method and technique. He would cite as examples the unlimited number of ways of suturing the abdominal wall, and of doing colporrhaphy. Given aseptic wounds, these were largely unnecessary. To conclude, he wished to remark that the union of antisepsis with improved technique paved the way for conservative gynæcology, and that in this direction lay the progressive improvement we hoped to attain.

DR. BUMM, of Basle, said that there were two ways by which present-day surgeons endeavored to attain the ideal of an even, sure, and normal healing of fresh operative wounds. These were a close study of anti- and aseptic procedures and of improvements in technique. He would endeavor to determine the influence which each had in the success of our operations. The absolute reliance on the protective power of antisepsis had been a good deal diminished by exact investigations, as it had been proved by a whole series of experiments and observations that elimination of all micro-organisms during the operation had not yet been attained.

A year's bacteriological research made during a great number of operations from beginning to end, upon the skin of the hands as well as the operation field, the wound, the instruments, the dressing and ligature material, had given him the following results: (1) There was no way to remove with certitude all micro-organisms from the hands. The successive use of soap and hot water, of alcohol, and of a solution of lysol or sublimate, for ten minutes each, was not sufficient to sterilize the skin with certainty. For these experiments rigid precautions, as prescribed in Hälger's method, were necessary to obtain satisfactory results. (2) The same conclusion was to be drawn with regard to the skin of the rest of the body, and especially for the external genitals, the perineum, the vagina, etc. (3) During the course of the operation we found on the instruments and ligatures, and in the wound principally, the micro-organisms originating in the deeper parts of the epidermis and from the glandular ducts. In fifty major operations, under exact control, none was found entirely free from the presence of micro-organisms. (4) With the "aseptic" method, even when the operation was made in the best conditions and with the greatest precautions, the number of micro-organisms was far higher than that which was found in using the antiseptic method. At the end of the operation the so-called sterile salt solution contained regularly micro-organisms, sometimes in great number. (5) The micro-organisms of the atmospheric dust were but of small importance in the infection of operation wounds. (6) Difficult as it was to operate without giving access to the micro-organisms, it was still more so to keep them away from the wound and its surroundings for a greater length of time.

It was therefore illusory to think that either asepsis or antisepsis could bring about a sterile condition of the wounds. According to circumstances, there would be in every wound more or less bacteria. In spite of this proved presence of micro-organisms, most wounds healed without suppuration or fever. This result was due to the bactericidal power of the organism. But this bactericidal power of the organism, could be insufficient, and this occurred when the wound was brought into contact with virulent micro-organisms or when it presented bad conditions for the full development of the bactericidal qualities of the tissues and humors. This second possibility of insufficiency of the bactericidal power of the organism brought us to a point where the territory of technique overlapped that of antisepsis. Technique had to remedy the insufficiency

of our antiseptic and aseptic means; it had to arrange the conditions of the wound in such a way that the organism should be able to win the struggle against the never entirely absent bacteria. In this way it could be said that purely technical means had a great influence on the aseptic healing of wounds. For example, a short and well-conducted operation exposed the tissues for only a short time to the influence of exterior surroundings and brought manipulations to a minimum; in this, way it diminished the chances of accidental infection. The number of micro-organisms entering the wound would be a good deal less than in an operation of long duration, in which the tissues were lacerated by repeated manipulations. In addition to this, a short operation did not so much tax the resisting-power of the wounded tissues, as well as of the entire organism. To expose the peritoneal cavity during a long time had a well-known bad influence on the heart, the intestines, and the serosa. The importance of hæmostasis for the aseptic healing of wounds was universally recognized. The drier the wound, the better were the chances for primary healing. On the other hand, the blood as soon as it left the vessels lost its bactericidal properties and became an excellent medium of culture for the micro-organisms. This being especially the case with the peritoneal cavity, for abdominal operations exact hæmostasis was at least as important as exact asepsis. Next in importance came the choice of the operative route. Neither the operation per vaginam nor per laparotomiam should be condemned on principle. A last point where antisepsis and technique met was drainage, and especially drainage of the peritoneal cavity. It was an established fact that drainage, even on the greatest scale, had no effect whatever on diffuse septic peritonitis. But the case was quite different when we had local troubles to deal with, such as circumscribed abscess, extensive lacerations of the serosa, or contact of the serosa with infectious matter. In these conditions we ought not to expect more in wounds of the peritoneum than in any other wound, and therefore drainage by gauze tampons was necessary. From all this the conclusion must be that to obtain an entirely satisfactory result, antisepsis and improved technique had to go hand-in-hand. The one without the other was not sufficient. The history of intraperitoneal treatment of the stump in myomotomy furnished a good example of the importance of technique in relation to antisepsis. Antisepsis was easily learned and executed. But technicalities were more difficult to learn; they represented an art that demanded above all things a born aptitude. It was high time for instruction in surgical technique, of late much neglected for antisepsis, to be reinstated in its place of honor.

Dr. Alexander, of Liverpool, remarked that antisepsis and technique went always hand-in-hand, and that therefore it was difficult to compare their relative value. He would draw a distinction: in the early days antisepsis continued during the operation (and sometimes killed the patient); nowadays it ceased with the beginning of the operation, the point at which technique began. The lessening of mortality was due to both combined.

Dr. Robert Bell, of Glasgow, emphasized the point that rapidity was not the great thing, but rather sharp knives, so as to inflict as little damage as possible on the tissues. He thought it was of value to have a small hand, so that incisions (into the abdomen) might be smaller.

Dr. Hartmann, of Paris, discussed the improvement lately in results of abdominal operations. The decrease in mortality in his own statistics had been enormous, especially in hysterectomy. He thought it was due, on the one hand, to a more general adoption of the vaginal route; and on the other to improved technique of the abdominal route, especially in the more careful limiting off of the field of operation by compresses and the Trendelenburg posture. It was also due to a more painstaking hæmostasis, to the careful restoration of peritoneal surface, to the abandonment of the large silk ligature in tying off pedicles *en masse*, and to the substitution of asepsis for antisepsis.

Dr. Keiffer, of Brussels, simply agreed with Dr. Richelot's remarks.

Dr. Jonnesco, of Bucharest, drew the attention of the congress to the fact that in some clean cases, even with perfect asepsis and technique, there was suppuration. What was the causative factor? To him it was unknown. He thought that nowadays there was a decided tendency to exaggeration, both in asepsis and technique. Ungloved hands, unmasked mouth, uncovered moustache had never given him bad results. The tendency toward too rapid operating was reprehensible. As Schede had said, one should be a good anatomist to operate well. Some unsuccessful cases had been, he was sure, due to a lack in this respect. With regard to technique, he did not regard the angiotribe as an advance. He had used all kinds. There was too great risk of secondary hemorrhage.

Dr. Straatz, of The Hague, agreed with Dr. Bumm. He thought the main thing was to avoid infection; method imported little. Septic cases should be isolated. In one hundred and thirty clean cases, keeping septic cases away, he had had no mortality.

Dr. Doyen, of Paris, said that, granted asepsis, the success of operations depended altogether on technique. Every major operation should be simplified as much as possible, and its technique absolutely and mathematically determined. Thirdly, the surgeon should be able to appreciate, almost intuitively, the vital resistance of the patient. He then described his own methods of securing asepsis. He had not used iodoform for ten years. Its supposed good effect in tuberculosis he thought was due to the mechanical irritation of the gauze on a raw surface. In its stead he used glutol powder and glutol gauze. He was about to publish an account of experiments with a new ligature and suture material. He believed in drainage in any operation likely to be followed by much serous oozing.

Dr. Rein, of Kieff, disagreed with the statement of Dr. Richelot, "that the very best antiseptics were insufficient, as demonstrated bacteriologically." He believed we could accomplish perfect asepsis, although it was difficult.

Dr. Smith, of London, remarked that asepsis was more important than technique; the latter would be in bad case without the former.

**Cinematoscopic Exhibition.**—Dr. Doyen, of Paris, exhibited a number of cinematoscopic views which had been demonstrated for the first time last year at the British Medical Association meeting in Edinburgh. They represented a series of operations in general surgery as performed by himself. What was chiefly remarkable about the operation was the rapidity with which they were performed. A large window in the cranium was opened, and the brain was exposed in between three and four minutes from the beginning of the incision. A thyroidectomy was done in about three minutes. Hæmostasis throughout, when possible, was effected by the angiotribe. An appendectomy was done in about the same time. Other operations shown were an oöphorectomy for moderate-sized cyst, an excision of a traumatically ankylosed knee, a modified Syme's amputation, and a second craniotomy on a dry skull, showing the steps of the operation with greater clearness than in the first. Dr. Doyen called attention to the important part such demonstrations should play in the teaching of surgical technique, and

laid stress, not on the rapidity of the operations, but on the clearness with which each step could be followed by a large audience of students.

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GYNÆCOLOGICAL SECTION.

*Third Day—Thursday, August 10th.*

**Treatment of Metrorrhagia and the Early Diagnosis of Cancer.**—Dr. Boisseau du Rocher read a paper with this title. His treatment consisted in the application, by electrolysis, of the oxychloride of silver to the uterine mucosa. It gave prompt results in cases of metrorrhagia, metritis, and in some cases of salpingitis. He used a very feeble current (4 to 10 ma.), which therefore could not possibly do harm. The process also was of great value in making an early diagnosis in uterine cancer. There were three signs: (1) Persistence of hemorrhage after several applications of the oxychloride. He could say definitely that hemorrhage arising from other causes than cancer would be arrested by his treatment. (2) The incomplete formation of the oxychloride and the defective adhesion or absence of adhesion of the silver stem of the apparatus to the uterine wall, such as occurred always in cases other than cancerous. (3) The inertia of the uterine muscle and its lack of response to electrical stimulation.

The first two signs had only a presumptive value, whereas the third had an absolute value. The union of the three gave absolute certainty of the presence of cancer.

Dr. Revnier, of Paris, related the history of a case in which the diagnosis had been very difficult; in which, indeed, he had diagnosed fibroma. The author, upon the evidence of his method, declared for cancer, which was proved by operation.

**Appendicitis in Women.**—Dr. Villar, of Bordeaux, in this paper insisted on the frequency of the relation in time between appendicular attacks and menstrual periods. Diagnosis was the important point. Appendicitis might be confounded with an inflammation of the adnexa, and vice versa, or they might coexist. He reported several illustrative cases. He insisted on prompt interference—within two or three hours of making the diagnosis.

**Experimental Investigation into Uterine Atrophy following Castration.**—Drs. Jentzer and Beuttner, of Geneva, read a paper with the above title. The experiments had been performed on ten cows, thirteen rabbits, and four dogs. In the series on cows atrophy had been constant and was most marked in the uterine musculature, this being largely replaced by fibrous tissue. It was evident both macroscopically and microscopically. The results in rabbits and dogs were similar. In six of these ovarian extract (0.1 to 0.2 gm. daily) had been injected subcutaneously, but had not prevented atrophy. The animals had been killed from the sixty-fourth to the one hundred and thirty-fifth day after oöphorectomy. In the other series similar periods were allowed to elapse before killing.

**The Use of Salipyrin in Gynæcology.**—Dr. Beuttner, of Geneva, read a paper with the above title. He reported a series of twenty-four cases. His conclusions were that salipyrin may be used with success in: (1) menorrhagia, with or without lesions of the adnexa; (2) metrorrhagia, with or without lesions of the adnexa, except in case of cancer and other tumors, and of labor or abortion; (3) hemorrhage arising from the menopause; (4) hemorrhages coming on some time after labor or abortion; (5) in threatened abortion; (6) dysmenorrhœa; (7) in uterine derangements of the nature of periodical neuralgic symptoms; (8) in menstrual pain in the absence of serious uterine lesions; (9) in conditions of psychical depression before or during menstruation.

**Vomiting of Coffee-Ground Material after Anæsthesia in Gynæcological and Obstetrical Cases, in which Instrumental or Operative Interference had been Resorted to.**—Dr. Beuttner, of Geneva, in a short paper called attention to this fact, which he had observed in seven cases, and which he had not seen elsewhere reported. In four it had followed operative interference for difficult parturition; in three, gynæcological operations. There were no digestive or cardiac abnormalities in any of the cases. The vomitus consisted of altered red cells, detritus, and mucus cells. He pointed out the necessity of differential diagnosis from cancer. In one autopsy nothing was found but numerous hemorrhagic erosions near the pylorus. Concerning the etiology he could come to no satisfactory conclusion. It might lie in the fact of the stomach being a hollow viscus, and in the peculiar arrangement of its terminal vessels. The anæsthetic had nothing to do with it. The hemorrhage might be considerable; it might occur during, immediately after, or some hours after operation.

**Resolvent Action of High-Frequency and High-Tension Currents upon Congestive Hyperplasia of the Uterus.**—Dr. Doumer, of Lille, reported two illustrative cases, one an acute hemorrhagic metritis, the other a chronic hypertrophy of the body of the uterus. He used a simple metallic hysterometer, insulated in the portion passing through the vagina by either a glass or a rubber tube. He concluded that, apart from their action on pain and on amenorrhœa (as previously noted by Dr. Maugin, of Marseilles), these currents possessed decided resolvent properties upon congestive enlargements of the uterus. Sometimes it needed only three or four applications of ten minutes each. The treatment was not only painless, but was absolutely not felt by the patient; and it produced no post-operative reaction. The technique was simple. In a series of eight cases he had had six successes and two failures.

**Abdominal Hysterectomy in Connection with Cæsarean Section.**—Dr. Carstens, of Detroit, read this paper. The author divided pelvic contractions necessitating Cæsarean section into (1) temporary, *e.g.*, by a tumor or other removable obstruction; (2) permanent—bony deformity, etc. In the first he would advise a Sänger operation; in the second a Porro. He then related the histories of six cases, four of which he had previously reported. In the technique of the hysterectomy he laid stress on the following points: (1) Chloroform should be the anæsthetic; (2) dry sterilized catgut for the ligatures; (3) the use of four clamps to control hemorrhage until the arteries could be ligatured separately; (4) no attention at all should be paid to the placenta with the idea of controlling hemorrhage. His conclusions were as follows: (1) In cases of permanent deformity requiring Cæsarean section, with a living child, the whole uterus should be removed. (2) If the child is dead before the section, the choice should be left to the parents. (3) When the patient had been in labor and the os was thoroughly dilated, complete removal, including the cervix, was indicated. (4) When section was to be done before the beginning of labor, the removal of the uterus, leaving the cervix, was the easiest method. (5) In cases in which relief could be had by an immediate or a future operation leaving normal pelves, the classical Cæsarean section should be done. (6) However, in all cases the choice of operation should always be left to the parents.

Dr. Palmer Dudley wished to make one criticism concerning the use of clamps advised by Dr. Carstens. If he was intending to do a Sänger operation and leave the uterus, he would use the ligature, because the clamp injured vessels too much. If he purposed doing a Porro, he would use the clamp. He had done

Cæsarean section three times, saving both mother and child in all. His method differed from Sänger's, and was as follows: He made a small incision, leaving a scar of five inches. He obtained perfect hæmostasis by an elastic ligature slipped over the uterus. He used constant irrigation with saline solution from beginning to end. He did not deliver the uterus till he had emptied it of the fœtus; as the child was delivered from the uterus, the uterus was delivered from the abdomen, thus avoiding any blood, etc., finding its way into the abdominal cavity. Then he turned hot saline solution into the uterus, causing contraction; he then quickly delivered the placenta and closed the wound. As to craniotomy on the living child, he would always reject it, believing that Cæsarean section, besides saving the child, was safer.

Dr. Goldspohn, of Chicago, wished merely to call attention to the transverse incision in the fundus from the points of origin of the tubes (approximately) across the fundus; a method preferred by most of those who had used it (Germans) to the longitudinal median.

**Total Abdominal Hysterectomy in Suppurations of the Adnexa.**—Dr. J. L. Faure, of Paris, read a paper with the above title. He remarked that, although the vaginal route was preferred by many in conditions of this nature, it was yet often incomplete, and frequently left fistulæ, while recurrences were common. The abdominal route allowed a complete cleaning of the pelvis, and he would advise it always in the case of chronic bilateral lesions. If the infection was acute he still advised a vaginal operation, followed later, if necessary, in the quiescent stage by an abdominal hysterectomy. He then described the technique of his own operation for total abdominal hysterectomy. He cut the uterus in the median line in halves from above downward into the vagina, the mucosa of which he then cauterized. He then dissected away each half with the adnexa from below upward, tying the arteries as he came to them. He maintained that the superiority of this operation in difficult adherent cases was evident. He presented statistics of fourteen operations of this nature with one death. Of these, five or six had been very extensive cases.

Dr. Duret, of Lille, would insist on the vaginal route for acute cases. He drew attention to a class of cases, not well known, which he would call "uterine pyæmias." In an autopsy on such a case the only lesion found had been purulent foci in the uterine wall and a suppurative phlebitis in the broad ligament. He had done abdominal hysterectomy in several such cases, which all resulted fatally; whereas in another case, operated per vaginam by morcellement, the patient had survived.

**Colpohysterotomy in the Treatment of Irreducible Uterine Inversion.**—Dr. Duret, of Lille, presented a communication on this subject. After mentioning the various methods heretofore in use, the speaker rejected hysterectomy as it sacrificed the uterus; he then proceeded to describe his own operation, which he called "posterior colpohysterotomy." It consisted in incising the posterior cul-de-sac, and then cutting open the uterus in its whole length, cervix and body, by a posterior median incision. He then simply reduced, and at the same time folded the two sides forward, so that the posterior incision lay anterior. He then sutured the uterine wound with catgut. He had obtained complete cure in three cases.

Dr. Faure, of Paris, asked Dr. Duret if he had seen what became of the broad ligaments. Were they twisted?

Dr. Duret replied that he did not know; but that probably they straightened out. The cervix, in any case, did not undergo torsion.

Dr. Dudley, of New York, maintained that we could convert any seemingly irreducible inversion into a reducible one by doing a laparotomy and dilating the cervix from within; and that this was, in his experience, much easier than was generally supposed.

Dr. Carstens, of Detroit, asked Dr. Dudley what he did with the raw surface of the fundus uteri left in such a case by the tearing of adhesions and the manipulations of reduction.

Dr. Dudley replied that he covered the fundus with iodoform gauze, and that this prevented subsequent adhesions.

**The Alexander Operation Combined with Inguinal Cœliotomy via the Dilated Internal Ring.**—Dr. A. Goldspohn, of Chicago, presented a communication upon this subject, illustrated with six drawings. He stated that the round ligaments were the only available structures which grew with the pregnant uterus and became involuted with it after labor; and that shortening them by way of the inguinal canals was the only operation whose published results after labor, so far, proved it able to stand that test. But to this end, and to make women well, more was needed than the operation as done by Alexander. A finger must be introduced through the internal ring—simply stretched—to determine the degree and effect of the shortening of the ligament; to liberate the organ when adherent, and to draw the ovary and tube into the same opening for resection frequently and for removal rarely. He then described the details of his operation (already published in the Medical Record). He had had no death in over one hundred and seventy-five total cases. One partial hernia, due to an accident five weeks after operation, existed in one hundred and twenty-five traced cases. He reported results in forty-nine consecutive cases after an average of eighteen months' observation. In six cases the women passed through normal pregnancy and labor subsequently, and in each case a normal position of the organs was found after an average period of three months.

Dr. Carstens, of Detroit, said that opening the peritoneum twice involved more risk than once; that one central incision gave a better view and was effectual; and that hernia, in Dr. Goldspohn's operation, might be more frequent when done by those less experienced than the author.

Dr. Goldspohn replied that he had never seen any complete hernia following the operation. In fact, previously existing herniæ had in several cases been cured.

*(To be continued.)*

## CANADIAN MEDICAL ASSOCIATION.

*Thirty-second Annual Meeting, Held in Toronto, August 30, 31, and September 1, 1899.*

*First Day—Wednesday, August 30th.*

The thirty-second annual meeting of the association was called to order at 10:30 A.M., Mr. Irving H. Cameron, the president, occupying the chair, and Dr. F. N. G. Starr acting as general secretary.

**Tuberculosis in Canadian Cattle and Its Prevention.**—Dr. George J. Adami, of Montreal, contributed a paper with this title. In connection with the discussion of this subject, there were three questions, he said, which were asked and had to be answered: (1) Was tuberculosis in cattle a source of danger to other cattle, so as seriously to affect their well-being and to be a source of loss to the owners? (2) If infectious from animal to animal, was it infectious from animal to man and thereby a grave source of danger to the human race? (3) If infectious from animal to man, what were the commonest modes of infection, and, as a sequel to this, how were we to diminish the danger? The answer to the first question was an unqualified affirmative. For instance, there was abundant evi-

dence in Canada that the introduction of an infected bull into a herd had been followed in a very short time by the appearance of the disease in some members of that herd. A comparison of statistics in this regard with those of other countries showed Canadian cattle in a very favorable light, and there was no country on the face of the globe that could show such favorable results as Canada. The speaker instanced the case of ninety thousand cattle subjected to inspection at Montreal in 1894, out of which number only sixty animals were rejected, and of these only two had tuberculosis to a very limited extent. He then spoke of the importance of keeping all imported cattle for breeding purposes in quarantine for seven weeks, and if, after that length of time has elapsed, they failed to react to the tuberculin test, they might be handed over to their owners. Speaking to the second question, he thought the reliable information on this subject was very scanty. Canadian cattle were singularly free from the disease. The lungs of twenty-five hundred and four animals were examined in 1894 in the abattoirs in Montreal, Halifax, and St. John, N. B., and only fourteen had any evidences of tuberculosis, *i.e.*, 0.6 per cent. It was exceedingly doubtful if any other country could show better figures.

**Results already Achieved at the Muskoka Cottage Sanatorium.**—Dr. J. H. Elliott, the medical superintendent, after an historical description of the establishment of the institution and its management, gave the results already achieved there. As discharged, the patients were classified under the terms "apparently cured," "disease arrested," "improved," "stationary," "failed," or "died." He proceeded to describe these terms and then submitted a statement of seventy-two cases discharged during the last nine months of the year ending June 30, 1899. Of these, sixty-one had bacilli when admitted and forty-seven when discharged, the average stay at the sanatorium being one hundred and fifty-two days. Twenty-five to thirty-five per cent. of those treated had no bacilli on discharge. Eighty-three per cent. of the seventy-two gained in weight, eleven and one-half pounds being the average gain. For one month, the maximum gain was eighteen pounds, and forty-three pounds the maximum total gain. Of the incipient cases, sixty-five per cent. were apparently cured, and this might have been increased to eighty per cent. with a longer stay. The time that had elapsed since the discharge of the first year's patients ranged from twelve to eighteen months. Twelve were reported apparently cured. In none of these had there been a return of the cough, and all were in the best of health.

**Christian Science.**—Dr. J. H. Richardson, of Toronto University, handled this topic without gloves. He quoted freely from "Science and Health," and, amid the hilarity of his audience, ridiculed the whole subject most unmercifully. He said it was a conglomeration of deceit, blasphemy, mesmerism, and avarice. Mrs. Eddy herself had had four husbands, and therefore, in her own personal experience, the "mental fluid" had not exerted its usual potency. He considered poverty a stern reality, not to be dissipated by the logic that "God is good."

**President's Address.**—Mr. Irving H. Cameron delivered an able and scholarly address on the subject of the overcrowding of the profession. He pleaded strongly for the elevation of the standard of matriculation, and thought that if the examiners at these examinations would only do their duty by the profession and the public the profession would not be crowded with men who were better fitted for other walks of life. He thought that too often men were allowed to slip through these examinations who had a very scanty common-school education, and that, once through, there was no means of stopping them in their medical career, as the pernicious system of allowing them to come up year after year to take one or two subjects would not prevent them from becoming practitioners, though their course extended sometimes from seven to ten years. Lack of proper respect on the part of the younger men toward the older also came in for some attention. He spoke of the undoubted honor conferred on the whole profession of medicine when, a short time ago, Her Majesty conferred the honor of knighthood upon Burdon Sanderson, Michael Foster, and Mitchell Banks; and with very perceptible sorrow he concluded his address by a reference to the death of members of the association during the past year, particularly mentioning three past presidents, Drs. J. E. Graham, of Toronto; H. P. Wright, of Ottawa; and J. H. Mullin, of Hamilton.

**An Experience in Formaldehyde Disinfection.**—Dr. F. Montizambert, director-general of public health, of Ottawa, gave the history of an outbreak of smallpox on board the *Lake Huron* steamship, twenty-six days out from port on the Black Sea, with twenty-four hundred Doukhobors on board. All of the passengers were landed on June 9th, the vessel was disinfected by the 13th, and a new crew put in by 4 P.M. on the 14th. A solution of formaldehyde was employed, and twelve ounces of this was allowed for each one thousand cubic feet of space. Two and a half months had since elapsed, and there had not been reported a single case of the disease occurring among the passengers.

**Massage and the Relief of Eye Strain in the Treatment of Glaucoma.**—Dr. George M. Gould, of Philadelphia, stated that generally all cases of glaucoma first came under the notice of the general practitioner. Four years ago he wrote concerning glaucoma that massage properly applied seemed to exert a beneficial action in stimulating and arousing normal functions generally. He illustrated this plan of treatment by citing several cases in which it had been employed with beneficial effect, and concluded by describing his method of operation. It was to be done with the soft parts of thumbs and the tips of the fingers. In this way all venous and lymph spaces were cleared and broken.

**Treatment of Acute Digestive Disorders of Infancy.**—Dr. A. R. Gordon, of Toronto, first gave a concise description of the different gastro-intestinal disorders and then dwelt more fully on the treatment and management of these cases. If the attack was a simple one the suspension of all food for from eight to twenty-four hours might be all that was necessary; water might be allowed for thirst. After this period was past, rice water and such like fluids might be permitted. Liquid peptonoids he had found very satisfactory in those of more serious aspect. It was necessary to persist in this diet for days, until all symptoms had disappeared and the child was perfectly convalescent. Cow's milk should be the very last article of diet to be allowed. Calomel with sodium bicarbonate should be early administered until the characteristic bile stools are seen, and even for some time thereafter the bowels should be watched and phosphate of soda or aromatic syrup of ginger employed to keep them in condition. In cases which become exceedingly chronic, paregoric in suitable doses may be employed.

Dr. Holmes, of Chatham, Ont., spoke of the advantages of hydrotherapy in these cases.

Dr. A. L. Benedict, of Buffalo, discountenanced opium and astringents, and said he had found catnip tea a valuable sedative to be employed.

**A Case of Subcutaneous Emphysema.**—Dr. Fred Fenton, of Toronto, reported this case, which occurred in a child of six and one-half months of age. The child had been described to the doctor as being perfectly well up to five months, except a slight attack of bronchitis about the third month. On December 23d

last, five days before death, the baby was very restless, but had no cough to any amount. In fact, cough was not a marked feature at any time. Swelling was noticed in the greater part of the neck, chest, and shoulders, passing upward over the head and face and also downward over the chest and abdomen. It was limited to the neck behind and as low as Poupart's ligaments over the abdomen. A post-mortem was made about six hours after death. The point of entrance of the air into the pleural sac could not be discovered. The spleen was large, and grayish tubercles were scattered over its surface; the liver was also large. There was no gas formation in any of the internal organs. Microscopic examination of the tissues showed tubercle bacilli in the lungs, a few in the liver and spleen, and none in the kidneys. The father, a man of fifty, had suffered from winter cough for years because of chronic bronchitis. There was no direct evidence of tuberculosis in the mother, but she was poorly nourished and looked a fit subject for the disease.

**The Successful Treatment of Three Important Cases by the Combined Form of Treatment.**—Dr. G. H. Burnham, of Toronto, recited these histories and his plan of treatment for specific iritis. Pilocarpine was employed hypodermically, from gr. $\frac{1}{40}$ to $\frac{1}{4}$, in a series of sittings, consisting of from ten to fourteen injections. An interval was then allowed to elapse of from three to eight weeks, during which time the patient was taking internally the bichloride and the iodide of potash. Then another sitting was repeated. Before each injection the patient was made comfortable in a room at a temperature of 75° F., and lay either on the left or right side as convenient. In winter a hot-water bottle was used to the feet. The proper effect of the injections was shown by perspiration and a free flow of saliva; the latter varying from six ounces to a pint. At the end of an hour the patient got up and dressed and went home. Two hours afterward he could take his food. The speaker generally gave the injection about two hours after the mid-day meal. As to the length of time this treatment should be continued there was no limit. In some a few months would suffice, while in other it was continued for three or four years. No relapses occurred in this treatment.

**The Best Method of Dealing with the Consumptive Poor.**—Dr. E. J. Barrick, of Toronto, dealt with this subject. He advocated: (1) The establishment and maintenance of rural sanatoria in connection with each municipality or group of municipalities; (2) the erection and maintenance, in connection with the above sanatoria, of suitable buildings for the reception and treatment of such advanced cases of the disease as are incapable of cure; (3) the co-operation of the Dominion government, provincial legislatures, and municipalities, and philanthropic and charitable individuals, in providing the funds therefore. Dr. Barrick spoke of the good results that had been obtained in these institutions and thought that the consumptive poor ought to be allowed to participate at the expense of the public generally.

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*Second Day—Thursday, August 31st.*

**Skin Clinic at St. Michael's Hospital.**—There were about thirty cases shown in this clinic, and among them were several rare cases, such as dermatitis herpetiformis, larva migrans, urticaria pigmentosa, hydrocystoma, hydradenitis, favus, molluscum contagiosum, exfoliative dermatitis following psoriasis. Drs. A. R. Robinson of New York, Shepherd of Montreal, Graham Chambers of Toronto, and A. McPhedran of Toronto took part in the discussions.

**Erysipelas, with Treatment by Marmorek's Serum.**—Dr. A. de Martigny, of Montreal, stated that during the last fourteen or fifteen months he had had occasion to treat several cases of erysipelas of the face with Marmorek's serum, with very gratifying results. He described one case which proved more interesting than the others, in which tonic and general treatment had been employed for five days without any appreciable result. The temperature, which had been 105° F., with pulse rate 148, on the next morning after the injection of this serum (20 c.c.) was normal, with the pulse running at 96. Next day the pulse was normal, and in five days the patient was able to go back to her work. The previous treatment had been a thirty-per-cent. solution of ichthyol as an application, with iron and quinine internally. In addition to the injection a solution of bichloride 1:4,000 was employed externally. Other cases were cited which proved equally interesting, and the doctor then spoke of the beneficial results the antitoxin exerted in the prevention of relapses.

Dr. R. W. Powell asked for information concerning the method of injection, and if 20 c.c. was the usual amount to be employed.

Mr. Cameron confirmed Dr. Martigny's treatment, and said that he had tried this treatment very recently in four or five of his own cases with good results. He further instanced one case in which seven attacks or relapses occurred in fourteen months, but since using this treatment in that patient no relapses had occurred.

Sir James Grant, of Ottawa, said that thirty-two years ago, when this association was organized, this subject was then not even in its infancy. Since then, great advances, however, had been made, and he hoped Dr. de Martigny would prosecute his researches further in this direction. In 1860, Sir James himself received a very severe blood-poisoning and was in a very feeble state of system and near the point of death. In 1863, he was induced to try the influence of the serum of ordinary vaccine injected into his system. He further spoke of the treatment of severe cases of skin disease at that time by the same method, particularly psoriasis, as illustrating the fact that serum therapy was in vogue even in those days.

Dr. Irwin, of Weston, believed in serum therapy, and instanced a case of scarlet fever in which he gave a child 10 c.c. After two weeks, the child developed erysipelas. In twenty-four hours the disease was in a very bad stage. On the second day 10 c.c. of Marmorek's serum were injected with no result, and the child died.

Dr. de Martigny, in replying to the criticisms, stated that 10 c.c. might be sufficient in a given case providing the serum were taken from the same family of streptococci as represented in the disease, but as this was not always known, 20 c.c. was the amount best to be administered. He concluded by asking the members of the association to give this treatment a fair and impartial trial for the next twelve months, and report their results at the next general meeting of the society.

**Complications and Treatment of Fracture of the Skull.**—Dr. J. M. Elder, of Montreal, said that his paper referred to fractures at the base of the skull. During the past summer he had had seven cases of these injuries in the Montreal General Hospital, five of them being there at the same time, and all the seven cases ended in recovery. These series of cases made him study up the subject, and the good results of the routine treatment followed caused him to wonder whether we as general practitioners were not too prone to think that in this form of injury treatment was useless. He considered such an attitude quite unjustifiable, as it would be in a compound fracture of the tibia, for instance. The history of the first case cited was as follows: A young girl, aged eight years, on May 30th was rendered unconscious as the result of

a fall of fifteen feet, striking on the head. There was a large hæmatoma about the parietal bone and a depressed fracture above the left ear; the pupils were widely dilated; blood was oozing from the nose and ears. Bright red blood in small quantities was vomited, which on examination with the mirror was found to be originally dripping from the vault of the pharynx. Something had to be done at once. The left common carotid artery was immediately tied, the injury being on the left side; the patient regained consciousness on the third day, and the temperature kept fairly good. On the twelfth day she developed thromboses in different sinuses, but she fully recovered, and left the hospital, perfectly well, after a period of twenty-six days' habitation. She continued well, and was in perfect health at the present time. The histories of the other cases were given, after which Dr. Elder detailed the routine treatment to be followed. Absolute rest in bed and quiet, and attention to the mouth, nose, and ears were enjoined.

Dr. Lett, of Guelph, Ont., brought up the question of mental trouble following these injuries and whether any symptoms of this nature followed the act of tying the carotids.

Dr. Shepherd, of Montreal, mentioned that he had tied the carotid many years ago for an injury of this character. In his case, there was a gradual loss of consciousness after the accident, and then he had operated and had found a large clot at the base of the skull. The hemorrhage was so profuse that he tied the common carotid immediately. There were no mental symptoms afterward in this case.

Dr. Elder stated he had assisted Dr. Shepherd in operating on that case, and had but recently heard that that patient had become insane, which fact Dr. Shepherd, however, took occasion to deny. He was watching this case carefully to see if any such symptoms did supervene.

Dr. Atherton, of St. John, N. B., stated that he had seen the carotid artery tied in the case of a medical man of St. John and no mental symptoms followed; and if any of the members should hear him orate on a medical or political topic, he would perceive that his mental faculties were all right.

Dr. Bell, of Montreal, thought that certainly many cases could be relieved by prompt interference. We could do very little to avert the mental symptoms which were the direct result of the traumatism; but we should not let these patients die of hemorrhage. The great point was to know when to interfere, and to interfere promptly.

**Observations on Adenoids and Enlarged Tonsils and Their Removal.**—Dr. D. J. Gibb Wishart, of Toronto, in a four years' service at the Hospital for Sick Children, gave the results from 1896 to 1899 of a total of 103 operations, 47 being boys and 56 girls. Twenty-four per cent. were under five years of age, twenty-four per cent. were over ten years, and fifty-two per cent. were between five and ten years. Some of these were examined some years after operation. In only sixteen cases could an examination be obtained, and only four of these showed any return of the disease. Five of the patients had been previously operated on by other surgeons. Two deaths occurred, both from the anæsthetic. In forty-seven per cent. of the cases there were enlarged tonsils. Dr. Wishart spoke of the diagnosis of adenoids, and said that the facial expression was most helpful. The nose was flattened and broadened between the eyes. In discussing the employment of anæsthetics in these operations, he favored chloroform, nitrous oxide gas being too evanescent in its effects to prove beneficial. Ether at times could be advantageously substituted for chloroform. Tonsillotomy was too frequently performed.

Sir William Hingston had rather that Dr. Wishart had confined himself to one or the other topic because remarks on one did not apply to the other. It occurred to him that when we found these adenoids present we should operate as soon as possible. There was nothing to be gained by waiting. When he came, however, to the tonsils, that was a very different thing. He thought many operated there altogether too frequently. He had seen whole families of children with enlarged tonsils, and when they grew older the tonsils came down to their normal condition. He had seen the tonsils almost meeting, and yet had hesitated to remove them. He also took exception to the use of the spray in the nasal cavities, as the membrane of the nose was unaccustomed to it. For years he had not used water medicated in any way for use in the nose. He preferred to get there by the proper application of powders.

**Tuberculosis and Insurance.**—Dr. John Hunter, of Toronto, contributed this paper. He spoke of giving applicants for life insurance the advantages of progressive medicine and of the modern thought of the day. It was the first and most imperative duty for examining physicians to be honest for their employers. It was the duty of the physician to furnish the medical director with a full, accurate, and honest report in all cases. The purport of the paper was to invite discussion, that might be used to define more clearly "where we were at" with reference to the relationship between tuberculosis and insurance. He spoke of the causative and predisposing factors of tuberculosis, viz., environment, physical condition, and hereditary tendency. Of the latter so much stress was not now laid on heredity as formerly; the disease was infectious just as scarlet fever was infectious, only with a longer incubation period. He quoted Dr. Bryce as saying that about eighty per cent. of deaths from tuberculosis occurred among working classes or individuals working at trades.

Sir James Grant, of Ottawa, entered a strong plea for the establishment of a great national society such as that instituted by Sir William Broadbent in England, over a year ago, for the spread of information among the people with regard to this disease and the means necessary to be adopted to stay its ravages.

**Cyst of Broad Ligament.**—Dr. Charles Smith, of Orangeville, Ont., related his experience with a case of this kind. He described fully the operation he had performed for the relief of his patient, and noted the difficulties encountered in its completion. The tumor was removed through an incision five inches in length, and the patient subsequently enjoyed the best of health for five years, when she succumbed to an attack of apoplexy.

**Implantation of the Ureters in the Rectum in a Case of Exstrophy of the Bladder, with Patient.**—Dr. George A. Peters presented the patient, a little boy aged four and one-half years, who, after the description of the operation, was most thoroughly examined by the surgeons present. In addition to the exstrophy, the patient had also procidentia recti. These conditions were very troublesome, loathsome, and disgusting to friends and should be submitted to operative procedures for relief. Two years ago, Dr. Peters operated on this child for the relief of the rectal condition with very marked and beneficial results. The exstrophy had been removed altogether. The operation was performed extraperitoneally, and the ureters were conducted one on either side into the rectum. Almost immediately after the operation, the rectum manifested a tolerance for the urinary secretion. The child could now go from two to three hours without anything passing from his bowel: at night he could go from four to five hours. Dr. Peters stated there was danger of death in these cases after operation, from an ascending pyelo-nephritis. In animals on which

this operation had been performed, this was the manner of their death.

**Co-Operation of Surgeon and Physician in Abdominal Cases.**—Dr. A. L. Benedict, of Buffalo, took this as the subject of his paper, and pleaded for the co-operation of the medical and surgical attendants upon abdominal cases of tumors and cancers in which both were required in their treatment. He was of the opinion that very often the patient would progress more quickly and efficiently if the case after operation was handed over again to the medical attendant. He proceeded to instance a number of cases in support of his contention, as cancer of the cardia, etc., and asserted that we should not make a diagnosis at the time of the operation.

Sir William Hingston said the diagnosis should not be made at the time of the operation, but that by a process of exclusion it could generally be arrived at satisfactorily.

**Gall-Bladder Surgery.**—Dr. J. F. W. Ross showed a cabinet of gall stones which he had removed in operations; also a mucous fistula in a specimen of the gall bladder. He described at some length the surgical operations of the gall bladder, stating the difficulty he generally had in extracting these stones from the common bile duct. He exhibited an instrument he had devised for this procedure and had had manufactured in England, with which now he could overcome his former difficulty.

Dr. Holmes, of Chatham, Ont., stated that when the gall bladder was enlarged and the abdominal walls were thin, the operation for the removal of these stones became a comparatively easy one. He illustrated on the blackboard how he extracted the stones from the common bile duct without any difficulty.

**Address in Surgery.**—Dr. W. B. Coley, of New York, delivered an able and classical address on the radical cure of hernia. He traced the rise and progress of the operation from the earliest times, mentioning the names and dates of those who had anything to do with improving or perfecting the operation. He then discussed the operation as performed at the present day and noted the rapid progress brought about within the last decade, apportioning to Macewen, Bassini, Kocher, Halsted, and others, the respective honor that should be allotted to these gentlemen. Then a description of their operations was given, and with a reference to femoral and umbilical herniæ he concluded his subject.

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*Third Day—Friday, September 1st.*

**Anæsthesia by Chloroform and Ether.**—Dr. W. B. Jones, of Rochester, described this subject in detail. The anæsthetist was to give his whole attention to the work in hand and take notice of nothing pertaining to the operation. He should be a thorough master of the subject and should countenance no interference on the part of the operator. The preparation of the patient for an operation was quite completely gone into, and then the essayist proceeded to touch on the physical condition of the subject. Referring to the heart, it was not so much heart murmurs that one had to fear as it was a degenerated state of muscular fibre. The capacity of the chest should be understood, and the total quantity of solids excreted in the twenty-four hours, by the secretion of the kidneys, should be known. Attention was then given to the quantity of the anæsthetic, from eight to twelve drops per minute being sufficient to keep the patient anæsthetized. Everything should be close at hand, so that in the presence of an emergency or pending dissolution, prompt service could be rendered. In conclusion, he said the anæsthetist should have a knowledge of the operation that was about to be performed and the length of time that ought to be consumed therein.

**Some Observations on the Treatment of Cancer.**—Dr. A. R. Robinson, of New York, gave his views concerning the epitheliomata, and illustrated by means of a diagrammatic drawing the cases of cancer in which the knife was indicated. He considered that in those cancers in which one could not cut down deeply, as on the scalp and around the nose, an arsenious acid paste was preferable. The composition of this paste should be equal parts of arsenious acid and gum acacia of the consistency of butter. It should be applied and left on from sixteen to eighteen hours to get the right effect. From this would result a complete necrosis *en masse* and an inflammation, but a simple one, with resulting granulation. The speaker took exception to a recent remark of Mr. Watson Cheyne, that all these cancers should be treated early with the knife, and the knife alone. This was an assertion too sweeping in its character.

Dr. Shepherd thought that in the majority of cases the knife was the proper instrument, but in cancer on the scalp or at the side of the nose, escharotics if properly applied were better than any other remedy. Cancer in the first place was local and ought to be treated immediately by removal.

**Dominion Registration.**—Dr. Roddick had this subject in hand, and in an able and exhaustive speech on the whole subject presented the matter in its proper light to the members of the association. The plan or scheme as outlined by him was as follows: There was to be a central board, called the Dominion Medical Council. Each province would have three representatives on that board: one nominated by the governor in council, one appointed by the Provincial Medical Council, and the third the president of each provincial council *ex officio*. All practitioners of ten years' standing in any one province would be, should they so desire, licensed by this Dominion Council to practise in any of the other provinces, but no practitioner would be so licensed until he was a licentiate of ten years' standing. The provincial medical councils were to remain and go on doing their work as in the past. The Dominion would look after the licensing of young practitioners when they desired to practise in any province they pleased, and as aforesaid.

Dr. Arthur Williams, of Ingersoll, Ont., representing the Ontario Medical Council, supported this plan in a strong speech, and at the conclusion moved a resolution indorsing Dr. Roddick's scheme and further authorizing that gentleman to proceed to Parliament at the next session and bring about the consummation so much to be desired.

Dr. McNeill, of Prince Edward Island, seconded the resolution, and numerous other gentlemen supported it, after which it was put to the meeting and carried unanimously.

**Notes on Recent European Conventions.**—Dr. R. A. Reeve, of Toronto, detailed at some length his experiences at several of these meetings this summer while in Europe, at the British Medical, the International Otological, and the International Ophthalmological congresses. He reviewed several of the papers and addresses which he had heard, and spoke of the newer remedies of the silver salts, such as protargol and argentin, which are proving more effective and less irritating than nitrate of silver in conjunctivitis, etc.

**Surgery among the Insane.**—Dr. A. T. Hobbs, of the Asylum for the Insane, London, Ont., read a paper on this subject. He spoke of the essential differences in operating on persons in their right senses and on these unfortunates. The difficulties of securing examinations, especially in women, were dwelt upon, and the large proportion of insane women having pelvic

disease called for immediate attention. Statistics of cases and operations were given, and the percentages of recoveries and improvements. The best results accrued from inflammatory diseases of the pelvic organs when operated on; the operations for perineorrhaphy were not followed by such good results. Ether was always employed as an anæsthetic; chloroform, having proved weakening after operation, was abandoned.

Dr. Ernest Hall, of Toronto, gave it as his opinion that ninety-two per cent. of insane women had pelvic disease.

**Craniectomy for Microcephalus.**—Dr. W. J. Wilson, of Toronto, read a paper with this title, and presented the patient, a boy aged four and one-half years. Before operation, all the child could say was "mamma." In a very short time after the operation, he could say many words and was progressing rapidly. He seemed also to have a good musical ear. He also became straight and erect; previous to the operation he had walked with his body bent forward almost at a right angle.

**The Election of Officers** resulted in the choice of the following: *President*, R. W. Powell, of Ottawa; *Vice-President* for Ontario, Dr. A. J. Johnson, of Toronto; *Vice-President* for Quebec, Dr. A. R. Marsallais, of Montreal; *Vice-President* for New Brunswick, Dr. Meyers, of Monckton; *Vice-President* for Nova Scotia, Dr. W. G. Putnam, of Yarmouth; *Vice-President* for Prince Edward Island, Dr. S. P. Jenkins, of Charlottetown; *Vice-President* for Manitoba, Dr. W. J. Neilson, of Winnipeg; *Vice-President* for Northwest Territories, Dr. Hugh Bain, of Prince Albert; *Vice-President* for British Columbia, Dr. O. M. Jones, of Victoria; *Treasurer*, Dr. H. B. Small, of Ottawa; *General Secretary*, Dr. F. N. G. Starr, of Toronto.

In 1900 the association will meet in Ottawa.

## Correspondence.

### OUR LONDON LETTER.

(From our Special Correspondent.)

SUMMER MORTALITY—ALLEGED INCREASE OF LUNACY—THE GOVERNMENT LABORATORIES REPORT—A HEALTH EXHIBITION—PRIZE DUST CARTS—A BOGUS PATIENT—A FOOLISH RUMOR ABOUT PLAGUE.

London, August 25, 1899.

Another heat wave has been passing over us, and although our temperatures do not reach such as you experience, they have considerable effect on the majority and make a difference in the mortality. Meteorologists are warning us to expect more sultry and oppressive days, to continue until perhaps thunder storms bring about other conditions. The thermometer has been rising about four degrees daily, until yesterday 88° F. was reached in the shade, and to-day seems hotter, so we are likely to pass 90° F. In the country 75° to 80° F. has been a frequent record, but in other places this has been exceeded, and harvesting has been almost arrested by the difficulty of working in the full sunshine. Cases of sunstroke are reported from various quarters, and we have had them in London streets. The usual increase of diarrhœa under such circumstances has had a decided influence on the mortality.

The registrar-general's returns, published in the papers yesterday, show that in the week ending the day before, the death-rate of the great towns had gone up to 25.7. The highest point reached through the whole of last year was 24.6, the point touched again a fortnight ago. In as many as twenty-eight towns the mortality exceeded 20, and in eight of them 30. Among these may be noted: Manchester, 30.3; Plymouth, 30.6; Liverpool, 31.8; Portsmouth, 32.5; Brighton, 33.9; Bromley, 38.3. The number of deaths recorded in London was 2,208, an excess of 473 above the average. Most deaths were due to zymotic and abdominal diseases, and nearly fifty per cent. were those of infants. Here the effect of infantile summer diarrhœa is obvious.

The long-continued dry weather is also having a serious effect. In many villages there is scarcity of water. The rainfall of June and July was far below the average—only one and three-quarters inches, against four and one-half inches. The present month so far has given only one-tenth inch, while the thirty years' average for the whole month is one and three-quarters inches. With only six days to add, we can hardly get the average unless by another August flood, and, unlikely as that seems, we never know what weather to expect for days ahead.

The alleged increase in lunacy is again exciting attention, and the report of the commissioners just issued gives figures which lend some support to those who regard it as a fact. An increase of 3,114 patients certified as insane during the year 1898 is the largest increase yet recorded in any year. Of these, 2,868 are pauper patients, 231 private patients, and 15 criminal lunatics. The entire number of insane persons in England and Wales is recorded as 105,086. These figures certainly afford food for reflection from both a medical and economic aspect. Another point is, that while the numbers in public and private institutions has steadily increased, the rate of recovery has decreased, being lower for 1898 than for the average of the last ten years. The recoveries during the year bore to the average number of daily patients the ratio of 9.06 per cent., and to the total number of patients under treatment 7.39 per cent. Further, the recovery rate has been falling regularly during each quinquennium since 1873. The numbers in asylums and license houses increased more rapidly than those maintained in workhouses or with relatives. This fact accounts to some extent for the continual increase in the demand for accommodation in asylums, leading to the construction of fresh buildings at enormous cost. There are tables in the report showing the assigned causes of the insanity of those patients admitted during the year, but, as the commissioners have pointed out in former reports, the figures cannot be regarded as altogether trustworthy, as they are based on information obtained from friends and other persons. Hereditary influence is named as the cause in 20.4 per cent. of the men and 25.9 per cent. of the women; intemperance in drink, twenty-two per cent. of the men and 9.1 per cent. women. It is probable that intemperance is really accountable for a considerably larger percentage, the tendency to attempt concealment of this vice being great, and its secondary consequences being sometimes overlooked.

The report of the work of the government laboratories for the year ending March 31st has just been published. The samples of food and drugs dealt with were more numerous than for several years past, but there are fewer instances in which the chemists differed in their conclusions from the public analysts. It would appear that the government was guided a good deal, in framing the new act, by the opinion of Professor Thorpe, the chief of the government laboratories, on questions relating to dairy products and on standards of purity. The professor has been appointed on the departmental committee concerning preservatives and coloring matter, and this committee will begin its work in October. During the year fifty-seven samples of tea, representing sixteen hundred and six-

teen packages, were refused admission in consequence of being adulterated or containing leaves which had been exhausted. Out of one hundred and fifty-eight samples of tobacco one hundred and thirty-two were pure and twenty-six adulterated, but the adulteration had not taken place in this country. Penalties were obtained in one hundred and fifty-seven cases for adulterating beer by watering. Lime juice and lemon juice were generally found of good quality. Experiments have shown that butter may give the reactions for cotton-seed oil when the cows had been fed upon cotton cake. Much of the work this year was carried out for the Home Office, on the use of lead glazes and phosphorus.

A very successful health exhibition has been held at Lincoln, at which twenty-three thousand people passed the turnstile, and yet hundreds more were turned away.

The London County Council offered a prize of £25 for the best design for a covered dust-cart, and a selection has been made, so that there is some hope that the nuisance of the old cart will shortly be abated.

Last week a bogus patient was concerned in an attempt to rob a surgery. His confederate attempted to lift convenient articles while the doctor was being consulted. The bogus patient prevented the doctor from going to investigate a suspicious noise, so the thief escaped, but the sham patient was promptly handed over to the police.

A rumor has been widely circulated for two or three days that plague had appeared in a London hospital, but there was absolutely no truth in the report, although some veracious evening papers did not hesitate to assist in its circulation.

## AN INTERNATIONAL LANGUAGE FOR SCIENTIFIC MEN.

To the Editor of the Medical Record.

Sir: The article of Dr. R. Ellis with the above heading, in your issue for September 2d, naturally enough interests me. All I could say about it, however, would only be a repetition of what I have said already. I only wish to ask Dr. Ellis to accept a few remarks about learning a language. The way of teaching languages as it is practised now in general should be interdicted by the authorities or by the societies against cruelty to children. In reality it is the easiest thing for anybody, even not talented, even not otherwise highly educated, to learn quite a number of languages, and all of these so equally well that nobody can distinguish which of these languages is the mother tongue. A German peasant girl, employed by me to do the general housework, had in comparatively short time learned to speak Greek most fluently, simply by being around my little daughter and her Greek governess. Many years ago I had an Irish servant girl, who had been around the children in a Belgian family who lived in New York. When she happened to open the door for French patients of mine the latter were at a loss how to place her, because she spoke French in most refined manner without foreign accent and her appearance was that of a modest houseworker. My little daughter, now eleven and one-half years of age, has learned to speak, to read, to write Greek, French, and English, all in New York, and all without the faintest shadow of an idea of exertion, much less torture. It is impossible for anybody to say which of these three languages is her mother tongue, whether one hears her speak or read, or sees her writing. She speaks German also, but this language she shall learn better later on. Examples of everyday people, mechanics, laborers, speaking three, four, or even more languages you can often meet in the Levant. In New York you can learn as many languages as you like without teacher, without book. I have a method, and one time I thought I was the inventor of this method, but later on I learned that I could not take out a patent because the celebrated Schliemann had invented it before me. But surely Dr. Ellis is quite correct, and there is no exaggeration possible: the learning of a language by the present school methods is an impossibility.

A. Rose, M.D.

## A REAL CHARITY—A TRIBUTE TO THE LATE DR. CRAMPTON.

To the Editor of the Medical Record.

Sir: By special dispensation I was permitted to visit Sea Breeze, the Coney Island summer home which is conducted by the Association for Improving the Condition of the Poor of New York. Practically this is an institution—to use a Hibernicism—"upon which the hand of man has never set foot." Children and their mothers are its exclusive visitors. Men are not allowed within its precincts, except for lunch on Sundays.

Some fifteen years ago parties were organized and sent down by the boat, and the portion of the beach upon which the buildings called Sea Breeze now stand was rented by the association and put to their use. There were then upon the beach a few low structures, just sufficient to keep off the rain and to make lunching pleasant and comfortable. In time the land was bought and the present very graceful buildings were put upon it. Dr. H. E. Crampton, who died in June of this year, had been a very active member and officer of the Association for Improving the Condition of the Poor. He did much to alleviate suffering and to help mankind, and Sea Breeze is an institution with the growth of which he was especially identified and the success of which was in great measure due to his efforts.

The superintendent of the establishment is Mrs. Hartshorn, a lady with white hair, a fine face, and a soft voice, in whose sympathetic spirit and in whose great though quiet and unobtrusive energy are to be found the reasons why the institution is so excellently conducted. The visitors are made at home for one week or ten days or two weeks. There are accommodations for two hundred and twenty-five. Just now some twenty more than that number sleep within its hospitable walls. Besides these there are "day parties" of five hundred, who take the steamboat down and spend the day, leaving for home at four. The youngsters having slept, the boys in one room, the girls in another, each on a mattress upon a bed all to himself (a probably unusual experience), are up anywhere from daybreak to six o'clock. The boys and girls have separate washrooms and each has a separate towel. And to each is given a tooth-brush, which is to be taken home at the end of the visit. Soon there is breakfast. Then the children play upon the sand until eleven, when the "day party" arrives. Then everybody has dinner. At two everybody, great and small, goes into the water. In the evening there is supper, after which comes the dance. This dance is "a cheering sight to see." In one corner of a good-sized hall there is a piano, upon which on the occasion of my visit a girl twelve years old played very creditably "My Pearl is a Bowery Girl," "The Sunshine of Paradise Alley," etc. On the floor were nurses in white duck uniform, dancing with the "kids," some of whom were hardly able to walk. Among these nurses was an exceedingly comely young woman whose countenance, as she danced, beamed with enjoyment, all the more, no doubt, for the reason that she has decided shortly to make an Episcopalian clergy-

man a hopeless optimist for the rest of his days. Intermingled with the visitors were the laundresses and the cooks and those who scour the floors, all in the distinctive dress prescribed by the institution. Women rotund of form, old women, and young women danced with little boys and girls, and these latter with each other. Mothers danced while their gurgling infants were held in the arms of grandmothers who stood at one side or sat on the benches along the walls. These last, many of them bespectacled, looked upon the dance with great enjoyment. Some among them had white hair and fine features which would have illuminated Rembrandt's canvases—"the justified mothers of men," as Walt Whitman wrote of such.

Presently the twelve-year-old got tired and gave place to a nurse. All around the room to alternating waltz and two-step they danced.

> "What though no rule of courtly grace
> To measured mood had trained their pace."

These good people, who came from Mulberry Bend and Bleecker Street and the regions adjoining the Bowery, danced as if their lives depended upon it. With happy faces and muscles quivering with enjoyment, they rollicked in a manner delightful to see.

Thus for a brief season do these women forget poverty and suffering, and drunken husbands, and all the rest of it.

It appeared to me that although many pseudo-charities afflict this city, here is one of those charities which really do help the deserving poor. And I thought it would be fitting if in memory of Dr. Crampton there were placed in the hall of Sea Breeze the legend which is to be found in St. Paul's to commemorate the work of another man: "If you seek his monument, look about you."

JOHN B. HUBER, M.D.

NEW YORK, September 1, 1899.

## ORRHOTHERAPY IN YELLOW FEVER.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I have very attentively read Dr. A. H. Doty's report of a case of yellow fever treated with his recently introduced serum, and I cannot help being surprised that the curing of such a mild case of the disease could be attributed to the serum, when we know that such cases require little or nothing besides keeping the bowels open, an enema or two daily, boiled or Vichy water, a little alcoholic stimulation, and a most rigorous diet during the second and convalescing stages. At least such cases as the one described by Dr. Doty would be considered in Vera Cruz, Córdoba, and intermediate points, where the disease is raging now, especially Paso del Macho and Atoyac, as very mild. The only unfavorable symptom was the large amount of albumin in the urine on the second or third day of the disease, which is always of bad omen.

The description, so carefully given, of the case corresponds exactly to the course of a mild one, in which all the symptoms decline during the third or fourth day and convalescence sets in, even when black vomit and melæna exist, the latter being almost the rule in about thirty cases attended by me during the week ending August 28th.

Without wishing in any way to detract from the merits of the serum, I am forced to confess that the case described by Dr. Doty cannot be considered a fair one on which to try the serum; and that so far, taking into account its failure in Vera Cruz, there is but little, except the hope that in the near future it will do what it is expected to do, to justify us in using it to the exclusion of the other means of treatment at our command.

Dr. Doty's remarks about judicious nourishment and stimulation before it is too late for their administration to be of any value are certainly worthy of notice, and his advice should be followed whenever practicable; unfortunately, though, in practice and here at least, neither the stomach nor the rectum lends itself well to the administration of nourishment. The vomiting and diarrhœa are as a rule so persistent that all attempts at feeding by either route, except in very mild cases, are almost useless.

F. RAMIRO DIAZ, M.D.

PASO DEL MACHO, VERA CRUZ, MEXICO,
September 1, 1899.

## Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending September 9, 1899:

| | Cases. | Deaths. |
|---|---|---|
| Tuberculosis | 163 | 159 |
| Typhoid fever | 70 | 21 |
| Scarlet fever | 57 | 2 |
| Measles | 64 | 9 |
| Diphtheria | 130 | 26 |
| Laryngeal diphtheria (croup) | 7 | 2 |
| Cerebro-spinal meningitis | 0 | 0 |
| Chicken-pox | 2 | 0 |

**Whooping-Cough.**—As whooping-cough is a disease which is eminently amenable to simple treatment when its acute stage has passed, mothers and nurses should be made to understand that in its subacute stage it is mainly a nervous paroxysm which, like that of St. Vitus' dance, can be cured without much difficulty by almost any treatment that will divert the patient's attention from the recurrence of the spasm, especially by the inhalation of any pungent odor such as that of ordinary smelling-salts.

**Paris Hospital Accommodation.**—Great influence is being brought to bear upon the municipal authorities of Paris to induce them to sell the grounds and buildings now occupied by the hospitals of that city and move these institutions outside the city walls, leaving nothing but emergency stations. The total value of the ground now occupied by the hospitals amounts to 166,000,000 francs. The most valuable piece of land is that of the Hôtel Dieu, 200 francs per square metre. —*The Sanitarian.*

**A Rare Obstetrical Accident.**—Mallins reports in *The Lancet* for August 19, 1899, the case of a primipara who had early in pregnancy exhibited a tendency to eclampsia and who had already had two slight "stoppages." The os being fully dilated, chloroform was administered and the forceps applied. The blades slipped over the head with the greatest facility, but the handles could not be locked, the upper blade refusing to coapt with its fellow notwithstanding the most careful manipulation. After several failures it was decided to withdraw the forceps and reapply them. The lower blade came away easily, but on attempting to extract the upper it was found impossible to do so for more than a certain distance. On seeking for the cause of the difficulty the tip of the blade could be felt to be wedged between the head and a much smaller body of an equally firm nature. Any traction on the handle only served to bring this smaller body lower down and increase the impaction of the blade. As the pains were strong and regular and the head was steadily descending, the further progress of the case was left

to nature, the handle of the imprisoned blade being merely guided in the right direction. As the delivery of the upper shoulder and arm followed that of the head, the tip of the blade came into view resting in the bend of the elbow, the hand and forearm having, through some extraordinary mischance, slipped through the fenestra of the blade. The arm was for some days deficient in power as a result of the accident, but it underwent steady improvement.

**Scarlet Fever in India.**—The *Journal of Tropical Medicine* says that the *Indian Medical Gazette* has since 1870 collected a considerable amount of information regarding the prevalence of scarlet fever in India. Up to that time it was believed that the disease was unknown in that country. Col. Kenneth Macleod, writing to the *Journal of Tropical Medicine* on the matter, comes to these conclusions: (1) That scarlet fever has been frequently imported by troop ships and that small epidemics have thus arisen among Indian natives in children. (2) That these epidemics have always been of a limited kind and have speedily died out. (3) That they appear to be more substantial and protracted in hill stations than on the plains. (4) That cases and groups of cases have been observed the origin of which could not be ascertained. (5) That the disease does not appear to prevail epidemically among indigenous races and populations.

**Decline of the Birth Rate in Great Britain.**—Dr. Henry May, writing on the decline of the birth rate in England and Wales during the past twenty-two years, concludes as follows: "The depopulating effect of these low birth rates is neutralized to a considerable extent by an accompanying decline in the death rates; but it would have been more satisfactory to have been able to regard the many lives saved and prolonged by local and general sanitary measures as a clear surplus gain instead of as a partial set-off against other lives allowed to lapse. The default of two hundred thousand births per annum may not be considered any cause for regret in the struggle for existence, but the year 1876, from which this fall dates, marks an epoch. If not "one of the stages on the road of the nation's history," it ushers in such an alteration in the relation between births and population as will considerably modify the nation's future, but one for which different counties and towns have a widely varying amount of responsibility.—*Public Health.*

**Shakespeare and Sanitation.**—An amusing paper entitled "Shakespeare and Sanitation" was read at the annual provincial meeting of the Incorporated Society of Medical Officers of Health, at Stratford-on-Avon, in July. Among other things, the author related the following: "It is interesting to find that the name of John Shakespeare, the father of the poet, first appears in the records of the municipality as owing a fine of twopence for having made a dirt heap with his neighbors Adrien Quincy and Henry Reynolds in Henly Street, and on another occasion he 'stood amerced' in fourpence for failing to keep his gutter clean."

**The Metric System** as a standard of measure has now been established for 100 years in France. It was on June 22, 1799, that the corps législatif of the fourth Messidor legalized the metric system of weights and measures in that country. A letter has been sent out by the Paris inspector of weights and measures warning pharmacists that they must fully adopt the metric system without delay and entirely give up the use of the old methods of weights and measures. The adoption of the metric system has become almost universal and is used in all scientific work even in England. In the new edition of the British Pharmacopœia the quantities of drugs are expressed in terms of grams and cubic centimetres. With the abolition of the many confusing and barbarous systems of weights and measures in use in England and the substitution of the metric system commercial transactions of Great Britain with other countries would be greatly facilitated.—*British Food Journal.*

**Scarcity of Water in Paris.**—A water-famine scare has recently added to the troubles in Paris. It is stated that leakages have been discovered in a large pipe conducting water from the river Varne. Fortunately these are now stopped up, but before this could be accomplished the reservoirs had been robbed of 45,000 cubic metres of water. The latest news states that the repair of the Varne pipe will prevent recourse to taking water from the Seine.—*Sanitary Record.*

**The Wettest Place in the World.**—Cherrapunji, in Assam, northeast of Calcutta, has the reputation of being the wettest place on the earth, the average annual rainfall being 498.15 inches, while it has the record of one month in which 147.17 inches fell. This year it seems bound to beat all previous records, 267.84 inches of rain having fallen between January and the middle of June, five months and a half, while 73.79 inches, over six feet of water, fell in a single week.—*Scientific American Supplement.*

**Treatment of the Pauper Inebriate.**—Dr. L. D. Mason writes as follows in the *Journal of Inebriety:* (1) The pauper inebriate should be recognized as a ward of the State, and his control, care, and maintenance should be provided for by the State. (2) The inebriate should be isolated and treated as a distinct and separate class in the same manner that the insane and criminals are so separated and classified. To place an inebriate in an insane asylum in his weak mental state frequently bordering on insanity, and subject him to the sights and sounds of a lunatic asylum, would be to precipitate him into a state of insanity. To place the inebriate in the jail or penitentiary would be to fix upon him unjustly the indelible stain of criminal.

**Climate of the Hawaiian Islands.**—Dr. Lyon says that the climate anywhere in the Hawaiian Islands near sea level, even in localities where the rain is excessive, is dry rather than humid. It is rarely that the air contains less than one-half the moisture it is capable of holding in invisible form. A relative humidity exceeding ninety per cent. is equally rare and is experienced only during rain storms. One can tell what is the relative humidity very nearly by observing the altitude of the clouds as they hang over the mountain. It is seldom there is anything approaching a fog at sea level. The statistics of relative humidity show an average for the year 1894 of 64.4 per cent. at midday and 78.9 per cent. at night. The figures for February were: mid-day, seventy-two per cent; night, eighty-three per cent. For August: midday, fifty-eight per cent; night, seventy-six per cent.—*Scientific American Supplement.*

**Fainting Women No More.**—Stephen Gwynn, in *The Cornhill* for July, has an article on the decay of sensibility, and contrasts life as it is now with life as portrayed in the novels of Miss Austen. He says: "My object is merely to point out the total disappearance of one quality, so well marked in Miss Austen's day that it gave a title to one of her books, yet now, in so far as it concerns its outward manifestations, nearly extinct as the dodo. I mean, of course, what was called sensibility, the attribute which used to display itself by rapturous joy, by copious tears, by hysterics, and principally by fainting fits upon the most

inadequate occasions. The change is so marked that one inclines to ask one's self whether the physical constiution of woman be not altered within the last half-century. The modern young woman does not swoon promiscuously. . . . A virago can scold and a minx can endure to be scolded nowadays without either hysterics or a fainting-fit resulting. Tears still flow freely, but woman as a rule is not proud of them. On the contrary, a young woman, I believe, will generally apologize for 'making such a fool of herself.' It is no longer considered to be an attraction or even an amiable weakness to be so feminine as all that."

**How Coleridge Acquired the Opium Habit.**—The following has been often quoted, but it cannot be too widely known. It is an account in Coleridge's own words of how he was led into the fatal habit of using opium: "I wrote a few stanzas twenty-three years ago, soon after my eyes had been opened to the true nature of the habit into which I had been ignorantly deluded by the seeming magic effects of opium in the sudden removal of a supposed rheumatism, attended with swellings in my knees and palpitations of the heart and pains all over me by which I had been bedridden for nearly six months. Unhappily among my neighbor's and landlord's books were a large parcel of medical reviews and magazines. I had always a fondness (a common case but most mischievous turn with reading men who are at all dyspeptic) for dabbling in medical writings; and in one of these I met a case which I fancied very like my own, in which a cure had been effected by the Kendal Black Drop. In an evil hour I procured it; it worked miracles—the swellings disappeared, the pains vanished; I was all alive, and all around me being as ignorant as myself, nothing could exceed my triumph. I talked of nothing else, prescribed the newly discovered panacea for all complaints, and carried a bottle about with me, not to lose an opportunity of administering instant relief and speedy cure to all complainers simple and gentle. Need I say that my own apparent convalescence was of no long continuance; but what then?—the remedy was at hand infallible. Alas! it is with a bitter smile, a laugh of gall and bitterness, that I recall this period of unsuspecting delusion, and how I first became aware of the maelstrom, the fatal whirlpool, to which I was drawing, just when the current was beyond my strength to stem. The state of my mind is truly portrayed in the following effusion, for God knows from that moment I was the victim of pain and terror, nor had I at any time taken the flattering poison as a stimulus or any craving after pleasurable sensations. I needed none; and oh, with what unutterable sorrow did I read the 'Confessions of an Opium-Eater,' in which the writer with morbid vanity makes a boast of what was my misfortune, for he had faithfully and with an agony of zeal been warned off the gulf and yet wilfully struck into the current. Heaven be merciful to him!"—*Hutchinson's Archives of Surgery.*

**Word-Blindness.**—Mr. Jonathan Hutchinson says, in his *Archives:* "An interesting example of partial inability to read, or what has been called word-blindness, has been for some time under my observation. The patient is a young man of great intelligence, upon whose education no expense has been spared. I put into his hand a page the first sentence of which chanced to be "The power of the Franks was eaten up by the civil war." After much puzzling he read out, "The power of the Franks was—by the civil war," leaving a blank, but he could make nothing of the words "eaten up." When I suggested them he said he understood their meaning perfectly, but that he had not been able to read them out because he could not spell them. Anything that is told him he can understand, but in spite of great painstaking he cannot read to any profit. In association with this defect he has complete paralysis in the right hand of the extensor secundi internodii pollicis."

**Plague in London.**—In a recent number of the London *Saturday Review* is an article dealing with the likelihood of the plague reaching England, and discussing the question as to whether the sanitary arrangements of London are in a sufficiently effective condition to preclude the possibility of its gaining a foothold there. A sketch is also given of the state of hygienic affairs in old London at the time when the plague was raging. The writer says: "We find in the days of modern sanitary reform a considerable difficulty in realizing the vast opportunities given to filth-living microbes in older London. The personal habits of most of the population were not cleanly; the water supply and the drainage were extremely defective. Great houses had cesspools of immemorial antiquity underneath them; the Thames was lined by public latrines, and the Walbrook, the record of which in plague statistics is notorious, was similarly provided. It was little wonder that as soon as the plague got to London it established itself until practically only those who were naturally little susceptible to the disease were left. Just as the plague spread from house to house rather than from person to person, it became associated with particular ships rather than with the crews or passengers, and we are better able to judge of the insanitary conditions of the ships of the seventeenth and earlier centuries from what it is still possible to see on smaller merchantmen and tramp steamers."

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended September 2, 1899:

SMALLPOX—UNITED STATES.

| | | Cases. | Deaths. |
|---|---|---|---|
| California, San Francisco | July 31st | .. | 5 |
| Florida, Jacksonville | September 2d | 1 | |
| Kentucky, Louisville | August 31st | 2 | |
| Massachusetts, Boston | August 26th to September 2d. | 2 | |
| Ohio, Cleveland | August 26th to September 2d. | 4 | |
| Pennsylvania, Altoona | August 26th to September 2d. | 7 | |
| Texas (Sixteen points in State) | August 26th | 71* | 2* |

* Have, except in two instances, been traced to a hospital at Sedalia, Mo.

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Belgium, Antwerp | August 19th | 1 | 1 |
| Brazil, Bahia | July 29th to August 7th | 3 | 1 |
| Rio de Janeiro | July 21st to August 1st | 55 | 22 |
| Greece, Athens | August 10th | 7 | 2 |
| India, Bombay | August 8th | .. | 6 |
| Mexico, Chihuahua | August 26th | .. | 3 |
| Nuevo Laredo | August 26th | 1 | |
| Russia, Moscow | August 11th | 2 | 2 |
| Odessa | August 12th to 19th | 11 | 3 |
| St. Petersburg | August 10th | 3 | 1 |
| Warsaw | August 12th | .. | 1 |
| Straits Settlement, Singapore | July 15th | .. | 2 |

YELLOW FEVER.

| | | | |
|---|---|---|---|
| Brazil, Bahia | July 29th to August 12th | 3 | 2 |
| Rio de Janeiro | July 21st to August 1st | 3 | |
| Colombia, Panama | August 22d | 20 | |
| Costa Rica, Port Limon | August 18th | 1 | 1 |
| Cuba, Christo | August 11th | 1 | 1 |
| Sancti Espiritu | August 2 th | 2 | |
| Florida, Key West | September 8th | 96 | 7 |
| Louisiana, New Orleans | September 2d | 2 | 1 |
| Mexico, Tuxpan | August 21st to 28th | .. | 9 |
| Vera Cruz | August 25th to 31st | 19 | 14 |
| Salvador, San Salvador | August 1st | 2 | |

CHOLERA.

| | | | |
|---|---|---|---|
| India, Bombay | August 1st to 7th | 2 | |
| Calcutta | July 22d to 29th | .. | 51 |
| Japan, Osaka and Hiogo | August 12th | 4 | 1 |

PLAGUE.

| | | | |
|---|---|---|---|
| China, Amoy | July 22d to August 5th | .. | 425 |
| Hong Kong | July 22d to 29th | 37 | 30 |
| Egypt, Alexandria | August 7th to 11th | 46 | 32 |
| India, Bombay | August 1st to 8th | .. | 75 |
| Calcutta | July 3d to 29th | .. | 16 |
| Formosa, Tamsui | July 29th to August 10th | 13 | 20 |
| Russia, St. Petersburg | August 12th to 21st | 1 | |
| Straits Settlements, Penang | July 14th to 21st | 49 | 30 |
| Singapore | July 15th to 22d | 3 | 5 |

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 56, No. 13.
Whole No. 1507.

NEW YORK, SEPTEMBER 23, 1899.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### THE LEGAL VERSUS THE SCIENTIFIC TEST OF INSANITY IN CRIMINAL CASES.[1]

BY CARLOS F. MACDONALD, A.M., M.D.,

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THE protection of life and property, so far as it can be effected by statutory enactment, requires that offences against either one or the other, when proven, shall be visited with punishment, regardless of the social rank or station of the offender. But occasionally it happens that crimes against life, and also against property, are committed or attempted by persons suffering from mental disease or infirmity; and the law, in recognition of this fact, very properly provides that an accused person when brought to trial may plead irresponsibility on the ground of insanity or mental unsoundness. Such being the case, it becomes pertinent to examine the so-called legal tests of insanity as applied to criminal cases, in order to determine how far such tests accord with the facts of nature as interpreted by medical science. Aside from questions of responsibility for crime, the criminal law does not specially concern itself with the subject of mental disease.

In view of the fact that the right to plead insanity as an excuse for crime is recognized in the criminal code of every civilized State and country, it necessarily follows that, whenever this plea is offered in defence, the mental status of the defendant must be taken into account and the question of responsibility must be determined, either by the application of the so-called legal test or by means of competent medico-psychological testimony. The plea of insanity as an excuse for crime rests on the supposition or allegation that the accused is a victim of a form of disorder the existence of which, if established, renders him irresponsible for his acts. This being true, we may properly assume that, medically speaking, insanity and irresponsibility are so closely allied that they are essentially convertible terms, and that, whenever the existence of insanity is clearly established, the question of responsibility is practically determined. Hence this question of responsibility for criminal acts is, strictly speaking, a medical one, and it can be determined — especially in complex and obscure cases — only by those who are practically familiar with the symptoms of mental derangement.

On the other hand the law, as interpreted by the courts, holds that the question of responsibility is not to be settled by the mere existence of insanity, but by the degree or extent of its existence; and in their efforts to establish a legal test of this disease the courts have undertaken to draw an arbitrary line of demarcation between insanity and irresponsibility, which is wholly at variance with nature as interpreted by medical science. I refer to the test, so-called, which is based upon a knowledge of right and wrong and the capacity to judge correctly of the nature and quality of the act committed, this being in substance the decision of the highest appellate court in the State of New York to-day.

In the case of the People against Flanagan (52 N. Y., 467), the court of appeals held that the test of responsibility is the capacity of the defendant to distinguish between right and wrong, at the time of and with respect to the act complained of; and that the law does not recognize a form of insanity in which the capacity of distinguishing right from wrong exists without the power of choosing between them. In other words, that an individual who possesses a knowledge of right and wrong must necessarily possess the power of choosing the right and resisting the wrong with reference to any particular course of action, and that such a man is legally sane and responsible, no matter how far his mind may be unbalanced in other directions. It will be seen that this proposition, or rather this legal dogma, is but a slight step in advance of that formulated by the English judges in 1843, in answer to the questions put to them by the House of Lords in connection with the celebrated case of McNaughton, who was acquitted of the crime of murder on the ground of insanity. In the language of those learned judges: "To establish a defence on the ground of insanity, it must be clearly proved that, at the time of committing the act, the accused was laboring under such a defect of reason, from disease of the mind, as not to know the nature and quality of the act he was doing, or, if he did know it, that he did not know he was doing what was wrong."

From the time this dogma, this judge-made law, was promulgated down to the present day, our courts of criminal jurisdiction, with their traditional regard for precedent, have generally accepted it blindly, and propounded it to juries, in almost identical language, for their guidance in reaching a verdict, notwithstanding the emphatic protest of medical science that such a test is in direct conflict with the known laws of nature, and hence unscientific and false in its application to the mentally unsound.

Mr. Speranza, of the New York bar, in a paper recently presented to the Society of Medical Jurisprudence, referring to the legal test of insanity, said: "Present methods are not scientific, for, although, in theory, the opinions of the highest court are binding on itself and on all lower tribunals, yet by subtle distinction a constant overruling takes place which destroys uniformity. Furthermore, the scientific method is reversed, inasmuch as our courts propound principles and fit the cases to them, so that the question is not whether the principle is right, but whether the case fits the principle. As Judge Holmes has recently said: 'An ideal system of law should draw its postulates and its legislative justification from science. As it now is, we depend upon tradition or vague sentiment, or the fact that we never thought of any other way of doing things, as our only warrant for rules which we can enforce with as much confidence as if they embodied a revealed wisdom.'"

Mr. Speranza went on to draw a comparison between the two sciences of law and medicine. Both should

[1] Read before the American Medico-Psychological Association, at New York, May 24, 1899.

be curative in effect, he said, but as a matter of fact the law is not so at all. This he attributed to the fact that our criminal jurisprudence "looks rather to the past than to the present or future." He continued: "It is conservative almost to the point of stagnation, but the judges who sit in our courts have intrenched themselves behind two ancient principles, which rise up like a Chinese wall against progress and reform. 'Law is the perfection of reason,' they gravely tell us, and 'the king, through his magistrates, can do no wrong'! Grant these premises, and progress becomes an impossibility."

It should be said, however, that prior to the decision rendered by the New York court of appeals in the Flanagan case, already referred to, certain of our judges, imbued with a more progressive spirit, had in their rulings recognized the fact that moral liberty to commit an act is not necessarily accompanied by rational appreciation of the nature and consequence of the act. In other words, that something more than a mere knowledge of right and wrong is requisite to constitute responsibility for crime; that, in order to render an accused person responsible, he must not only know the nature and quality of the act in question, and that it was wrong, but in addition he must possess the power to choose the right and avoid the wrong; that, indeed, as a prerequisite to responsibility for a crime there must exist the ability to avoid committing it. This is in accord with sound medical doctrine. Says Clouston: "Make a man's power of controlling his actions the test. With that view every medical man will agree."

In the case of The People against Stillman, tried in Rochester, N. Y., in 1877, Mr. Justice Dwight in his charge to the jury said: "According to the law of the State which governs you and me in our relations to this case, a man is accountable for the act which he performs, unless his insanity be of such a character as that by reason of a fixed disease of the mind he is deprived either of consciousness of the act, or of the knowledge of the moral and legal quality and character of the act which he committed, or by some disease of his mental nature is deprived of the ordinary power of volition to will that which he knows to be right. That is the legal standard by which you are to be governed. Was his mind so far affected by fixed disease as that he was, at the time he committed the act, deprived either, first, of consciousness that he did the act; or, secondly, was deprived of the power to judge the moral and legal character of the act which he committed, was unable to judge that the act was morally wrong or that it was legally wrong, or that it subjected him to the penalty of the law; or, thirdly, was absolutely deprived by mental disease of the power to will and to do that which he knew to be right?"

The scientific ground here taken by Justice Dwight marks a decided advance in the jurisprudence of insanity, and one which tends to place it in closer harmony with the deductions of modern science. Again, in The People against Kleim, the court held that the accused, in order to render him responsible, "must know that the act was wrong and punishable, and be able to compare and choose between doing it and not doing it."

"This," says Ordronaux, referring to Justice Dwight's charge, "is unquestionably sound doctrine, and it is accordingly most unfortunate that the court of appeals should have entirely overlooked it in their latest decision upon this point as given in Flanagan *vs.* The People. A decision which has summarily swept away the whole progress and reverted us to legal tests of criminal responsibility, which courts in other States are everywhere discarding as unsound."[1] In fact, one needs but a superficial knowledge of mental disease to know that an abstract knowledge of right and wrong is not uncommon in many forms of insanity, other than idiocy or profound dementia.

We have, therefore, on the one hand, the contention of the legal profession, fortified by time and tradition and backed up by judicial decisions, that insanity is a question of law to be determined by the courts according to the form or degree in which it manifests itself; and that legal responsibility in each instance depends upon a knowledge of right and wrong as to the acts committed, at the time said acts were committed; while, on the other hand, the medical profession holds that insanity, in its relation to crime, is always a question of fact to be determined by the aid of medical science, and that whenever its existence can be so determined, the fact should be sufficient to establish the irresponsibility of the accused, regardless of the form or degree in which his disease may manifest itself. In other words, medical science holds that the whole question of responsibility should rest upon the existence or non-existence of mental disease and not upon the presence or absence of a knowledge of right and wrong. This eminently sound doctrine has not only been affirmed by practical alienists in general, but has been attested by formal resolution of the British Association of Medical Officers of Hospitals for the Insane, in the following terms: "*Resolved*, That so much of the legal test of the mental condition of an alleged criminal lunatic as renders him a responsible agent because he knows the difference between right and wrong, is inconsistent with the fact well known to every member of this meeting, that the power of distinguishing between right and wrong exists very frequently among those who are undoubtedly insane, and is often associated with dangerous and uncontrollable delusions."

The serious defect in the legal test of insanity, as established by the court of appeals in the State of New York, is that it undertakes to define positively the degree of mental unsoundness which shall absolve its victim from responsibility for his acts, an undertaking which every practical alienist knows is impossible; that is, it has undertaken to decide what the law of nature shall be, rather than what it is. "Jurists," says Ray, "who have been so anxious to obtain some definition of insanity which shall furnish a rule for the determination of responsibility, should understand that such a wish is chimerical from the very nature of things. Insanity is a disease, and, as is the case with all other diseases, the fact of its existence is never established by a single diagnostic symptom, no particular one of which is present in every case."

The fact that it is impossible to formulate a strictly scientific definition of insanity—that is, a definition which shall embrace every variety of the disease and at the same time exclude certain conditions of mental disturbance or disorder which do not come within our conception of insanity, is in itself the strongest argument against the utility of any legal test of this disease. "And if a fact indefinable in itself, as insanity is conceded to be, is not reducible to a fact in law, then it is unfortunate that the courts should maintain a contest with science and the laws of nature, upon a question of fact which is within the province of science and outside the domain of law."[1] That which in fact is a condition of mental disease cannot in law be a condition of mental health.

In the language of Judge Doe, in the case of The State against Pike, "If the tests of insanity are matters of law, the practice of allowing experts to testify what they are should be discontinued; if they are matters of fact, the judge should no longer testify without being sworn as a witness and showing himself qualified to testify as an expert."

[1] Ordronaux: "Judicial Aspects of Insanity." p. 243.

The French penal code declares that "there can be no crime nor offence if the accused was in a state of madness at the time of the act." The German penal code provides that "an act is not punishable when the person at the time of doing it was in a state of unconsciousness, or of disease of mind, by which a free determination of the will was excluded."

Even in England the rule laid down by her senate of judges in the McNaughton case is no longer the sole guide in determining responsibility for crime, although so great was the weight of authority attached to this decision that it has taken years to overcome its prestige and to supplant it by legislative enactment more in harmony with the greater laws of nature, by which human actions are determined. The English Trial of Lunatics Act now provides that "if it appears to the jury before whom such person is tried that he did the act or made the omission charged, but was insane as aforesaid at the time when he did or made the same, the jury shall return a special verdict to the effect that the accused was guilty of the act or omission charged against him, but was insane as aforesaid at the time when he did the act or made the omission."

The revised Code of Criminal Procedure of the State of New York, section 21, provides that "a person is not excused from criminal liability as an idiot, imbecile, lunatic, or insane person, except upon proof that, at the time of committing the alleged criminal act, he was laboring under such a defect of reason as either (1) not to know the nature and quality of the act he was doing; or (2) not to know that the act was wrong."

It will be observed that the language of the New York statute is almost identical with that used by the English judges in respect to the McNaughton case in 1843, and reiterated by the New York court of appeals in its decision in the Flanagan case, a decision which the trial courts have generally regarded as having the force of law, and which is now embodied in the statute, with the implied approval of the legal profession.

Thus it appears that the lawmakers of the Empire State, following the dictum of her court of appeals, and ignoring the teachings of medical science, have undertaken to determine by statutory enactment what insanity is, and likewise to establish a legal test whereby its presence may be demonstrated. In other words, with a wisdom superior to nature's, they have attempted to define the conditions of responsibility in mental disease by declaring in law what shall be rather than what is, and in so doing have given us a test which is based on a misconception of the true nature of insanity, which has been handed down from generation to generation, and which is so narrow in spirit and so untenable in reason that every experienced alienist must regard it as artificial, arbitrary, and fraught with danger to humanity and the ends of justice. To base the diagnosis of insanity upon a question of the knowledge of right and wrong, that being in effect what this so-called test requires, is directly in conflict with a well-established fact in medical science as well as a serious menace to human rights and individual liberty.

Now, if every form and every stage of mental disease were invariably attended by a loss or suspension of the knowledge of right and wrong, such as usually occurs in extreme types of mania, melancholia, paresis, and dementia—forms or stages of the disease which are usually characterized by mental aberrations so marked as to bring them easily within the ken of the unskilled observer, who could readily recognize them as symptoms which in themselves furnish presumptive evidence of the absence of power to distinguish rationally between right and wrong, no valid objection could be raised to the present legal test of insanity, wrong in principle though it be, for the reason that its practical effect, as applied to the class of cases referred to, would be to establish irresponsibility in substantially every instance, regardless of the nature of the act committed, thus securing the ends of justice. Unfortunately, however, only a small percentage of the insane, who come within the jurisdiction of our criminal courts, belong to the types of insanity above specified, for the reason that, as a rule, this class of insane persons are not homicidal and consequently seldom commit or attempt to commit homicide, or what is technically known as crime against the person; that is to say, they do not belong to the class of insane who are known to be dangerous. As already intimated, practically there is little or no difficulty in determining the question of responsibility in cases of this kind when charged with crime, for the reason that they readily fall within the legal conception and definition of mental disease. It is in a widely different and much more frequently represented form of disease among the so-called criminal insane—insane persons charged with crime—that the application of the legal test of responsibility has proven so unsatisfactory, namely, the "dangerous insane," a large proportion of whom are paranoiacs, or, in other words, victims of systematized delusional insanity, which older writers were wont to call monomania, "reasoning mania," or partial insanity. The obscure and doubtful cases that so frequently puzzle our courts of criminal jurisdiction are drawn almost wholly from the ranks of this now well-understood form of mental disorder. Many of the victims of this form of insanity, contrary to popular belief but as every experienced alienist knows, possess a perfectly clear knowledge of right and wrong in the abstract, and also comprehend, abstractly, the nature and legal consequences of acts similar to those which they have committed. Paranoiacs also are frequently actuated by most powerful motives in the commission of crime, motives similar in character to those which frequently govern sane persons, namely, revenge, vindication of personal honor, self-defence of life or property, etc.; but if we seek for the foundation of these motives we shall find that, unlike the motives of the sane individual, they are not founded on reality, but are the offspring of a diseased or disordered intellect, a psychopathic state, which has deranged the psychical apparatus, so to speak, and left it awry, even though the logical apparatus remains intact. Owing to the obscuration of his mental horizon by this psychopathy, the paranoiac is rendered incapable of completely and harmoniously exercising those physiological functions of the brain which are denominated the intellect, the emotions, and the will. He is prone to premise falsely and to misinterpret morbidly the conduct, the attitude, and the motives of those about him, and while he may, and often does, reason logically, he reasons from wrong premises and in a way that a sane man would not do. "The delusions," says Regis, "are connected, coherent, lifelike, starting from false or misinterpreted data, but eminently logical in their deductions."

It matters little, therefore, whether we admit, with Wernicke and others, that the paranoiac has no defect of intelligence and that his mental weakness is only apparent, not real, or accept the view of Hitzig, that "he does not possess his full mental capital and suffers from a defect of intelligence"; all must agree that the effect of his disease upon his mental capacity is such as to render him incapable of exercising his reason and will power as he would do were he in his normal mental state; and that consequently he should be regarded as neither morally nor legally responsible for his acts. "The true test of irresponsibility," says Forbes Winslow, "should be, not whether the party accused was aware of the criminality of his actions, but whether he has lost all power of control over his actions."

To set up a legal test or standard of insanity which is not in harmony with the teachings of medical science, and at the same time so narrow in scope as to exclude from its benefits the victims of paranoia, who represent such a large proportion of the dangerous insane, simply because they possess a knowledge of right and wrong, is a disgrace to jurisprudence and a travesty upon justice.

The real question of fact for the jury to determine in cases of alleged insanity in criminal trials would seem to be the following:

1. Did the defendant at the time of the alleged crime have sufficient mental capacity to appreciate rationally the nature and consequences of the act he was committing, and, if so, had he sufficient power of will to enable him to choose between doing or not doing it?

2. If he had lost the power of choosing with reference to the particular act, was the loss due to disease and not to "heat of passion," intoxication, or other self-induced temporary mental disturbance?

It must be admitted that a correct solution of these questions, involving as they do, human life and liberty, is of most vital importance; and inasmuch as they relate directly to disease the facts upon which their solution must rest can properly be interpreted for the jury only by competent medical testimony. In other words, substantially the same test should be applied here as is now required by law for the commitment of an individual to a hospital for the insane, namely, an examination of the mental condition of the accused by physicians who are practically familiar with the phenomena of insanity. If this were done it is safe to predict that much of the discrepancy and conflict of opinion in our courts of law respecting the question of responsibility in criminal cases where insanity is alleged would disappear.

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## THE PRESENT STATUS OF APPENDICITIS: WITH REPORT OF FORTY-FIVE CASES.[1]

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Several months ago the following questions were sent to a number of the leading surgeons of the United States:

1. What do you recognize as the early and cardinal symptoms of fulminating appendicitis, or what symptoms are the forerunners of a fatal issue in these cases provided there be a delay in surgical interference?

2. Are you in favor of an operation in all cases as soon as a positive diagnosis is made?

3. What percentage of all cases recover from the first attack with spontaneous resolution?

4. What have grape and berry seeds and other extraneous bodies to do with the exciting cause?

The following replies were received:

From Dr. Nicholas Senn, Chicago:

"1. I regard a progressive rise in temperature, increase in pulse rate, obstinate vomiting, and increasing tympanites, as the most ominous symptoms.

"2. I only advise operation during first attack when symptoms arise which point to suppuration or spreading peritonitis. In recurring attacks operation is indicated.

"3. About eighty to eighty-five per cent.

"4. Foreign bodies beside enteroliths are very rare as exciting causes of peritonitis."

From Dr. Charles K. Briddon, New York:

"1. Sudden, severe, constitutional shock, little or no elevation of temperature, and it may be subnormal; rapidly rising pulse, no tumor, but marked muscular resistance.

"2. If the symptoms do not begin to abate at the end of forty-eight hours, I should advise operation. If they subside at the end of that time I should advise the intermuscular operation, two weeks after resolution.

"3. This question could only be answered by a careful search of the records, but my impression is that a large number recover from the first attack.

"4. I can conceive it probable that the fecal concretions so commonly met with in perforative appendicitis may be the occasional cause. In several hundred cases I have found grape seeds only on one or two occasions."

From Dr. Charles McBurney, New York:

"1. In 'fulminating' or very acute cases of appendicitis the early cardinal symptoms are severe, very rapidly increasing pain, early muscular rigidity and distention, frequent vomiting, unusual restlessness, septic appearance, and usually rapidly rising temperature. The patient often, at a very early period, has the look of one suffering from surgical shock.

"2. I am by no means of the opinion that operation should be done in all cases as soon as a positive diagnosis is made. I should as soon think of amputating every hand as soon as a septic wound on the finger was discovered.

"Experience and careful observation will generally enable one to distinguish the cases that will safely end in resolution, after a few days of moderate illness. Such cases should always be allowed to pass through the attack, and operation, a much better one than can be done in the acute stage, should be done within a short time (perhaps two weeks) after the acute signs have disappeared. If one is in doubt as to the safety of delay, operation had better be done early in the acute stage. If it is evident that the attack is severe, operation cannot be done too promptly.

"3. Impossible to answer accurately. Perhaps fifty per cent.

"4. Seeds and other foreign bodies act only as a cause of appendicitis according as they interfere with the proper drainage of the appendix into the cæcum. Strictures and kinks act in the same way by interfering with the drainage.

"Stagnation or undue retention of the contents of the appendix lead to rapid formation of virulent bacteria, infection of the walls of the appendix, ulceration, gangrene, and inflammatory action of the surrounding peritoneum. Interference with the drainage of the appendix is the cause of about all cases of appendicitis."

From Dr. Robert T. Morris, New York:

"1. I do not recognize 'fulminating' appendicitis as variety, only as a degree. The two chief symptoms as forerunners of a fatal issue are commonly a normal or subnormal temperature, and a pulse of high tension averaging more than 120 to the minute.

"2. I am in favor of an operation as soon as a diagnosis can be made, because this in skilled hands avoids the complications due to advancing infection. Certain cases must be excluded; for instance, patients with old alcoholic lesions, or with dilated hearts, or possibly other evident reasons why the compensative dangers from operations or from the disease, call for the exercise of nice judgment.

"3. Without operation about ninety per cent. of cases apparently recover from the first attack, but leave damaged appendices containing concretions, mucous inclusions, and other dangerous relics. About seventy-five per cent. apparently make a final recovery without operation. With operation in my experience

[1] Read before the Medical Society of the State of West Virginia, at Weston, W. Va., May 17, 1899. Read also before the Medical Society of Wheeling and Ohio County.

to date there has been no death rate in cases without abscess, and about five per cent. death rate in abscess cases since 1890, when improvements in technique were perfected.

"4. Seeds and other extraneous bodies have very little place among exciting causes. The real pathology as described in my book [1] seems to have been pretty generally accepted by the profession, in this country and in Europe."

In a recent paper on this subject I find Dr. Hunter McGuire's answers to the questions as follows:

"1. When the attack is sudden and severe, the pain intense, the pulse rapid, temperature high, respiration short and thoracic, abdomen hard and distended, face pinched and anxious, especially if the group of symptoms has been ushered in with a chill, the only hope for life is an operation, and the sooner the better. Such a case is called a fulminating one. It comes on like an explosion, and we are not warranted in waiting an hour to try our medical remedies. In such cases, if along with other symptoms there is shock, perforation will almost certainly be found, and the chances for life are very slight even with an early operation.

"2. I am not in favor of an operation in all cases as soon as a positive diagnosis is made. Too many of them get well and stay well to warrant it, and others can be made to wait during an interval between the attacks.

"3. Fully one-half."

From Dr. Andrew J. McCosh, New York:

"1. The general aspect to an experienced observer of the patient. The appearance impossible to describe of one desperately ill. Pulse of poor quality generally, but not necessarily rapid. Vomiting, tympanites, with absolute constipation.

"2. No.

"4. Foreign bodies are very rarely the exciting cause."

From Dr. Charles A. Powers, Denver:

"1. Perforating appendicitis differs so much in its symptoms that I hardly feel that any train can be considered absolutely pathognomonic. In general we may say that a sudden and severe pain in the right iliac fossa, with rapidly increasing local tenderness and more or less evidence of shock and collapse, points to a perforation into the general peritoneal cavity. I do not think that we can say, early in the course of any case, that this perforation will or will not take place. In certain cases perforation into the free cavity is unaccompanied by any special symptoms, and the evidence of general peritonitis comes on gradually and progressively.

"2. I have not as yet thought it best to operate on all cases as soon as the diagnosis of appendicitis is made, though I am certain that far more errors are made on the side of delay than of that of early interference.

"3. The only contents of the appendix which I have seen have been accumulations of fecal matter and inspissated mucus.

"4. I can form no idea of the percentage which recover from the first attack. Physicians are more apt to see these cases than are surgeons. I am convinced that every case of appendicitis should be seen by the surgeon with the physician at the earliest possible moment."

**Report of Cases.**—During the past three years there have come under my personal attention forty-five cases of appendicitis. Of these forty-five cases there were twenty-two receiving operation, twenty-three not receiving operation. Of the twenty-two cases receiving operation three resulted fatally, and nineteen in recovery. In one of the fatal cases the appendix contained a black pin an inch and a quarter in length, with a glass head; this pin had perforated the tip of the appendix, and had caused a violent diffuse, septic peritonitis; the patient was almost moribund on admission to the hospital, and died in less than an hour after leaving the table. In a second case the patient was moribund on admission, and died on the table before the operation was completed. The third died of septic peritonitis, which was well advanced at the time of admission to the hospital. There were five cases of diffuse septic peritonitis receiving operation, with two deaths and three recoveries. There was therefore an operative mortality of forty per cent. in these cases which hitherto have all been doomed.

Dr. McCosh,[1] reporting nine cases with six deaths, gave a percentage mortality of sixty-six and two-thirds in this same class of cases, three years ago. Of the twenty-three patients not receiving operation five died, and eighteen recovered.

Of the forty-five cases there were thirty-one males and fourteen females.

Case I.—Appendicitis with gangrene and perforation, beginning diffuse septic peritonitis; laparotomy, recovery. J. R. D——, blacksmith, aged twenty-four years, single. He had been constipated all his life. Eight years ago he had his initial attack of appendicitis, diagnosed at that time as typhoid fever. Two months before the onset of his present trouble he had frequent attacks of colicky pains in the abdomen. Sunday, April 18, 1897, he was seized with griping pains in the neighborhood of the umbilicus, which kept up all night. He suffered some through Monday and Tuesday, but continued his work until Wednesday, April 21st. Thursday, April 22d, early in the morning, the pain became localized; there were a chill and some vomiting. The man was seen by his family physician. About midnight, April 22d, he developed a rapid and feeble pulse. The temperature had fallen to subnormal, and the pain in the side had increased suddenly and with violence. He was removed to the City Hospital. At 2 A.M., on admission, the pulse was 146, temperature 105° F., respirations 40 and costal; the face was covered with a clammy sweat, and the abdomen was markedly distended. Operation was performed at 2:30 A.M. under ether narcosis. A four-inch incision was made over the appendix, and when the peritoneal cavity was opened there exuded a stinking, purulent discharge from every part of the wound. The cæcum and part of the ascending colon were bound down firmly by old adhesions, so much so that it was impossible to separate them. The appendix, swollen, gangrenous, and twice perforated, was found hidden away to the outer side and posterior to the cæcum. It was liberated, ligated at its base, and removed. The stump was disinfected by a bichloride tablet. Two hard concretions were found loose in the abscess cavity. After a careful toilet of the peritoneum, gallons of decinormal salt solution having been used, it was found on adjusting some of the folds of the intestine that more pus exuded. Feeling that well-directed drainage could not rid the sensitive peritoneal cavity of this death-deal-

[1] Morris, "Lectures on Appendicitis," chapter iii., p. 16: "Appendicitis is an infective exudative inflammation of the vemriform appendix. Bacteria enter the lymphoid structures and the cellular coats, the stage of exudation begins, and the tissues are compressed by the exudate. In the colon, when infection begins and exudation takes place, there is an abundance of room for swelling. In the narrow appendix there is not room. The lymphoid tissue cannot act as a filter for the bacteria. Compression anæmia is produced, allowing a more rapid toxic destruction of the cells and the toxins produced by the bacteria, and all this occurs before the nuclein can be poured out and the leucocytes and phagocytes can do their work of defence. Proliferative endarteritis begins very early, and this occurs in the small terminal artery, being practically the only arterial supply of the appendix. If the vessel becomes completely obliterated, there is frequent and complete gangrene and rapid destruction of all the parts not supplied by blood."

[1] Presbyterian Hospital Report, vol. ii., p. 141.

ing pus, it was decided that a second incision should be made in the median line. This act was rewarded by the finding of a considerable quantity of purulent exudate, flakes of necrotic material, and some fecal matter well over to the left. The whole abdominal cavity was thoroughly irrigated. The intestines were removed and thoroughly washed on hot towels. The median wound was sutured, but the first wound was left open. Strips of iodoform gauze were carried down to the stump and used also to wall off the gut from the cavity of the abscess. The patient was vigorously stimulated and put to bed. The bowels moved thirty hours after the operation in response to calomel, salines, and high rectal injections.

Fig. 1.—Gangrenous Appendix with a Large Perforation. (Case II.)

Recovery was tedious owing to a high temperature, which ranged, for two weeks following the operation, from 101° to 103° F., due probably to ptomain absorption or to a septic lymphangitis. The patient gained rapidly after the fourth week and was discharged cured the fifth week. He has been perfectly well since and has no ventral hernia.

Case II.—Gangrenous appendicitis with perforation, beginning diffuse septic peritonitis; laparotomy, recovery. W. S——, aged twenty-three years, oil driller. He gave a history of a chill, fever, and abdominal pain three days before he called his physician, who found him with localized pains and a temperature of 104° F. The symptoms all improved under treatment, and nothing untoward developed in the case for five days, when the pain suddenly became unbearable, the pulse increased in frequency, and the temperature was again elevated. April 16, 1897, in the morning he had a pulse of 120, costal breathing, and a temperature of 102° F. I saw him in consultation and advised his removal to the City Hospital. On his arrival he had the abdominal pulse, small, thready, and 136 to the minute, marked distention of the abdomen, and tonic spasms of the abdominal muscles. He bore the appearance of a man in profound shock. Under chloroform narcosis, the abdomen was opened with a four-and-a-half-inch incision. The deep layers were infiltrated and œdematous. When the cavity of the peritoneum was opened, there escaped with a gush a quantity of fetid gas, followed by pus. The intestines were inflamed and were covered with fibrinopurulent and recent catarrhal exudate. A stinking gangrenous abscess cavity was found deep seated in the right iliac fossa. Nature's barrier, the peritoneal lymph, had been poured out abundantly, endeavoring to limit the work of destruction, but the wall had been broken and the damage was done. A gangrenous appendix was found in this cavity, with a large perforation, and was removed. (See Fig. 1.) Gallons of decinormal salt solution were used in cleansing the peritoneal cavity and intestines. A second incision was made, as in the preceding case, and the washing completed. The median incision was sutured and the side wound packed and drained.

In this case five grains of the mild chloride of mercury were given before the patient took ether, and after he had recovered sufficiently from the anæsthetic broken doses of calomel were given hourly. Following this a saline was given together with a high rectal injection; the bowels moved twenty-eight hours after the operation. The side wound healed by granulation; the median wound healed satisfactorily. The patient was discharged on May 14th, cured. He has been well since and is working every day.

Case III.—Appendicitis with gangrene and perforation, beginning septic peritonitis; laparotomy, recovery. Myrtle D——, aged fifteen years, school girl. On May 12, 1897, about midnight, she was seized with violent diarrhœa, vomiting, and cramp pains throughout the abdomen. The symptoms continued until next morning, when she was seen by her physician. The pain had become localized by this time, and the nature of the trouble was evident. May 17th, at eleven o'clock in the evening, I saw her in consultation. Abdominal distention was marked; the pulse was 120, and the breathing was thoracic. I noticed particularly in this case the spasm of the external oblique muscles (described by Dr. Morris), "quick, tremulous flashes of contraction" observed near the costal attachment of these muscles when the region over the appendix was tapped quickly with the finger. Dr. Morris describes it as an extraordinary attempt at protection of the abdominal contents by a set of muscles which are already protecting up to a last degree consistent with the retention of their power. The girl looked ill and her pain was great. I advised her immediate removal to the City Hospital. On admission, on May 17th, at 2:30 A.M., after travelling three miles in a carriage, she was found to be in profound shock. Under ether narcosis, the abdomen was opened by the usual incision. The abscess had ruptured into the general peritoneal cavity. The appendix was swollen, gangrenous, and perforated at its tip, and lying posterior to the cæcum. It was removed and the stump disinfected by the actual cautery. The peritoneal cavity was cleansed after the manner described in the preceding cases. The bowels moved forty-four hours after the operation. As in the first case, the temperature fluctuated between 99° and 103° F. for two weeks following the operation. All this time the wound looked healthy and was granulating. Secondary suture of the wound was made two weeks after operation. The patient was discharged cured on June 30th, and has been perfectly well since.

Case IV.—Acute perforative appendicitis, superficial gangrene of the anterior surface of the cæcum; laparotomy, recovery. J. M——, aged sixty-five years, iron worker; history of constipation; first attack. At four o'clock in the morning of May 17, 1897, he was seen suffering with the most violent abdominal pains, for the most part in the neighborhood of the umbilicus. He had also diarrhœa and vomiting. He presented symptoms of acute indigestion and was treated accordingly. I did not see him the following day, but learned that he had suffered some with colicky pains. The diarrhœa had improved. On May 19th he had well-defined symptoms of acute appendicitis: pain, tenderness, rigidity, vomiting; pulse 96, temperature 102.5° F. He was removed at once to the City Hospital. There were some evidences of prostration on his arrival. He was placed on the table at 11 A.M., and under ether the usual incision was made. Fetid pus escaped from the wound. A large part of the anterior surface of the cæcum was the seat of superficial gangrene. The appendix was swollen, bound down by adhesion, and contained two perforations, one at its tip and the other near the base; the latter extended up through the base of the appendix into the cæcum. This opening admitted with ease the ungual phalanx of the index finger up into the bowel, and through this rotten aperture fecal matter and gas escaped. The appendix was ligated and re-

moved; the stump was inverted, and the cæcal opening was closed by several Lembert sutures.

The bowels moved and flatus passed twenty-two hours after the operation. There was a feculent discharge for eight days. The wound healed kindly, and the patient was discharged June 20th. The scar was perfectly firm.

Case V.—Chronic catarrhal appendicitis, perforation, local abscess; laparotomy, recovery. E. S——, aged twenty years, domestic, came under my observation in September, 1896, suffering with paroxysmal attacks of pain in the epigastrium; often they would appear with intensity, lasting a day or two at a time, requiring morphine. There were several such attacks in a month. The pain was always aggravated by eating. She was anæmic, and had lost flesh and strength, probably due to the starvation diet which she had adopted. Her appetite was poor. Suspecting erosions of the stomach, I made an examination of the stomach's contents, one hour after Ewald's test breakfast. It showed a diminution of free hydrochloric acid; in the washings there was found what seemed to be fragments of the mucosa and some blood-stained mucus. I restricted her diet, gave her peptomanganate of iron, and sprayed the stomach, when fasting, after lavage, with a solution of nitrate of silver, one grain to the ounce, using Einhorn's gastric spray apparatus. She improved, but returned in two months with the same sharp pains in the stomach, radiating toward the umbilicus. The stomach contents were examined, with negative result; on palpation, the stomach was sensitive to pressure, but not specially painful. The woman's suffering continued gradually increasing. She never had had appendicular colic, and was only occasionally constipated.

In this case we note how insidiously the bacteria lurking in the lumen of the appendix were doing their deadly work. While the patient may have had some distinctive gastric disturbance or may have had some dyspeptic symptoms incident to the anæmia, to my mind most of her pain came from the disturbance of the branches of the superior mesenteric plexus, immediately dependent on the constant and mild septic impression from toxins absorbed through the appendix (Morris).

On May 21st the patient was suddenly seized with a sharp pain in the right iliac fossa; her physician was called and gave her relief for the night. On May 22d the pain and tenderness continued, and an examination revealed the presence of a tumor in the right iliac fossa. She was admitted to the City Hospital June 1st, and under ether an extraperitoneal incision was made over the most prominent part of the mass; half a pint of fetid pus escaped. Examination showed the appendix to be hidden away so that to have found it would have necessitated a search which might have endangered the integrity of the limiting adhesions; it was therefore abandoned. The appendix melted away with the discharge. The patient made an uninterrupted recovery, and was discharged cured June 23d. This patient has been seen recently. She has gained twenty-three pounds and is perfectly well.

Case VI.—Acute appendicitis, gangrene, and perforation; laparotomy, recovery. C. N——, aged thirty years, tube worker. On June 28th he was seen by his physician, when he gave a history of an attack of cholera morbus the day previous. He had heavy aching pains in the right iliac fossa radiating into the scrotum and right thigh. On June 29th the pulse was rapid and temperature normal; the countenance presented the appearance of a very sick man. A diagnosis of appendicitis was made.

On admission to the City Hospital he was in moderate shock. Under ether narcosis, laparotomy was performed. The appendix was bound down posterior and external to the cæcum; it was liberated with difficulty, and was found to contain a gangrenous perforation. About three ounces of foul pus was found in the abscess cavity; it was not well walled off from the general peritoneal cavity. In detaching the appendix the omentum presented. It was cleansed and packed off. The wound was irrigated and dressed open. Twelve days after the operation the patient developed a mild phlebitis of the left femoral vein. Fifteen days after the operation he had a chill and pain in the left side, soon followed by bloody expectoration and a mild febrile movement; probably a pulmonary infarction. Aside from this his recovery was uninterrupted, and he was discharged cured May 26th.

Case VII.—Appendicitis, gangrenous perforation, diffuse septic peritonitis following operation; death. L. W——, aged twenty-eight years, mechanic. I saw the patient June 14, 1896. He gave a history of an attack of indigestion with general abdominal pain, which later became localized below McBurney's point. There was difficulty in passing water. On the afternoon of the 14th of June he had a violent attack of pain throughout the abdomen. The usual incision was made under ether and a diffuse septic peritonitis was found. The appendix was gangrenous. It contained two perforations, also a large coprolith. The wound was dressed open. All efforts to combat the shock and to establish drainage through the paralyzed bowels were of no avail, and the patient died two days following the operation. There was no autopsy.

Case VIII.—Appendicitis with local abscess, perforation; recovery. M. M——, aged twenty-three, carpenter. October 4, 1896, he was attacked suddenly with the usual signs. I saw the patient with his physician ten days after the onset. There was a localized tumor with pain and general abdominal tenderness. He was in a septic condition and looked ill. Operation was performed immediately. An oblique incision was made, and a pint of fetid pus was evacuated. The appendix was perforated near its base. The abscess cavity was thoroughly cleansed. Recovery was uninterrupted.

Case IX.—Appendicitis, formation of abscess, perforation; laparotomy, recovery. W. S——, aged twenty-one years, potter. Operation was performed on the tenth day. The appendix was removed through an oblique incision; the wound was dressed open. Recovery was uninterrupted.

Case X.—Appendicitis with perforation, gangrene of the cæcum; establishment of artificial anus; recovery. The usual signs of the disease developed, with pain, rigidity, and local swelling especially marked. The operation was performed on the eighth day of the disease, June 4, 1896. The patient, a little girl aged ten years, was in considerable shock. An incision was made under chloroform narcosis. The general cavity of the peritoneum was carefully walled off with iodoform gauze, and the pus was evacuated, when a necrotic opening was found in the cæcum, near the junction of this viscus with the appendix. There was also a perforation of the appendix. The condition of the patient would not justify any tedious sewing. The open cæcum was sutured to the abdominal peritoneum, and the wound packed. The child rallied from the operation and drifted from under my care. Later the artificial anus was closed, and the patient made a good recovery.

Case XI.—Chronic relapsing appendicitis, suppurating sinuses; laparotomy, removal of the tip of the appendix; recovery. J. H. W——, aged forty years, merchant. I was called in consultation to see a patient who had undergone a radical operation for chronic appendicitis in the Johns Hopkins eighteen months previously. He had a cicatrix nine inches in length in the right iliac region, and about its middle there was

a discharging sinus. The sinus had been kept open with a tube, and was discharging freely, but when the tube was left out for any length of time the wound would fill with pus, causing much pain and discomfort, and a rise of temperature. The patient had lost flesh and strength, was anæmic, and had a cough with expectoration. Under ether the old scar was thoroughly opened through part of its length, and the sinus was followed up deep into the right iliac fossa. Well down behind the cæcum the distal half-inch of the appendix was found and removed. The wound healed by granulation. The man was discharged in three weeks, cured. He gained thirty pounds the first six months after he left the hospital; the cough and expectoration disappeared, and he became sound and well.

Case XIII.—A child, aged four years, from St. Clairsville, Ohio, was seen in the fall of 1899, on the fourth day of a first attack. There was moderate shock on admission to the hospital. An intermuscular incision was made, and the appendix was removed; it contained a fecal concretion in the centre of which were about a dozen raspberry seeds. This finding was verified by Dr. Andrew Wilson under the microscope.

Case XIV.—A boy, aged eight years, with chronic recurring attacks of pain in the right iliac region, with the point of maximum tenderness always over McBurney's point. The pain radiated posteriorly into the lumbar region. The operation was performed in the interval. An intermuscular incision was made and the appendix was removed. It was found to contain a constriction. The general condition greatly improved, but during the first six months the boy had repeated attacks of severe pain in the lumbar region radiating forward into the old scar. The urine contained oxalate of lime crystals. He was treated for renal lithiasis, and for the past year has been perfectly well.

Case XV.—A. E. A——, aged thirty years, tin worker, was admitted to the City Hospital at five o'clock on the evening of the fourth day of his sickness. He was in profound shock and moribund when placed on the table. An incision was made in the usual situation, and the peritoneal cavity was found to be the seat of well-advanced diffuse septic peritonitis. The patient was dead before the appendix was removed. A post-mortem examination was made of the appendix; it contained two concretions and a ragged perforation about its middle.

Cases XVI., XXI., and XXII. were operated on within the last year. In all three cases there were local abscesses; in two the appendix was removed. The wounds were closed by a secondary suture, and the patients made excellent recoveries.

Cases XVII., XIX., and XX. were operations performed in the interval, being cases of chronic recurrent appendicitis. An intermuscular operation was performed, and the wounds healed by primary union.

Case XVIII.—F. W——, aged thirty-three years, priest. The patient was seen in an acute first attack. The operation was performed on the fourth day of the disease. The intestines were carefully walled off with iodoform gauze. The distended gangrenous appendix, the size of a man's index finger, was liberated from the brim of the pelvis where it rested on the right external iliac artery, receiving pulsations from the artery. It was carefully removed. A strip of gauze was carried down to the stump and removed at the end of thirty-six hours. The wound healed kindly. The patient was discharged in less than three weeks after the operation, cured.

The following are cases in which no operation was performed.

Case XXIII.—Acute perforative appendicitis, diffuse septic peritonitis; death. On June 23, 1896, the patient was seized with sharp pain in the right iliac region, which continued for a few hours, and then became general. She was under the care of her family physician, who quieted her pain and kept the bowels well drained. There was little to note in the case until June 28th, when I saw her in consultation. From the history appendicular disturbance was suspected, and a most searching examination was made. Vaginal examination gave negative results. There was tenderness over the entire abdomen, not especially marked over the appendix. The abdomen was pendulous, and very little distended; the finger tips could be carried well down into the iliac fossa. There was absolutely no resistance, and no more pain or tenderness was elicited on the right side than on the left. The pulse was very rapid; the face was anxious. There was no rigidity of the right rectus muscle. The following two or three days, the symptoms were no better defined. The bowels had been opened by rectal injection. The absence of local pain and rigidity and other symptoms referable to the appendix made me hesitate about advising interference at that time. I have since thought that this was a fatal error, and have no hesitation in thus characterizing it, for certainly the history of that first day's pain over the appendix, linked with the abdominal perturbation and overwhelming sepsis, all in rapid succession, ought to to have been sufficient to establish a diagnosis. The woman died on June 30th with ill defined symptoms of septic peritonitis. No autopsy was made.

Case XXIV.—Acute perforative appendicitis, localized collection of pus; improvement without operation; subsequent thrombosis of the mesenteric artery, gangrene of the jejunum; death. W. B——, aged thirty-eight years, engineer. On May 1, 1897, he was taken suddenly ill with abdominal pain and tenderness, rigidity, vomiting, malaise; temperature 103°; pulse accelerated. His family physician, Dr. Taylor, saw him the following day, when he presented the symptoms above mentioned, and a diagnosis of appendicitis was made. The symptoms subsided under treatment, and he was discharged very much improved, May 6th. On May 14th he felt so well that he reported to the railroad authorities that he would be able to resume work in a few days. On the night of the 14th he was seized with an attack of vomiting, which was thought to have been due to some indiscretion in eating. He was given gastric sedatives; the stomach was irrigated, and counter-irritation was used, but the vomiting continued. Morphine relieved only temporarily. He vomited until he died, May 20th.

Autopsy: There were numerous adhesions in the right iliac fossa. The appendix was five and a half inches long and was coiled upon itself. There was a perforation about its middle, and when the adhesions were broken at this point there escaped about a thimbleful of pus. The bowel at the ileo-cæcal junction was healthy. A portion of the jejunum, about four feet in length, in marked contrast to the rest of the bowel, was of an intense purple-black color. A fibrinous clot had formed at the bifurcation of the mesenteric artery, which supplied this part of the bowel. The condition of gangrene extended into the mesentery, which formed a thick black, apoplectic cake. Upon opening the intestine it was found to contain a quantity of dark-red grumous fluid. The wall was thickened to three times its usual dimension. It is interesting to note that there were but three marked symptoms: a deep, heavy soreness in the bowels, an uncontrollable vomiting, and a condition of constant unrest. There was an absence of blood in the stools, said to be one of the most notable symptoms of gangrene of the bowels.

Case XXV.—Perityphlitic abscess, followed by abscess of the liver; perforation into the bronchial tube, pyæmia; death. W. C——, aged thirty years, farmer. The patient had been treated by his physician in West Alexander, Pa., for about one week, for a swelling in the right iliac fossa with acute symptoms. I saw him in consultation about the twelfth day of his disease, when he presented every evidence of an abscess in the right iliac region. I advised immediate operation, but the proposition was rejected. During the following week he was visited by two other surgeons, and their advice of surgical interference was likewise not heeded. I learned afterward that the abscess travelled upward, and evidently involved the liver, finally breaking into the bronchial tube. Death was due to pyæmia and exhaustion. There was no autopsy.

Case XXVI.—Appendicitis with perforation, local abscess, and rupture into the bowel; recovery. The onset was sudden; the patient was ill three days before he was seen by his physician; he then had the usual symptoms. I saw him on the eighth day of his disease, and while I was preparing for the operation the abscess broke and discharged by the rectum. Recovery occurred without incident.

Case XXXVI.—A woman, aged forty-five years; diffuse septic peritonitis on admission, and moribund. The appendix was removed after death and was found to measure eight inches in length, and contained two perforations (see Fig. 2).

Cases XXVII., XXVIII., XXXI., XXXII., XXXIII., XXXIV., XXXV., XXXVIII., XL., XLI., XLII., XLIII., and XLV. were chronic, but mild in character without any systemic disturbance, or were acute catarrhal cases without any tumor to be felt save some slight resistance, or any other threatening indications. These came under my observation at the time when their last attacks seemed to be subsiding, and were proper cases for rest in bed and diet. All such patients, however, are always placed on their guard and are informed that an operation may some day be necessary. With Dr. Andrew J. McCosh, I can truthfully say that I have never felt that all cases of appendicitis should be subjected to operation. A certain number of patients recover without surgical interference, and recover permanently. It is to me one of the most difficult problems in the whole realm of surgery, one of the most vital importance, to decide the most favorable moment for operation. Certainly the closest observation and a considerable experience are needed. The general aspect of the patient is more important to my mind than any group of so-called cardinal symptoms.

Case XXIX. exhibits the difficulties which often present themselves when we attempt to differentiate between an abscess arising from the right Fallopian tube and one of appendicular origin. There were two distinct masses to be made out, and a thoroughly septic condition obtained. Operation was refused. Nature made a way by evacuating the pericæcal abscess into the rectum, and two days later there was a discharge by vagina of a sausage-shaped tumor which lay to the right of the uterus.

Case XXX. was post-typhoid; the abscess discharged by rectum, and recovery was complete.

Case XXXVII. I saw at Lake George, N. Y., while on my summer vacation in 1896. A girl, aged eighteen years, in a third attack, presented symptoms of acute catarrhal appendicitis. Operation in the interval was advised, but all overtures in this direction were rejected. This young lady died during her fourth attack of septic peritonitis the following winter.

After a very careful study of the literature of this subject, and an experience based upon the recent personal analysis and care of upward of fifty cases, I wish to give as my opinion that there is a period in the course of every case of appendicitis at which life may be saved by operation. In the words of Dr. Hermann Mynter: "The prognosis depends solely upon this point of time. We ought immediately to operate in every case which commences with acute severe pain, vomiting, rigidity, fever, and does not recede inside of twenty-four hours, as we cannot know positively the condition of the appendix, or whether there is a commencing gangrene or even perforation present."

Fig. 2.—Appendix Eight Inches Long with Two Perforations. (Case XXXVI.)

We must not be deceived by a lull in the acute signs after twenty-four to forty-eight hours, as may be seen from Case XXXIX. as follows:

The patient was a man aged forty-four years, weighing over two hundred and fifty pounds, with a fatty heart. The pain was so severe on Friday and Saturday that morphine had to be used by his physicians in large quantity; the pain was localized, and the man had a temperature of 102° F. I travelled forty miles into the State of Ohio, and saw him on Monday, which was the fourth day of his second attack. His pulse was 80, temperature 99.5° F.; there was neither pain nor rigidity; very slight tenderness was present all over the abdomen, without any reference to the region of the appendix; there was no nausea or vomiting at the time of my visit; the expression was good; the patient was sitting half up in bed, as though nothing was wrong. He had received no morphine for twenty-four hours that might have masked the symptoms, and everything pointed toward resolution. His three physicians agreed with me that it was a case for conservatism and watchfulness. I returned to Wheeling the next morning, and received a message that evening that the man had suffered through the forenoon with lancinating pain all through the abdomen, and that he seemed to be in a condition of profound prostration. I returned by a special train, arriving at midnight, in time to hear the dying words of a victim of delay. The autopsy made that night revealed a diffuse septic peritonitis and a gangrenous perforation of the appendix. There was no visible effort on the part of nature to wall off the death trap. Medical treatment in such cases is certainly of no avail.

In conclusion I would say: Put, if you will, into the one scale the lives that will be saved, and the amount of suffering that will be obviated; into the other scale let there be put what is considered to be a fair estimate of the risks entailed by up-to-date surgical treatment, and I would contend (with Dr. Hawkins of

London) that the balance can be read only in one way.

There has developed in the last few years a very interesting question regarding the attitude of the insurance companies toward persons who have had appendicitis. Through the kindness of my friend, Dr. John L. Dickey, of Wheeling, I am able to give to the profession an up-to-date answer to this question.

I herewith submit letters from several of the leading insurance companies of this country, received by Dr. Dickey in answer to inquiries made in this direction. These life-insurance men look at this and all other subjects in the very practical way of "Will it shorten the applicant's life? If so, how much?" It is very obvious that their evidence is altogether on the side of operation.

From the Equitable Life Assurance Company of New York:

"In reply to your favor of April 3d, in regard to men having had appendicitis, I beg to state that if the appendix has been removed, we are willing to accept a case as soon as the wound has sufficiently healed to demonstrate whether there will be any hernia or not. Of course, if there is a hernia, we must have a statement that the man wears a bandage or truss, sufficient to control the bowel. Where men have had appendicitis and have not been operated upon, we do not like to accept until they have gone quite a number of years without a recurrence. As you very well know, this disease is apt to return, and the recurrence is apt to be more severe than the original attack, so that we always make them wait until a number of years have elapsed without any recurrence.

(Signed) "Edward W. Lambert, M.D.,
"*Medical Director.*"

From the New York Life Insurance Company:

"Regarding the subject of appendicitis upon which you have addressed me, permit me to state in reply, that the New York Life is prepared to accept risks upon this class of cases; and should any applicant be sent to you for examination, kindly examine him, and on your examination blank submit full details of his illness. Of course, in a case where an operation has been performed, we can offer a much better policy, in fact our Ordinary Life Policy, and in other cases we issue a policy with a lien attached, which lien is lifted from the policy after the lapse of five or six years. This inquiry is along the same line which I addressed you a communication some time since, regarding the examination of sub-standard risks. Since the new departure which this company has assumed regarding the acceptance of under-average business, we have been obliged to modify our instructions to medical examiners to a considerable extent, and I am at present engaged in revising our instructions, and hope before long to be in a position to mail you full directions. Until then, when any case presents itself to you for examination, unless he is at the time suffering from some acute ailment, examine him and submit the papers with detailed account of the impairment. What we require is a pen-picture of the applicant as he stands before you.

"S. Oakley Vander Poel, M.D.,
"*Medical Director.*"

From the John Hancock Mutual Life Insurance Company of Boston:

"In reply to yours of the 3d inst., in regard to the insurableness of those who have had an attack of appendicitis, permit me to say that my rule and that of most companies is as follows:

"An applicant who has had recurrent attacks of appendicitis is not insurable. If he has had one attack and the appendix has not been removed, two years at least should go by before he can be considered. If the appendix has been removed by operation, it is in most cases proper to allow a year to elapse before considering the applicant for insurance. Under these circumstances, before a policy can be issued, it is necessary to know whether there is any hernia as a result of the operation, and whether the parts are soft and pliable, and that there have been no abnormal symptoms since the operation was performed.

"Frank Wells, M.D.,
"*Medical Director.*"

From the National Life Insurance Company, Montpelier, Vermont:

"Replying to your inquiry of the 3d inst., I will say that our rules for the disposal of cases in which there is a history of appendicitis are as follows:

"First: Those cases in which recovery occurs without operation, are postponed three to five years from date of last attack. This group is the most difficult of all to select properly, and a certificate from the attending physician is usually required.

"Second: Recovery with drainage of abscess through the bowel; postponed five years.

"Third Successful removal of the appendix, accepted after one year from date of the operation, if no symptoms indicating pernicious adhesion have been manifested. Certificate from attending physician required.

"Fourth: Operation for opening of abscess without the removal of the appendix; postponed from three to five years. "A. B. Bisbee, M.D.,
"*Medical Director.*"

From the Provident Savings Life Assurance Company, New York:

"There is but one rule in this society, viz.: rejection unless the applicant has been operated upon and the appendix successfully removed. No cases are taken where there has been no operation, the matter of time not entering into the question as a factor.

"F. S. Grant, M.D.,
"A. L. Vandewater, M.D.,
"*Medical Directors.*"

61 Fourteenth Street.

## ON THE PREVENTION OF TUBERCULOSIS.

By CARL STRUEH, M.D.,

CHICAGO, ILL.

When a disease is as destructive in its character as is tuberculosis, it is a matter of course that we do everything in our power to prevent the spread of it. We must, however, take care in doing so not to go too far out of our way. We should not waste time and labor to arrive at the desired end by "roundabout" roads. Otherwise we will find the truth only after having passed through all possible errors and disappointments. One of our preventive efforts of to-day, which in the near future will be found of no avail, is the slaughtering of tuberculous cows. Because a number of persons who drank the milk of cows infected with tuberculosis became tuberculous, the milk is at once made responsible for the infection. It is not sufficiently considered that a great many people drank of the same milk without having become infected, and we readily explain this fact by saying these people were not disposed to the infection. We satisfy ourselves with this most superficial explanation without considering to any extent that it is just this disposition which we must regard as the key to the whole question of contagion. There can be no contagion without disposition, *i.e.*, without abnormal cellular conditions. Our efforts, therefore, should be directed toward influencing the cellular life by hygienic means, instead of our making it a principal aim to avoid or destroy the bacilli.

Even if we would admit the bacillus to be the exclusive cause of infection, it would not be in our power to avert it, because we are exposed to it under any and all circumstances. It is very much to be deplored that we still have an entirely erroneous conception of the condition we call disease and of the mission of the bacilli. We still look upon disease as a self-created, self-existing condition, a punishment from heaven against which we are powerless, while in reality it is the necessary consequence of our irrational mode of living, which we are addicted to partly as voluntary slaves of our desires and passions, partly forced to through our social conditions, and which our grandfathers and grandmothers were accustomed to practise voluntarily or involuntarily. Disease is the necessary consequence of our violation of the conditions of health. We know that the existence of every plant and every animal is dependent on certain conditions. If these are not fulfilled, certain consequences must follow. I know that every flower needs water, air, light, and sunshine, and if I deny it these conditions of existence, a certain result must follow the deficient care; it will wither and go to ruin. I know that I must give my gold fish fresh water at times, if they are to remain healthy and live, and if I do not attend to their requirements, if I leave them in the stale water too long, they will soon show visible suffering and die. Similarly it is with man. He must comply with certain conditions of health. His diet must be a proper one, his daily work must be suitable to his constitution, his rest and sleep must be in conformity with his mental and physical labors, etc. A neglect of duty which nature imposes upon us for a healthy life must have consequences similar to those which we perceive in an animal that is not kept as its nature requires. Indeed our entire mode of living is the reverse of nature's demands.

We have long sought the source of internal disease, and were greatly relieved when we discovered the wicked bacilli. These must now answer for everything, although they are as useful in the household of nature as are vermin and every other living thing that exists. "What is in nature, is filled with sense" (Hegel). We have only to think of the way we live, which in every respect is contrary to the laws of nature, and to consider the daily maltreatment of our digestive organs and nervous system, to see evidences right and left for the cause of illness. The bacilli do not take foothold in any organism until we have caused in it an abnormal condition of the cellular life through our irrational living. The bacilli stand on a level with the vermin. There are plenty of people who believe the latter are there for no purpose, while their existence teaches us a very important lesson, the lesson of cleanliness. If we do not follow this lesson, consequences must follow. If we suffer the dirt in our houses to accumulate, if we reject the sunlight, if we keep doors and windows closed to the oxygen of the air, vermin will make their appearance, and as long as filth is allowed to remain, the vermin will remain too. We cannot expect, of course, that nature should present us with these creatures in a pleasing form, otherwise we might enjoy them as pets, but they are made obnoxious and troublesome to us in one way or another, for thereby we are forced to rid ourselves of them, which we can do only by observing cleanliness. Most people are forced to cleanliness only through their fear of vermin. If no vermin existed, a large percentage of the human race would perish in their own filth. A similar mission as that of the vermin is the mission of the bacilli. As the former remind us of and force us to cleanliness, so do the bacilli remind us to live according to the laws of nature. We will understand this better when once we shall have arrived at the conviction that all internal diseases are but the natural consequences of our absurd mode of life, and that our chase after the bacilli, which can settle only upon already diseased cells and never upon healthy ones, is in vain. "Pathology is physiology." The cells of our organisms must be in an abnormal condition, unfit for their natural functions, before they can become "infected," *i.e.*, before bacilli can settle on them. The experiments on animals by no means contradict this assertion, for we always experiment on animals which also live under conditions contrary to nature. We do not experiment on rabbits roaming over grassy greens and living on cabbage in the fields, but on those that are kept in dark stables or narrow cages in which they cannot live and move about as was nature's intention they should. By our denial of their natural requirements we weaken their vitality, their resisting-power, and cause them to be in an abnormal state of health, although we may not be able to discern this fact with our ordinary senses. The line where health ends and disease begins is completely hidden from our perception. If the harmonious activity of our organism is disturbed in such a manner that parts of the latter are unable to perform their functions, they will form a dead substance that is to be dissolved and destroyed by the bacilli. Where there is no such substance, no bacillus will find the conditions for its existence. If our vitality succeeds in removing the disturbance which caused the presence of dead substance, *i.e.*, dead cells, there will be no further necessity for the presence of bacilli after they have accomplished their purpose, the dissolution of the dead substance into its constituent particles. So the bacilli are not there to cause but to cure disease. They retire because there is nothing more for them to do. But it should not be understood that their retirement made us well; on the contrary, they retire because we became well. If on the other hand our vitality is not successful in removing the disturbance, the formation of dead matter will go on, and the presence of bacilli continue, and death must finally follow because we are unfit for further existence, because, according to the law of nature, only the fit shall survive and the unfit be exterminated. We will, therefore, be compelled to centre all our thoughts and actions upon making the general and individual conditions that surround us as conformant to health as is possible, for only by doing so can we keep in health and make ourselves immune against all influences producing disease. As we can cure consumption only by placing the patient under conditions which are calculated to strengthen his powers of resistance, so we can prevent consumption only by the same means. Only by perfect public and personal hygiene will we be enabled to prevent the spread of tuberculosis, but never by such one-sided means as are characterizing all our present efforts. The slaughtering of tuberculous animals, too, is a one-sided measure, by which we shall achieve little that is material. First of all we ought to consider to what cause the tuberculosis of the affected cows can be ascribed. Will the slaughtering of the animals remove this cause, or will not the following generation of cattle be exposed to the same influences? And if we must affirm the latter question, what purpose is there in destroying those few animals? The question is not simply of one animal being "infected" by another. Before the tuberculous "infection" can take place the animal must be susceptible to contagion, *i.e.*, the cells of its organism must already be disturbed, be in a diseased condition. And, therefore, we should above all try to find the cause of this disturbance, which doubtlessly arises from any abnormal conditions under which these cows are kept. And we should do the same thing in regard to man. We cannot drive tuberculosis out of the world without going to the trouble of giving up our ac-

customed unnatural mode of living. If we could, it would be an easy task indeed, but there is not and never will be such an easy way to prevent the spread of tuberculosis. We can do so effectively only by living as nature demands. Herein lies the whole secret of the prevention of tuberculosis. It is true that this will demand many a sacrifice of us, the denial of many an enjoyment and pleasure that have come to us through civilization; but we must make these sacrifices, lay upon ourselves those denials, if we desire to reach a happy end and help to bring about the time when the world will be populated with healthy human beings again, when so frightfully large a percentage of the race will no longer fall victims to tuberculosis as is the case at present. We must learn to live according to the laws of nature, and we must bring up our children in conformity with them. Only in this wise shall we free after-generations not only from tuberculosis, but from most chronic diseases which we have created ourselves. All attempts to prevent the spread of consumption in any other way, however well meant, will prove futile. Let the means employed appear ever so scientific and plausible, we shall at last come to the conclusion that we attempted the impossible. The late congress for the prevention of tuberculosis seem to have arrived at the same conviction. Not from the use of tuberculin or from chemicals, not from one-sided ineffective measures can we expect material success in the prevention and cure of tuberculosis, but only and alone from a strict observance of the ever true and inexorable laws of nature.

## Clinical Department.

### REMOVAL OF EXOSTOSES OF THE EXTERNAL AUDITORY CANAL WITH A HOOK.

By GEORGE B. McAULIFFE, M.D.,

NEW YORK CITY.

During the last six months I have removed from the external auditory canal of three patients, by means of a hook, exostoses which were the primary cause of deafness in two of the cases and the secondary cause in the third instance, in which the disability was hastened by the impaction of cerumen. The exostoses were in each case in the right ear and took origin from the posterior or postero-superior wall, by a base which was small compared to the size of the growth; yet, before removal, the tumors gave no evidence of pedunculation. One, in fact, was thought to be a hyperostosis. Pathologically they belonged to the polypoid form of exostoses, more often seen than either the broad-based, irregular, dense hyperostoses associated with an old otorrhœa, or the pale, rounded, eburnated, slow-growing neoplasms caused by the constitutional dyscrasiæ. No history could be elicited which would throw light on the cause or period of development. The present attack of deafness was the first experienced. From the fact of the situation of the growths in the right ear, it might be conjectured that the cause lay in the existence of a localized hyperæmia, set up by the habit of picking the ears—a habit which would obviously endanger the right more than the left ear and the posterior more than the anterior wall.

Heredity and the influence of brachycephalus, in the causation of local hyperæmia in the formative stage of the external auditory canal, would not enter into the consideration of unilateral growths.

The removal of exostoses has generally been accomplished by means of the chisel, gouge, trephine, or drill, or by modifications of these instruments, designed to protect the deeper structures. The auricle is occasionally disengaged from its bony attachment, to facilitate the operation. In none of the numerous cases reported have I seen mention made of the use of such a simple instrument as a hook, in the removal of these growths.

It so happened that these cases came under observation when either no opportunity existed for anæsthesia or time was not available for extensive surgical interference.

One of the heads of Cook's Tours came, on the eve of his departure for Yellowstone Park, and complained of deafness. The lumen of the external auditory canal was filled by a spheroidal exostosis, the surface of which was coated with cerumen. Cleansing the growth did not improve the audition. The probe revealed more space in the anterior superior portion of the canal than elsewhere. Unable to encircle it, I passed a small hook along the growth, in order, if practicable, to make a channel for audition, until there was an opportunity to have the growth removed. The exostosis was then found to have a slight mobility. Securing a firm hold on the posterior surface by the hook, I made traction, which was completed by the sudden jerking away of the patient. The growth was broken off from its basal attachment and was found to be the size of a small marble. The canal beyond and the drum were found to be perfectly normal, and audition was perfect.

A second patient was placed on the table by a surgeon who proposed to lay forward the auricle, and by means of chisel and mallet to disengage the growth. As soon as the man began to take ether he had a violent epileptic fit. The operation was abandoned for that day. A few days after he came to the clinic, and, remembering my former experience with the hook, I repeated the procedure on him and succeeded, after a few attempts, in evulsing the growth.

A third case presented itself a few months later, and, although the exostosis was deeply seated and had the appearance of a hyperostosis in the usual situation, I tried the hook, and was pleased to find that, after a few attempts made to secure a hold, the entire growth came away.

In these cases, there was scarcely any pain experienced in the evulsion. The inflammatory reaction was slight, and under simple surgical treatment the canal healed readily.

### NEPHRORRHAPHY AND STRIPPING OF THE APPENDIX THROUGH A LUMBAR INCISION, FOR RIGHT FLOATING KIDNEY AND PAINFUL APPENDIX.

By J. COPLIN STINSON, M.D.,

SAN FRANCISCO, CAL.

The following case of right floating kidney and painful appendix, operated upon March 26, 1897, is reported as it illustrates operations on the kidney and appendix performed at the same time through the lumbar nephrorrhaphy incision.

Mrs. M——, aged twenty-two years, began to menstruate at the age of eighteen. She had no pain, but was irregular as to time and duration. She would flow twice or thrice a month. She was married in 1896, and two months afterward commenced to suffer with painful menstruation. She was fond of out-door and physical exercise. In 1895 she fell from a horse to the ground, striking on her back; she complained of pains in the right loin, and a week later began to have pains also in the right side of the abdomen. Later nearly every evening, after being on her feet all day, she had severe pains in the right loin and the right side of the abdomen, dizziness, and vomiting. With the recumbent position and the application of

heat to the abdomen she was relieved of most of the pain. She took medicine several times a day right along, and after her marriage was treated in addition with electricity and vaginal tampons with little or no relief.

I was called to see her in March, 1897. Her general health was below par. She was very nervous, menstruation was painful, appetite and digestion were poor, bowels constipated, no evacuation for four days; pulse 98, temperature 99° F. in the morning, 100.5 F. in the evening. She suffered from pain in the right loin and right side of the abdomen, and had some vaginal discharge. The uterus was markedly anteflexed, the appendages were normal; the right side of the abdomen was painful and tender, with marked tenderness over the region of the appendix vermiformis. I ordered hot douches of potassium permanganate, 1 : 2,000, hot applications to the abdomen, codeine sufficient to relieve pain, free saline catharsis, and rectal injections of soapsuds, containing also castor oil and Rochelle salts. After the bowels had moved freely I again examined the abdomen, this time with the patient sitting in a chair, her feet resting on a small box, with the abdominal muscles relaxed. I detected a right movable kidney, which with pressure could be replaced and with a blow on the loin again displaced. The pain and tenderness over the appendix persisted after the kidney was replaced in the lumbar region. Her temperature and pulse became normal in a few days.

On March 26, 1897, I performed operation with the kind assistance of Dr. G. Gross. Chloroform was administered by Dr. N. Selling. A lumbar incision was made along the outer edge of the erector spinæ from the twelfth rib to near the iliac crest; the structures of the loin were divided, and the fatty capsule picked up and torn vertically upward and downward. The kidney was pushed toward the incision by pressure of Dr. Gross' fist on the right side of the abdomen; it was inspected, palpated, and the tunica propria freely exposed by trimming away the fatty capsule. The peritoneum was opened on the outer side of the kidney and the colon located. The appendix, cæcum, etc., were drawn up into the wound. The appendix was examined by immediate palpation, and contained a small semisolid mass, but did not show other evidences of infection or inflammation. The contents of the appendix were pushed into the cæcum by stripping the canal with the fingers from the distal or blind end to the proximal or open end of the appendix (the appendico-cæcal junction). The semisolid material was in all probability a concretion and the cause of the pain and tenderness over the appendix, as these symptoms did not reappear afterward. The appendix was not extirpated, as it otherwise appeared normal. The cæcum, appendix, etc., were replaced in their normal positions, the cut edges of the peritoneum closed, and the kidney was fastened to the lumbar fascia by four interrupted stitches of chromicized kangaroo tendon. The cut edges of the muscular layers were sutured with tendon and the skin was closed with fine silk without damage (Dr. J. C. Stinson, on another method of fixation of the kidney, in the MEDICAL RECORD, April 17, 1897). The patient recovered, the wound healing by primary union. All the dressings were removed April 13, 1897.

About two months later chloroform was administered by Dr. Gross while I dilated the cervix and curetted, irrigated, and drained the uterus to relieve her of the anteflexion and painful menstruation. She again consulted me in July, 1898, suffering for several months with a fissure of the anus which extended up into the rectum for over an inch. The sphincter was stretched, the base of the ulcer incised, and the overhanging edges of mucous membrane, etc., were trimmed away. The recto-anal wound soon healed.

My attention was called to this case by reading some articles very recently written by Dr. G. M. Edebohls. In the *New York Post-Graduate Journal*, February, 1899, in an article on "Chronic Appendicitis, the Chief Symptom and Most Important Complication of Movable Right Kidney," Dr. Edebohls stated that "the lumbar operation for chronic appendicitis, or rather the simultaneous fixation of a movable right kidney and removal of a chronically diseased appendix through the lumbar nephropexy incision, was conceived and first put into execution by the writer,"[1] to meet just the class of cases we have been discussing this evening. His experience with the operation dates from June, 1898, and is rather limited, embracing only eight cases.

I call attention to this, my earliest kidney and appendix case operated upon at the same time through the lumbar kidney incision, as it dates from March, 1897. From an operative standpoint it is very similar to Dr. Edebohls' earliest case operated upon in June, 1898, with the exception that in my case the appendix was palpated and stripped of its contents, while in Dr. Edebohls' the appendix was excised.

326 KEARNY STREET

## AN IMPROVISED VACCINE EXPELLER.

BY ARTHUR IRVING BOYER, M.D.,
ACTING ASSISTANT SURGEON, UNITED STATES ARMY.

IN the London *Lancet* for February 11, 1899, notice is given of a "vaccine expeller" invented by J. H. Montague, which "is intended for the expulsion of lymph from capillary tubes without resorting to the time-honored method of blowing it out with the breath." Any one who has gone through this "blowing it out" process will appreciate any mechanical apparatus which will relieve one of the necessity of becoming a compressed-air tank.

It was while engaged in work of this character that the thought occurred to me to use an ordinary hand bicycle pump, attaching the very small rubber tube (such as comes with the vaccine) to the flexible end of the pump, the joint being made air-tight by a wrapping of adhesive plaster. The ends of the capillary tube being broken, the pump is attached to one end, and one stroke of the piston accomplishes the desired result. It has advantages over the "vaccine expeller" spoken of, in that it is simple, certain of action, easily obtainable, inexpensive, and is not affected by climate or disuse, as are goods made wholly of rubber.

COAMO, PORTO RICO.

## A TYPICAL CASE OF VACCINELLA.

BY W. E. FOWLER, M.D.,
PHYSICIAN TO THE HUNTSVILLE, TEXAS, PENITENTIARY.

SINCE the day on which the world was startled with wonder and electrified with gratitude by reason of the announcement of the immortal Jenner that he had discovered and reduced to practical utility an effective preventive of smallpox, there have not been found any very large divisions of the globe where the people were—or are—in accord on the subject of its application. Indeed, it is the rule, and not the exception, to find a large number of people opposing the practice of vaccination whenever smallpox makes its appearance; nor does this opposition emanate alone from the ignorant masses—by no means. On the contrary, we find men and women of the first order of intellect earnestly and conscientiously opposing this easy means of escape from one of the most fearful

[1] G. W. Edebohls: "Wanderniere und Appendicitis, deren häufige Koexistenz und deren simultane Operation mittels Lumbalschnitt." Centralbl. f. Gyn., 1898, xxii., 1084.

pests known to the mortuary reports of the world. This is a fact hard to account for; but I am inclined

FIG. 1.

to believe that the opposition has its source in that peculiar freak of human nature (manifested in a goodly number of people) which stimulates a certain amount of antagonism to all public authority. So, therefore, whenever a police decree goes forth ordering the vaccination of the inhabitants, straightway is heard a doleful howl regarding oppression and persecution. But this is by no means all that can be said with respect to this phase of the subject; for very many intelligent people—willing at all times to submit to whatever measures of authority that may be devised, having for their object the preservation of the public health—are found strongly averse to being vaccinated. And we must admit that some of the arguments of these people are very ingenious, if not logical in presentation.

I am of the opinion that much of this opposition (aside from the above suggestion) arises from the occasional well-marked and typical cases of vaccinella, which, as all medical men know, very much resemble true smallpox—even subjectively as well as objectively. Of course I had heard of these sequelæ of vaccination, from brief references in the text books and clinical notes appearing in the journals; but, until recently, it had never been my good fortune to see a well-defined case. Other physicians, with larger fields of labor and greater variety of work—may think my case a very simple one; but, as it has interested me and others who have seen it, I have thought it might be of interest also to the readers of the MEDICAL RECORD.

To illustrate the case more thoroughly, I have had the subject photographed, as shown in Figs. 1 and 2, front and back views respectively. The subject is a negro, aged thirty years, a laborer. He came to the hospital March 19, 1899, suffering with tertiary syphilis, but without any well-marked centres of attack, such as gumma, specific phagedæna, etc.

On the day of his admission I noticed a well-developed vaccinal ulcer at the insertion of the deltoid muscle of the left arm; and, upon inquiry, I found that he had been vaccinated two weeks previously. A few days later there appeared a number of blebs or vesicles about the primary sore. Next day numerous papulæ were seen about the face and neck, and from these points they rapidly spread over the body; but the eruption seemed to have choice of parts, as the illustrations will show—having a tendency to skip certain portions, while attacking in force at other points. The vesicles were transformed into pitted pustules, following, in this respect, the phenomena seen in cases of genuine small-pox; and the peculiar odor was identical with that of the true disease. In fact, the phenomena throughout have been those of smallpox, with the single exception of the absence of pyrexia, there being absolutely no elevation of temperature, save on two occasions, and then it did not exceed 100° F.

He was photographed April 24th, a few days after the appearance of active desquamation. I deem it unnecessary to give the treatment, as it was merely of a calmative and antiseptic nature; suffice it to say that the patient is measurably well, and that there appear to be no other symptoms out of the ordinary. It might be well to note that the specific treatment has not been abated.

Now, it is a very well-known fact that one of the direct effects of vaccinal lymph in the system is to aggravate any cutaneous diseases present; this I personally know to be true, as it is clearly demonstrated in the cases of patients now under treatment here; and as many of the most marked manifestations of syphilis are of a cutaneous character, I have associated the progress of my case with this disease.

HUNTSVILLE, TEXAS.

FIG. 2.

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**The Lubricant** which I prefer is composed of Irish moss, with the addition of eucalyptol, 1 : 1,000, and formalin, 1 : 2,000.—L. BOLTON BANGS.

## A PIPE-STEM IN UTERO.

By WILLIAM J. GREANELLÉ, M.D.,
NEW YORK.

S. J——, female, colored, a cook by occupation, was sent to me by her mistress for relief from "irregular menstruation." She stated that she was twenty-seven years of age, a widow, and that her husband had been dead two years. She had, so she said, suffered from irregular menstruation with some colicky pains for five or six months, and that she had been under treatment during this time at varying intervals, but without relief. Menstruation (she said) had appeared at intervals of two and three weeks since December last, the last flow having appeared a week prior to her first visit to me. When asked if she had at all thought that there might have been some "special cause" for her troubles (pregnancy) she said, "My husband has been dead two years."

On bimanual examination I found the uterus somewhat larger than a Bartlett pear, and, most astonishing, a hard body presenting from the cervix. With some difficulty I succeeded in extracting a semi-cylindrical affair to which was attached a small loop of string. Somewhat confounded at first, my patient finally took refuge in the statement that she thought "the other doctor had put it there" (six weeks before), but on urging her I succeeded in getting her to admit that she "might have been pregnant, but did not know it." She claimed never to have seen the foreign body before.

When this foreign body was washed and dried, I came to the conclusion that it was a half of a celluloid pipe-stem. Evidently an old pipe-stem had been soaked in water until it had straightened out and split longitudinally. Along the centre of the flat side was the nicotine-stained streak representing one side of the canal.

Upon learning these facts her mistress decided to have nothing to do with her further than to see that she went to hospital. I gave her a note to one of the city hospitals with a brief statement of the facts. She promised to report to me in three weeks' time.

Strangely enough (I had been called from my office for a moment during her second visit), when she left the house and I turned to put my new pipe-stem in a safe place, I found it had disappeared as strangely as it had at first appeared in the woman's uterus, but no doubt through the same mysterious hands.

UNIVERSITY HEIGHTS.

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## Progress of Medical Science.

**The Employment of Strontium Bromide in the Treatment of Epilepsy.**—In the treatment with strontium bromide of twelve cases of epilepsy that had previously been treated with potassium bromide, Smith (*Lancet*, August 12, 1899, p. 411) found that there was only a slight difference between the effects produced by the two drugs, though what difference there was was clearly in favor of the strontium salt as regards the absolute number of attacks. It was found also that the seizures were in some instances of milder type, while the tendency to the appearance of a bromide rash was much less marked. A larger dose of the strontium salt was required to control the fits, the largest amount of potassium bromide required being an average dose of twenty grains, while it was necessary to give an average dose of thirty grains of strontium bromide to effect the same result. The potassium salt seemed to exert its action more quickly than the strontium salt, for the seizures were controlled after the former drug had been given for five weeks, but it was not until the end of the seventh week that the same result was brought about by the latter. The good effect of potassium bromide seemed to be more lasting than that of strontium bromide, as it was found necessary to increase the dose of the latter at shorter intervals than in the case of the former.

**Tumors of the Pituitary Body.**—Walton and Cheney (*Journal of Nervous and Mental Disease*, August, 1899) report a fatal case of acromegaly in which after death a perithelial angiosarcoma of the pituitary body was found. From a study of the subject they came to the conclusion that congenital peculiarities in growth resembling those of acromegaly, but occurring in otherwise healthy individuals, may point to structural defect of the pituitary gland, a defect sometimes furnishing the starting-point for new-growth later in life. The occurrence of a pituitary tumor without definite symptoms of acromegaly does not necessarily disprove a connection between the organ and the disease, for the persistence of even a small amount of healthy gland-tissue is sufficient to carry on fairly the function of the pituitary body. The combination of general symptoms of new-growth with optic atrophy and loss of temporal field of vision makes the diagnosis of pituitary tumor almost certain. Hemiachromatopsia is not necessarily of central origin.

**The Treatment of Exophthalmic Goitre with Injections of Iodoform Solutions.**—At the French Congress of Medicine recently held at Lille, Pitres stated that he had given up injections of tincture of iodine in the treatment of exophthalmic goitre, as they are sometimes followed by abscesses. In their stead he now employs a solution of iodoform in ether, of which he injects 1 c.c. into the tissues of the goitre at intervals of about eight days. The resulting pain is acute, but it lasts only for about twelve minutes. The nervous symptoms cease, sleep returns, the gland gradually hardens and becomes smaller, and the exophthalmos disappears. Cardiac irritability persists for some time, but the arterial pulsation diminishes and the sense of palpitation disappears. Of twelve cases thus treated six have remained well for more than two years, and of the one hundred and twenty injections made none was followed by any untoward result.—*The Lancet*, August 19, 1899.

**Eye Accidents in the Trades.**—In a paper read by Dr. Simeon Snell in the ophthalmologic section of the last British Medical Association, it is stated that five per cent. of all accidents to miners, rendering them unfitted to continue their work, are injuries to the eye. He advocates the wearing of protectors for this class of laborers as well as for grinders, and iron and steel workers. He describes a gauze shield, and concludes his paper with the following suggestions: (1) The grinder will find that large glasses made of plain glass, or indeed his own spectacles, should his refraction require their use, will afford great protection. Or he may use other protectors made with glass in front and gauze surrounding it. (2) The use of protectors should be compulsory for those workers in iron and steel whose employment renders them liable to be injured by iron or steel splinters, or who are exposed to danger from molten metal.—*British Medical Journal*, August 12th.

**Exceptional Causes of Insomnia.**—Dr. Oppenheim (*Deutsche Medizinal-Zeitung*, July 27th) mentions the following: (1) The psychogenic form of insomnia in which delusions, mental excitement, and severe emotions disturb sleep; delusions of grandeur which generally exacerbate at night. Of the various conditions of fear it is well known that they occur, as a rule, dur-

ing the hours in which the patient does not long for sleep. A fear of not being able to fall asleep is one of the most common forms. The primary form of nervous insomnia belongs in this category; here the continuous emotional and mental excitement prevents the person from falling asleep. Hyperæsthesia of the organs of sense, especially the ear, is another cause of insomnia. An affection of the optic or auditory nerve may also cause sleeplessness. (2) The dolorous form, in which pain of any character, or from whatsoever source, hinders sleep. The warmth of the bed, the change of position, and the circulatory apparatus, as well as personal observation and attention, may cause it. Paræsthesia and itching of the skin may prevent and disturb sleep. There are neurasthenics who suffer intensely at night from a severe pruritus of special parts, particularly the genitals. The same applies to urticaria, as well as to the circumscribed œdema, both occurring as soon as the patient enters his bed. Thermoparæsthesia may also deprive one of sleep. Under this heading comes the paræsthesia of the auditory apparatus, above all the nervous buzzing in the ears, which in many persons occurs just before falling asleep, whereas during the day they are perfectly free. (3) Gastric disturbances. Nervous dyspepsia, flatulence, tympanites, and eructations occur just at bedtime in persons who are entirely free from such symptoms during the day. (4) Cardiac and circulatory disturbances. These modify sleep by palpitation and pulsation of various parts. (5) Secretory disturbances. Hereunder are included hyperidrosis and salivation, which occasionally occur at night. (6) Motor irritations may influence sleep. It is but little known that the fibrillary twitchings may greatly influence sleep. The twitchings begin just at the moment of sleep. (7) Sexual form of insomnia. Under this heading may be mentioned painful erections, which frequently occur during the night.

**Experience in Appendicitis.**—Doerfler (*Wiener medizinische Blätter*, July 27th) says that for practical purposes appendicitis may be divided into the following groups: (1) Appendicitis propria, limited to the appendix without involvement of the peritoneum and characterized by appendicular colic, severe abdominal pain, and pallor. There is no vomiting. After the attack, tenderness in the appendix region and a sausage-like resistance can be felt. This process is to be differentiated from perityphlitis by absence of dulness and peritoneal irritation. Many cases diagnosticated as renal or biliary colic are appendicitis. A tendency to diarrhœa following irregularities in diet often prevails. For that reason a rectal examination is indicated in persons who complain for any length of time of abdominal disturbances. Internal therapy is useless. Rest, regulation of diet, and perhaps laxatives are indicated. A radical cure is effected by removal of the appendix. (2) In appendicitis serosa the inflammation involves the surrounding peritoneum. The attack is characterized by pain, dulness, and a tangible resistance. There is a great tendency to recurrence. The therapy consists in rest and opium. In case of numerous recurrences operation should be done. (3) Periappendicitis suppurativa circumscripta—that is, the circumscribed peritonitis in the appendix region is characterized especially by meteorismus and resistance in the cæcal region; chills, vomiting, and diarrhœa are often absent. The right limb is moved with difficulty and the pulse is frequent. If the exudate increases in size it may pass between the bladder, uterus, and rectum. The final results may be either encapsulation or perforation, entrance into the free abdominal cavity by the way of the lymphatics with resulting subphrenic abscesses, pleurisy, and extra-peritoneal suppurative areas. Treatment is expectant for two or three days, then operation. (4) The generalized suppurative peritonitis following appendicitis cannot at the very beginning be differentiated from the localized form. After the onset the generalized tympanites may perhaps aid in the diagnosis. (5) The acute septic peritonitis is always fatal. It is characterized by a very violent onset, which lasts during the entire course. Early examination under narcosis is necessary, inasmuch as in early operation lies the only hope of recovery.

**The Relations of Alimentary Glycosuria to Disease of the Pancreas.**—As the result of clinical and pathological observations in conjunction with a study of the literature, Wille concludes, in an article in the *Deutsches Archiv fur klinische Medicin*, Nos. 5 and 6, vol. lxiii., that the systematic appearance of alimentary glycosuria is an important diagnostic guide with regard to the existence of disease of the pancreas, and that neither temporary alimentary glycosuria nor absence of the symptom excludes with certainty such disease.

**Prophylaxis in Typhoid Fever.**—Taylor (*Progressive Medicine*) says: (1) Isolate patients suffering from typhoid fever, or at least do not permit them to be treated in a room or ward containing young people who have not previously had typhoid. The warning contains some wholesome advice too often neglected, and sometimes with sad results, because we are persuaded that typhoid is not an air-borne disease, and forget that contiguity favors infection, because precautions will inevitably sometimes be neglected. (2) Nurses for typhoid cases should, if possible, be only such as have had typhoid themselves. In a family the young people should be removed. (3) The floor of the sick-room should be oiled, so as to be impermeable. Carpets and rugs should be removed, and the raising of dust should be avoided by frequent use of a cloth dampened with antiseptic solution. (4) The nurses should wear linen clothes, which they should remove when they leave the sick-room, and in general they should be warned to be circumspect in their relations with others, and especially careful of the utmost details of antisepsis in the matter of the preparation of food and drink for themselves and others.

**The Origin, the Occurrence, and the Significance of the Eosinophile Cells, with Special Reference to the Sputum.**—As the result of a comprehensive study, Fuchs concludes that the eosinophile cells have no uniform mode of origin. They may arise as well from neutrophile granulations as from metamorphosed erythrocytes through a form of phagocytosis. Their development is not confined to any particular part, as they may arise everywhere in all tissues and organs, and they may thus appear everywhere. There is no uniform point of view from which the increase or diminution or eosinophile cells in the blood can be judged, and no especial diagnostic or prognostic significance is to be attached to them. They are diminished in febrile states. The eosinophile cells of the sputum arise probably in the respiratory tract. Diagnostic significance is not to be attached to them with regard to bronchial asthma. They occur in varying number in conjunction with all diseases of the respiratory tract not attended with fever. The view that in cases of pulmonary tuberculosis they furnish an objective guide for the determination of the powers of resistance at the time is not justified. They may be considered as constituting a sort of sanitary police against the invasion of pathogenic microbes of all kinds, and they are, therefore, present in largest numbers in those organs and tissues that are most exposed to injurious influences.—*Deutsches Archiv fur klinische Medicin*, Nos. 5 and 6, vol. lxiii., 1899.

# MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 51 Fifth Avenue.

New York, September 23, 1899.


## TUBERCULOSIS AND QUARANTINE.

THE new theory of the dangerously contagious character of tuberculosis has now extended its application to a proposed State quarantine against all persons or animals afflicted with the disease. California, it appears, is the first to take a stand in this direction, and a member of its health board has with great apparent seriousness made such a proposition.

The radical character of the measure carries with it enough of sensationalism to be widely quoted by the daily press. If nothing else results from the publication of the views of the official who promulgates them, he will at least receive due credit for an entirely original conception. It is a great pity that other ambitious health authorities have not seized similar opportunities for posing as public benefactors. While such a course might be eminently desirable for political purposes, in insuring a continuance of valuable services to the State, it can certainly not commend itself to a becomingly serious discussion from strictly scientific standpoints. At best it shows only to what extreme of non-sensible application any idea of absolutely quarantining against such a prevalent disease as phthisis can be carried.

If California takes such a stand, why should not each of the other States in its own interests follow suit? What then would become of the poor consumptive, whose right to live somewhere and somehow is hardly to be questioned? The truth is, the present attitude of the new health missionary only proves the danger of snap-shot judgment on a very broad question of utility. It is not to be wondered at that the so-called practical men in our profession are constantly alert in seeking an application for the slightest scientific hint. In the hurry for accomplishing results there is no time for calm discussion of opposite views.

This state of a question was particularly manifest when the ingenious and taking theory of the contagiousness of tuberculosis was first mooted. There was such a very plausible relation of cause and effect with the tubercle bacillus as a controlling factor that there was an irresistible temptation with the majority of the profession to accept the new doctrine without question.

Although, scientifically speaking, the question is by no means absolutely settled, it is considered almost a heresy to take the opposite view, that the bacillus, instead of being a causative element of tuberculosis, may be merely an associated or possibly a resultant condition of the disease. While it is always erring on the safe side to guard against every supposable cause for the spread of disease, it is certainly very difficult to prove by ordinary methods of observation that phthisis is strictly amenable to such laws as generally govern contagious diseases. Until we can be absolutely sure of the latter point, and can give better reasons for our conclusions than at present appear to be possible, it is plainly not wise on general principles uselessly to antagonize the tremendous public interests on the other side.

There are too many object-lessons in every community bearing on the opposite view of actual contagiousness of phthisis to make the public easily convertible to the prevalent professional opinions on the subject. In other words, the public is hardly prepared as yet to take any extreme view. It is willing to be educated, but naturally refuses to be forced. Obviously enough it will be impossible to quarantine against tuberculosis, even if the most stringent laws were enacted to that end. The large number of suspicious persons that it would be necessary to examine, the uncertainties of necessarily hasty diagnosis in incipient cases, and the still larger number of actually diseased persons who would undoubtedly escape any examination whatever, would exemplify a few of the many difficulties which would attend such an absurd innovation.

But these are not all the objections that might be urged against similar measures suggested by over-zealous and misguided extremists. In general all such attempts at bettering existing conditions overreach themselves, make sanitary science ridiculous, and injuriously affect the best-directed efforts of all sound-minded and earnest-working men. The right view of this great question of contagiousness of tuberculosis is somewhere in the middle ground. Is it not possible that there is altogether too much scare in the whole business, and that a little more thought and a little more study may modify present views, and thus make the suggestions for remedial measures correspondingly reasonable and convincingly practicable?

## NERVE TIRE IN THE SCHOOLS.

HALF a million of New York's population is now busily engaged over book and slate. It is no unimportant part of any community's inhabitants, this youthful element for whom each fall the vast machinery of education is set in motion.

Physicians and public-health officials have a duty in the matter which teachers, school commissioners, and parents may at times overlook. All interested in the welfare of the growing generation should pause to consider the question of possible overtraining. A physical or mental wreck is a most depressing sight at any period of life, but a breakdown at the very threshold, when foresight on the part of others might have prevented it, is sad indeed.

No doubt one of the chief causes of nerve fatigue in school children is lack of sufficient fresh air and especially of bodily exercise in it. In the desire to crowd facts and figures into the receptive brain, the instructors, and behind them the commissioners or committeemen, lose sight of that most important fact, that the building of a beautiful character and a physically strong body is the most essential part of the whole education. Where overcrowding prevails in the home life and unhygienic surroundings predispose to conditions of anæmia, the school should all the more endeavor to counteract the evil influences by supplying, so far as possible, the elements of health which are lacking.

Time to breathe a little outside air, time to stretch the muscles, and, above all, time to eat the mid-day meal slowly and to digest it partially before returning to the desk, should be provided.

Dr. Scheidt, who has given much attention to school hygiene, delivered a long address last year before the Associated Sanitary Authorities of Pennsylvania, of which some of the conclusions reached were these:

"(1) I am convinced that the æsthesiometer is the proper instrument for the measurement of fatigue. (2) My tentative experiments with American boys prove a superior normal strength of their mental vigor under favorable conditions of the atmosphere. (3) Unfavorable conditions of the atmosphere show an unusually large percentage of abnormal fatigue of the nervous system. (4) I attribute this condition to the utter lack of systematic open-air exercises. (5) I advocate such exercises for children as a prime necessity, because the foundations of a healthy and useful life are laid between the seventh and fifteenth years, but never afterward. (6) Training of all the functions of the physical organism should precede instruction, because it will develop the necessary mental strength. (7) Children should be classified according to their individual characteristics, and stress should be laid upon the development of their weakest organs, in such a way, however, as to leave plenty of room for individualization. (8) Such exercise should take place every afternoon, and should be continued until the limit of normal fatigue is reached. (9) The exercises should be grouped into muscular, cutaneous, and respiratory. (10) All these exercises should be essentially exercises of the nervous system, to lead to a proper development of character."

Speaking of the part the physician should take in this matter, Dr. Scheidt says: "The chief factor in every school board should be the well-trained physician." When this suggestion is adopted we may look forward to a lessening of that nerve fatigue, irritability, and final collapse which is so often brought about by poor digestion, absence of open-air playground, and the punishment by "keeping in." Of all barbarous practices, that of allowing twenty minutes for a cold lunch, and then detaining a young child after hours in a vitiated atmosphere because indigestion and beginning dyspepsia have produced irritability and inattention, is the most fruitful source of nervous weariness which sooner or later leads to the physical wreck.

## YELLOW FEVER IN CUBA.

The first fruits of our war with Spain are already being gathered, and Cuba bids fair ere long to be wholly free from yellow fever. If this wished-for consummation is indeed brought about—and there seems every reason to hope that such will be the case—then, even if no other advantage is gained this country will not be without its reward for having waged the humane war. Havana, owing to its proximity to this country and to the considerable trade between that port and the United States, has for many years been the means of disseminating yellow fever among the inhabitants of the mainland, and a constant menace to health. Possibly no city in the world so fully deserved the name of "pest hole" as Havana. Its very soil reeked of disease germs, and while the Spaniards remained in occupation of the island there was but little chance of bettering matters. Since the Americans have been in charge of affairs a marvellous change in the situation has taken place, and the statistics illustrating this improvement are eloquent in their simplicity.

In a letter from Havana to the *Evening Post* it is stated that "there have been within the last few months from twenty-five hundred to four thousand cesspools cleaned and disinfected and many of them entirely closed up. All public places, such as hotels, cafés, theatres, etc., have been carefully inspected and thoroughly cleaned and disinfected. . . . The twenty-seven thousand houses in Havana, Regla, and Guanabacoa have been thoroughly inspected throughout and proper sanitary measures taken for their cleanliness and disinfection. . . . All throwing of refuse from the slaughter houses into the harbor has been stopped, and all the city refuse is disinfected with chloride of lime. . . . The city garbage is cremated as much as possible, and the remainder not cremated is towed out to sea some three miles and dumped into the Gulf Stream. Spitting on the floor of public places has been forbidden, and a great deal of the pavement has been relaid. In fact, every method suggested by human ingenuity to ameliorate the sanitary condition of the city has been intelligently and efficiently carried into effect. The result of these drastic measures has been as satisfactory as the most sanguine could have wished. The deaths from yellow fever in 1896 were 1,539; in 1897, 1,056; from 1890 to 1894, under normal conditions, they averaged 400 a year." In the present summer the number of cases of yellow fever has been smaller than for years past. When the fact is taken into consideration that up to the time of the American occupation the city had been filled for three years by sixty thousand Spanish troops, of most filthy habits, and that neither they nor the inhabitants practised any sanitary precautions, the alteration effected in so short a time must be looked upon as remarkable. To General Ludlow and to Major John G. Davis, the correspondent we have quoted says, the credit for the partial hygienic conversion of Havana is chiefly due. Of course much yet remains to be done before Havana can rank as a healthy city, but the success attending these first steps toward sanitary reform has plainly shown that it can and will be regenerated.

## THE TEACHING OF ANATOMY.

To those who are familiar with the present method of teaching anatomy in our prominent medical schools, the thought must often have occurred that perhaps too much was being required of the student, and that the utility of this forcing process was somewhat doubtful, even if it was apparently successful. In the schools of which we are speaking, the students are now taught anatomy didactically and practically, and also histology, chiefly a course in microscopy with no set lectures. Between the anatomy which can be and is taught in the dissecting-room and by lecture, and histological anatomy, there lies a borderland in the subject which might be called laboratory anatomy. This includes the coarse structure of the brain, the organs of special sense, and some other parts. The microscope is not needed for the study of the ordinary anatomy of these structures, but close examination is required, and demonstration cannot be made to a large number of students simultaneously. It is in such, and some other localities, that so much of the increase in instruction in minute details lies, and it is also here that anatomy of the least practical value is taught. The attempt is made at present in our schools to cover the whole subject of anatomy, both gross and semi-microscopic, in the course labelled in the college catalogue, "Anatomy," and the students are required to be prepared upon the whole of the mass of detail which must necessarily be presented to them, regardless of what their future work in medicine is to be. They are thus compelled to acquire, temporarily at least, an enormous number of facts which are for the majority of them useless and promptly forgotten. The minute structure of the internal ear or of the otic ganglion is of no use to a man who intends to practise general medicine or surgery, and he might much better spend his time in a dispensary learning how to treat a scalp wound or a paronychia in the proper way, than in learning the fine points in the structure of the sympathetic system or of Meckel's ganglion. If he should learn all that is known on those subjects, his knowledge will not survive many months, and in a year or so he will probably not retain even a general idea of them. We know that, as a general statement, the acquisition of knowledge upon any subject is desirable, but for those who are preparing to practise medicine at the present day, we must recognize the fact that some knowledge is worth more than other knowledge, and also that individual needs should be considered. In many schools of learning subjects are divided into "major" and "minor," the former taken up by those to whom an extended knowledge of the subject is going to be useful. The "minor" is taught no less accurately and thoroughly, but simply less extensively. Anatomy is of course, with physiology, the foundation of medical science, but it is becoming inexpedient for the student of medicine to be an anatomist to the extent now required, at least ostensibly, in most schools. When the graduate leaves college, he should have a complete knowledge of anatomy to the extent that it is taught in such books as Gray, Morris, or Gerrish, and it is not necessary that he should have been required to sit through lectures or demonstrations in which are quoted anatomical refinements such as are offered in books like Schwalbe's "Anatomy of the Nervous System." Such works can barely be skimmed over, and the mind of the student is temporarily clouded with a mass of indistinct detail, only to resume very soon its pristine freedom from any knowledge of the subject. These works are mines of information for the man who wishes to learn all that has been done in special fields, but are unnecessary to any but such advanced workers. The microscopic structure of tissues and organs is of great importance, and is, as a rule, very well presented to the student. The work in the dissecting-room is also carried on successfully, but in this middle field, the existence of which we have suggested, there is room for reform and reorganization, so that there may be no risk that the future physician will, in his efforts to acquire an exact knowledge of the cochlea, omit to learn the anatomy and relations of the stomach and liver.

## PERIPHERAL NEURITIS AND LOSS OF KNEE JERKS IN DIABETES.

However induced, diabetes usually manifests itself as a metabolic disturbance characterized by defective assimilation of carbohydrates and the more or less constant presence of glucose in the urine. The symptoms present vary widely in accordance with the intensity of the morbid process. Early in life the disease exhibits a peculiar virulence, being usually rapid in course and fatal in termination, while after middle life its existence may not be suspected until routine examination of the urine discloses the presence of grape sugar. Next to the nutritive failure, which is, after the glycosuria, perhaps the most distinctive, as it is the most important, symptom, the toxic manifestations of diabetes are of greatest interest. These have received considerable attention in late years, and it may be hazarded that they are not due to the presence and action of the sugar in the blood or of the substances that are responsible for its presence in the urine, but rather to the activity of certain of its decomposition products. The most serious of these toxic accidents of diabetes is the fatal coma indicative of the overwhelming of the nervous system by the poisons generated in consequence of the deranged metabolism. Among others is peripheral neuritis, with its varied manifestations, some of which have been investigated by Grube (*The Lancet*, July 22, 1899), who in a study of three hundred and ten cases of diabetes found the knee jerk lost in eighty-four (27.1 per cent.) and preserved in two hundred and twenty-six. The proportion of cases in which the reflex was absent increased in general with advancing age, and it is believed that the loss is due to nutritive changes in the nerves as a result of arterio-sclerosis. The knee jerk was lost in 49.1 per cent. of the cases of mild diabetes and in 23.9 per cent. of those of severe diabetes. In sixteen cases—three severe and thirteen mild—the knee jerks were unequal. Increase in the knee jerks was ob-

served in five severe cases, in consequence of the general debility; and in six mild cases, from various other causes. Peripheral neuritis was observed in seventeen cases, being associated in two with increased knee jerks; in four with abolition of the knee jerks on one side; and in eleven with such abolition on both sides. Most of these patients were men; all but one were over fifty years of age and represented mild cases. It was noted, further, that a large amount of sugar is generally present at the beginning of diabetic neuritis, but when the nerve inflammation has once been set up it runs its course independently and apparently without being influenced by the treatment directed against the diabetes. The frequent occurrence of cramps in the legs in diabetic patients is considered as indicating that the amount of sugar circulating in the blood has an influence on the nerves. The cramps appear early when the amount of sugar is large, they disappear when this has been reduced, and they are prone to recur when an increase in the amount of sugar takes place. It is suggested, further, that the impotence manifested by so many male diabetics is also probably caused by nutritive changes in the nervous apparatus concerned.

Williamson (*Medical Chronicle*, November, 1892, and *The Lancet*, July 17, 1897) found the knee jerks absent in about fifty per cent. of one hundred cases of diabetes. He attributed the disparity in the results recorded by different observers as to the frequency with which diabetes mellitus is attended with absence of the knee jerks to the varying character and severity of the cases, the stage of the disease at which the observation is made, and the age of the patient. Williamson believed the association to be more common in severe than in mild cases, and late rather than early in the course of the disease. He further found it present in 76.9 per cent. of cases, in patients under the age of thirty years—when the disease is admittedly more serious than later in life—and in but 40.9 per cent. of those in patients over thirty years of age. The natural conclusion to be drawn from these observations appears to be at variance with that to which those of Grube lead, namely, that absence of the knee jerks is more common in mild than in severe cases of diabetes.

**A Race of Giants.**—It is reported that a captain in the British army named Welby has recently returned from an expedition in the unknown portions of Abyssinia and the countries lying north of Uganda between Lake Rudolf and the Nile valley. He visited and lived among some twenty different tribes, several of which are quite new to explorers. Perhaps the most curious of these were two races of giants said to be seven feet in height, living near Lake Rudolf. Some doubt has been cast on the veracity of Captain Welby in regard to his assertion as to the height of these people; but it should be remembered that the dwarfs discovered by Stanley were regarded by many persons as a myth until the account was verified by other explorers. The Patagonians too, although not averaging seven feet in height, are very tall.

## News of the Week.

**Illegal Practitioners in Wheeling.**—The physicians in Wheeling, W. Va., have undertaken a crusade against all who practise without a degree. At a special meeting of the State Medical Society a committee was appointed to raise funds for this object. Not only will Christian Scientists and other charlatans be prosecuted, but an effort will be made to correct abuses arising under the old State laws by which licenses are granted to unqualified and often ignorant persons.

**Pathological Society of Philadelphia.**—At a stated meeting held September 14th, Dr. W. E. Hughes exhibited a specimen of gumma of the heart from a child twenty-two months old with a syphilitic heredity. The new formation was situated in the interventricular septum just below the division between the auricles. Dr. Joseph Sailer exhibited sections from a case of hypertrophic cirrhosis of the liver, and specimens of fatty and contracted kidney with dilatation of the ureters and pelvis of obscure origin and with hemorrhagic pericarditis. Dr. William E. Robertson exhibited a specimen and sections of osteo-sarcoma of the femur, following traumatism; and a specimen and sections of a mixed tumor of the testicle.

**Yellow Fever.**—Up to September 20th, there have been reported over four hundred cases of yellow fever with about twenty deaths at Key West. From twenty to forty new cases occur each day. At New Orleans one new case of yellow fever was reported on September 18th, making ten cases in all since the disease first appeared. Two cases have resulted fatally, five terminated in recovery, and three patients are suffering from a mild attack and are expected to recover. Both Charleston, S. C., and Augusta, Ga., have declared a quarantine against all towns where the fever has been reported to exist. Sporadic cases are reported now and then as occurring in Santiago de Cuba, and there were two deaths there this week. A passenger on a steamer from New York to Havana was found on arrival at the latter place to be suffering from yellow fever. How the disease was acquired is a mystery, unless perhaps the ship had become infected at Vera Cruz, or some other Mexican port, the weather after her return to New York having been too warm to kill the virus.

**Typhoid Fever in Europe.**—An epidemic of typhoid fever has broken out in the Moabit quarter in Berlin, but the disease is reported to be less prevalent in Paris than it was in August. In Madrid there is also quite an epidemic, fifty-nine cases of typhoid fever having been reported there in one day last week. Since the outbreak of the epidemic, however, the disease has been in mild form, the proportion of cases resulting fatally being small.

**Dr. Alonzo E. Taylor,** assistant director of the Pepper Laboratory of the University of Pennsylvania, has been elected professor of pathology in the medical department of the University of California.

**The Smoke Nuisance.**—The beauty of New York City is being gradually ruined by the volumes of soot poured out from the chimneys of factories, power-houses, and hotels where soft coal is used. The board of health is constantly issuing notices to the press of the work of its lynx-eyed detectives in unmasking the users of soft coal when the air for blocks around is filled with black smoke, but the nuisance goes on. Its latest pronunciamento is that the president of the health board has "sent instructions to the assistant sanitary superintendent of the Borough of Queens to notify the owner of every factory or other place which is at present violating the smoke ordinances that the nuisance must be stopped forthwith. Superintendent Lusk was instructed to proceed against every offender who has had the five days' notice required by law, and cause his arrest. The Long Island Railroad Company will have to comply with the ordinance the same as the factories and other buildings." It is dollars to doughnuts that more soft coal will be used in New York next month than this, and next year than this, so long as the present commissioners are in authority.

**Rabies in Western New York.**—An epidemic of rabies has existed all summer in Erie County, N. Y., and the efforts of the officials to suppress it have hitherto failed. An investigation undertaken by an inspector from the office of the State commissioner of agriculture shows that about the middle of May last a strange dog bit several dogs in the neighborhood of Morton's Corners, in the town of Collins, Erie County, and that this dog covered an area of seven or eight square miles and was finally shot. The dogs that were bitten were chained up at the time, and in seven or eight days developed a disease believed to be rabies. Two of the bitten dogs were killed, while another got away about the middle of June and was afterward found about ten miles away by the owner. It was brought home and died the next day. Another of the dogs also got away about June 15th, disappeared, and has not been heard from since. In all, one man, one child, fifteen cattle, two horses, six hogs, and a large number of dogs have died with supposed rabies, and five or six persons have been sent to this city for anti-rabic treatment. The commissioner of agriculture has now ordered a quarantine against rabies in every town in Erie county, including Buffalo. The terms of the quarantine are that all dogs and other domestic animals susceptible to rabies shall be kept secluded for sixty days.

**More Bicycle Insanity.**—A silly woman has just ridden on a bicycle a distance of seven hundred miles, on Long Island roads, in eighty-one hours and five minutes. Besides being supremely foolish, this young woman's act was also criminal, the law distinctly forbidding tests of the kind continued through more than twelve hours out of the twenty-four.

**Smallpox** has broken out among the troops about to start from San Francisco for Manila. On September 20th there were three well-developed cases of smallpox and fourteen suspected cases in the quarantine hospital at the Presidio, San Francisco. Five of the suspects showed almost unmistakable symptoms of the disease. All the patients are members of the Thirty-first Regiment.

**Tuberculosis Quarantine.**—The attempt of the California State board of health to establish a quarantine against human beings and domestic animals suffering with tuberculosis is not likely to be imitated elsewhere. The quick-witted inhabitants of Arizona have already issued a statement that the climate of that State is so dry and pure that there can be no reason whatever to fear the spread of tuberculosis there.

**The Plague.**—Reports of the prevalence of the plague come from many and widely separated parts of the world. In India there has been a falling off in the number of new cases and of deaths, but in Hong Kong there are about twenty deaths a week. The premier of Cape Colony announces that the disease exists at Magude, Delagoa Bay, in most virulent form, every one of the forty-two persons attacked up to September 14th having died. A dispatch from Buenos Ayres, dated September 18th, states that the bubonic plague has broken out at Asuncion, the capital of Paraguay.

**The Mississippi Valley Medical Association.**—The annual meeting of this association will be held at Chicago, Ill., on October 3–6, 1899, under the presidency of Dr. Duncan Eve, of Nashville, Tenn. The secretary is Dr. Henry E. Tuley, of Louisville, Ky. The address in medicine will be given by Dr. J. A. Witherspoon, of Nashville, and the address in surgery by Dr. Lewis S. McMurtry, of Louisville. The programme gives the titles of about sixty papers. This association was founded as the Tri-State Medical Society of Indiana, Kentucky, and Illinois, but gradually membership was extended to the citizens of other States, and even the limits of the Mississippi Valley have been passed, the meetings being attended by physicians from east of the Alleghanies and from as far west as Utah. Indeed the society is rapidly occupying national territory and threatens to rival the American Medical Association. At the meeting in Louisville in 1897 definite organization was adopted, including constitution and by-laws. The most important change was made in the membership, which became continuous, dependent upon regular payment of dues, two years' non-payment causing forfeiture. The first meeting was held in Vincennes, Ind., in 1875. In honor of the association and for the convenience of its members a series of about one hundred and forty public clinics will be given at the various hospitals and dispensaries from September 25th to October 2d, and from October 7th to October 14th.

**The New Dispensary Law.**—These be parlous times for the so-called medical charities, between the comptroller's determination to cut them off from the public crib and the coming into force on October 1st of the amended dispensary law. This law defines a dispensary as "any person, corporation, institution, association, or agent whose purpose it is, either independently or in connection with any other, to furnish,

at any place or places, to persons non-resident therein, either gratuitously or for a compensation determined without reference to the value of the thing furnished, medical or surgical advice or treatment, medicine or apparatus, provided that the moneys used by and for the purposes of said dispensary shall be derived wholly or in part from trust funds, public moneys, or sources other than the individuals constituting said dispensary and the persons of said dispensary actually engaged in the distribution." All dispensaries must be licensed, and each applicant, before he receives a license, must swear that the dispensary is for the benefit of the public, and no one can conduct a dispensary without this license. The license shall not dictate any school of medicine to be practised in the dispensary, but the board of State charities is empowered to visit and examine every dispensary and to revoke a license after due notice if it finds that the law is being violated. The law forbids the carrying on of a dispensary in a tenement house or in connection with an apothecary shop. Any person who violates the law is guilty of a misdemeanor, punishable by a fine of not less than $10 and not more than $250. The same fine is fixed as the punishment of any one who obtains dispensary relief by false representations of poverty or inability to pay for medical advice. According to the "Medical Directory" for 1899, there are eighty-eight dispensaries and infirmaries in Greater New York, but if the drug-store dispensaries and similar places are included this number will be more than doubled.

**Hunting in Hawaii.**—Dr. Nicholas Senn, of Chicago, has returned from the Hawaiian Islands with a weird tale of the game conditions on the island of Molokai. Deer are so numerous that when it comes to velvet time they kill the trees by rubbing their horns; and professional hunters from California have been imported to destroy the deer and save the forests. This fable teaches that when it comes to expert tall talk in hunting stories, we have nothing to teach the native talent of the Hawaiians.—*Forest and Stream.*

**A New Harlem Hospital.**—President Keller of the Charities Department has asked the board of estimate to include $474,500 in his appropriation for 1900 for alterations and repairs to buildings. This sum is $274,500 in excess of the amount appropriated for the same purpose last year. Among other things to which the money will be applied is the building of a new Harlem hospital, which will cost $150,000.

**The "Relief" Unseaworthy.**—The steamboat inspectors of San Francisco have condemned the hospital ship *Relief* as unfit to carry passengers on the ocean. The boat was about to sail for Manila with twenty women nurses and one hundred men of the hospital corps in addition to her regular staff. The War Department ordered an investigation, and the report of the board has been received. In it the board says that "although of the opinion that the ship is structurally strong enough to make the voyage, recommends that she be sent on her proposed voyage with her officers and crew only; that the passengers (nurses and men of the hospital corps) be not taken in the ship, but sent to Manila by some other means; that sufficient of her cargo be removed and the space so gained be filled with additional coal; that the voyage be made via Honolulu and Guam to avoid possible rough weather, and that the ship be retained in the Philippines and not used for long ocean voyages or for voyages in the season when storms may be expected." The hospital corps men and nurses will be sent on another vessel.

**Navy Department,** Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending September 16, 1899. September 8th.—Surgeon M. H. Crawford detached from the marine recruiting rendezvous, Chicago, Ill., and ordered to the marine recruiting rendezvous, New York, N. Y.; Passed Assistant Surgeon E. S. Bogert detached from the marine recruiting rendezvous, New York, N. Y., and ordered home and to wait orders; directed to be ready for orders to sea duty; Passed Assistant Surgeon J. M. Moore detached from the *Vermont* and ordered to the marine recruiting rendezvous, Chicago, Ill.; Assistant Surgeon M. S. Elliott detached from the marine recruiting rendezvous, New York, N. Y., and ordered to the *Vermont;* Assistant Surgeon W. M. Garton detached from the *Franklin* and ordered to the Washington navy yard. September 11th.—Surgeon P. A. Lovering ordered to duty at the recruiting rendezvous, Buffalo, N. Y.; Passed Assistant Surgeon W. F. Arnold ordered to the Pensacola navy yard; Passed Assistant Surgeon H. N. T. Harris detached from the Pensacola navy yard and ordered home and to wait orders; Assistant Surgeon J. S. Chaffee, resignation accepted. September 13th.—Medical Director J. R. Tryon detached from duty as general inspector of naval hospitals and ordered home and to wait orders; Assistant Surgeon E. C. Parker detached from the Pensacola and ordered to the *Hartford.* September 14th.—Medical Director J. R. Tryon retired September 24th; Passed Assistant Surgeon L. L. Von Wedekind granted sick leave for three months, when discharged from naval hospital, Mare Island, Cal.

**Obituary Notes.**—Dr. Robert B. Cruice died suddenly at Philadelphia on September 14th, at the age of sixty-one years. He was graduated from the medical department of the University of Pennsylvania in 1859, and he entered the army as an assistant surgeon in 1861, retiring from the service in 1863, after injuries resulting from a crush by a horse. He later became house surgeon and subsequently physician and surgeon in charge and in 1894 president of the medical staff of St. Joseph's Hospital.—Dr. Karl Stoerk, professor of laryngoscopy and rhinoscopy at the University of Vienna, died on September 14th. He was born in December, 1852.—Dr. William H. Taggart, of Philadelphia, died on September 20th, in a sanatorium at Wernersville, of Bright's disease. Dr. Taggart was born in 1829. During the Civil War he served with distinction as regimental surgeon.

## Therapeutic Hints.

**Summer Diarrhœa in Infants.** — As summer diarrhœa is so apt to be of a putrefactive nature, all agree upon the necessity of completely clearing out the gastro-intestinal tract as a necessary start in treatment. In most cases when the physician is called, the stools are loose and there may be vomiting. By at once stopping all milk, the stomach is soon emptied, and the principal indication is to clear out the bowel. If vomiting continues, draughts of tepid water may be administered, which, when rejected by the stomach, wash out that organ. I do not believe it is often necessary to wash out the stomach with a tube. Sometimes when there is excessive irritation of the stomach, with much production of mucus, one washing out, however, will give relief. I usually employ tablet triturates of calomel, gr. $\frac{1}{10}$, every hour until six or eight have been administered. These small doses act as a sort of a stimulant to the bowel, increase glandular activity, and usually effectively clear out the canal of its fermenting contents. The drug is also supposed to have some antifermentative effect. A good-sized dose of castor oil is also effectual, and is followed by a sedative effect on the mucous membrane. The drug that I have found most useful in the summer diarrhœa of infants is the subnitrate of bismuth in large doses. As far as I have observed, the subcarbonate, salicylate, and subgallate of bismuth and beta-naphthol bismuth have no decided advantage over the subnitrate, which is everywhere procurable. — Dr. Henry Dwight Chapin, in *The Medical News*, July 15, 1899.

**Constipation in Infants.**—Constipation in infants is the practitioner's bugbear. He recognizes the inadvisability of the habitual administration of laxative drugs to the young, but is often driven to countenance their use by the paucity of the resources at his disposal. It is important to bear in mind that constipation in infants is due, in a large measure, to the element casein, which, if it is present in milk in larger quantities than normal, as compared with the fatty elements, tends to interfere with the due performance of the digestive functions. A child fed on normal casein, but with a low portion of fat, will probably be constipated. In breast-fed children it does not follow that the proportions of casein and fat are normal, for the maternal supply may be faulty in this respect. Disturbances of health, especially in the direction of indigestion on the part of the mother, will necessarily be reflected in the composition of the lacteal secretion, as can be demonstrated by analysis. The first step, therefore, must evidently be to regulate the habits and life of the mother. She must be placed on a diet of fresh meat, fresh vegetables, and freshly cooked fruit, with due provision for regular exercise and restriction in the matter of tea drinking and other dietetic irregularities. This *régime* will diminish the proteid and increase the fatty constituents of the milk, and will go far to rid the infant of the tendency to constipation. Should it fail, the best treatment for the child is the administration of cream in doses of from one to two teaspoonfuls in warm water from time to time just before the periodical meal.—*Medical Press and Circular*, July 5, 1899.

**Enteric Fever.**—Dr. William Cecil Bosanquet, in an article on "Notes on Two Hundred and Fifteen Cases of Enteric Fever" (Charing Cross Hospital) published in the *British Medical Journal*, July 8th, refers to the treatment employed as follows: "As a rule, treatment was expectant and consisted of liquid diet, absolute rest, and attention to symptoms. The routine medicine was dilute hydrochloric acid, with syrup of orange and water. Excessive fever was treated by tepid, cold, or iced sponging. Ice-cradling was also employed with less visible benefit. In one case treated by raising the bedclothes on a cradle, the patient died of double pneumonia. Antipyretic drugs were not frequently used, with the exception of quinine, which appeared beneficial in some cases. Of antiseptics, turpentine was most frequently relied upon, and was taken well in most instances. The same cannot be said of naphthalene, which frequently caused sickness. In at least one case the pills in which it was contained were persistently passed in the motions unaltered. Antityphoid serum was used in a few cases without visible effect. In one of these cases a relapse subsequently occurred."

**Septicæmic Infection Treated with Antistreptococcus Serum.**—Dr. J. Mitchell Bruce (*British Medical Journal*, July 8, 1899) reports one case of septic endocarditis in the treatment of which the use of the antistreptococcus serum was entirely successful. The conclusions drawn from the one case are: (1) That antistreptococcus serum may succeed in septicæmia after ordinary means have failed; (2) that it may act with great rapidity, all the phenomena disappearing in the course of forty-eight hours. He also reported a case of septicæmia of the cerebrospinal-fever type, from which case he drew the following interesting conclusions: (1) As before, that in some cases of a septic kind antistreptococcus serum is successful; (2) as before, that the effect may be extremely rapid; (3) that success may be attained after other measures have failed; (4) that success may be attained with one serum, after another serum has failed. He advised that one should not be content with one serum if it proved unsuccessful.

**Plastic or Croupous Bronchitis.**—Treatment divides itself under two heads: (1) means used to loosen and dislodge the plugs; (2) to prevent their recurrence. The employment of emetics seems rational, but unless the fibrinous casts are already lying loose, it is difficult to eject them by inducing vomiting. Besides, as we have no exact means of knowing when the plugs have become so thoroughly loosened that they can be thrown off, it is, on the whole, the wiser plan not to administer emetics. Various inhalations, medicated and otherwise, have been suggested, but in my experience I cannot say that any of them were of the slightest service. I regard the treatment of plastic bronchitis as, generally speaking, unsatisfactory. Nothing short of expulsion of the casts gives relief. Lime-water or lactic-acid sprays and inhalations, also solution of the alkaline carbonates, are not more reliable. The internal administration of iodide of potassium with or without expectorants gives as good results as anything. Ewart recommends the cautious intratracheal injection of oil, or a mild solvent such as lime water or trypsin. To prevent recurrence I know of nothing better than the employment of such means as will improve the general health, living in a dry, bracing atmosphere, good food, the internal administration of tinct. quin. ammoniat., nux vomica, and cascarilla, with or without cod-liver oil.—Dr. Thomas Oliver, in the *British Medical Journal*, July 8, 1899.

**Inhalations of Oxygen in Morphine Poisoning.**—Dr. Playfair (*Lancet*, No. 3,913, 1899) successfully treated with inhalations of oxygen a case in which thirty grains of the acetate of morphine had been taken. Several hours after oxygen inhalations were made, followed by hypodermic injections of atropine and strychnine, and strong coffee and brandy were given. This treatment was continued for nearly ten hours, with complete recovery of the patient. The

author is of the opinion that oxygen not only acts as a direct heart stimulant, but possesses some oxidizing effect on the poison.

**Arsenic in Typhoid.**—According to Dr. Wilson (*La Semaine Médicale*, No. 1, 1899), arsenic is an excellent intestinal antiseptic in typhoid, and when given from the outset of the disease shortens its duration. He uses the following formula:

| | |
|---|---|
| R Ammon. chloridi | 16 gm. |
| Liq. Fowleri | 4 " |
| Aq. destill | 120 " |

M. S. One coffeespoonful every three or four hours.

Treatment should be continued for a short period after the fever has abated.

**Sea-Sickness.**—When I have the chance to advise prospective voyagers, I always insist on careful diet for several days before going to sea, and a liberal calomel and saline purge about forty-eight hours before sailing.—P. K. TAYLOR.

**Lime in the Eyes.**—Washing out the eye immediately with a solution of sugar water is said to stop the pain at once, and lessen the danger of permanent injury. The sugar enters into a chemical combination with the lime, which loses its caustic properties.—*Monatsch. für Hom.*

**Important Tips.**—1. The value of small doses of tincture of aconite frequently repeated in the treatment of amygdalitis and in the initial stage of febrile diseases.

2. The value of painting the chest and back with liquor iodi fortis—diluted if necessary with an equal quantity of the tincture—in all cases attended with cough.

3. The value of a pill of exsiccated ferrous sulphate in conjunction with the administration of purgatives in the treatment of anæmia.

4. The value of grain doses of gray powder with an equal quantity of Dover's powder from three to six times a day in the treatment of syphilis.

5. The value of large doses of the iodides in the treatment of tertiary syphilis.

6. The value of large doses of bromide of potassium in the treatment of the "heats and flushes" and other symptoms from which women suffer about the time of the menopause.

7. The value of large doses of quinine in the treatment of supraorbital neuralgia, and in the periodical febrile disturbances from which old malarial patients suffer.

8. The value of five grains of butyl-chloral-hydrate with one two-hundredth of a grain of gelsemin in neuralgia of the fifth nerve.

9. The value of small doses of a saturated solution of camphor in alcohol in the treatment of autumnal or choleraic diarrhœa.

10. The value of small doses of perchloride of mercury in the treatment of infantile diarrhœa when the stools are green, slimy, and offensive.

11. The value of sulphide of calcium in doses of a tenth of a grain in the treatment of boils, carbuncles, and abscesses.

12. The value of nitroglycerin and nitrite of amyl in the treatment of angina pectoris and allied conditions.

13. The value of alcohol in the treatment of fevers.

14. The value of flying blisters in typhoidal conditions.—WILLIAM MURRELL.

**Morphinism, Preventive Treatment.**—I do not advise that physicians should no longer make morphine injections, nor even to lessen the number of prescriptions of morphine; this would be to deprive ourselves of one of our best remedial agents in certain cases. But I believe there would be far less morphiomaniacs if, on the one hand, physicians would always insist on themselves making hypodermic injections of morphine for their patients, never entrusting their syringe and morphine to anybody; and if, on the other hand, pharmacists would never fill a prescription for morphine, except the exact number of times indicated on the blank, and once only when there is nothing stated to the contrary. I am convinced that this very simple rule would virtually put an end to morphinism, without depriving us of a precious remedy which is discredited, indeed though unjustly, by reason of the abuse that has been made of it.—ZABACO, quoted in *The National Medical Review*, December, 1898.

**Neuralgia of the Trigeminus.**—

| | |
|---|---|
| R Ext. cannabis indicæ | 0.50 cgm. |
| Acidi salicylici | 5.00 gm. |

For ten cachets. S. One three times a day.

—HIRSCHKRON.

**To Produce Abortion** it suffices for the pregnant woman to remain fifteen minutes in a newly painted room, showing the power of turpentine.—*Maine Journal of Medicine and Surgery.*

**Blennorrhagic Orchitis.**—Applications of salicylate of methyl—twenty drops allowed to fall upon the enlarged scrotum, suspended by a strip of firm material stretched between the thighs, three times daily, covered with impermeable dressing, and over this layers of cotton.—PAUL CAZIOT, *Gaz. Hebd. de Méd. et de Chir.*, February 19th.

**Influenza.**—In over four hundred cases hydrochlorate of phenocol (a combination of phenacetin and glycocol) was employed with decrease of temperature, disappearance of headache, and gradual disappearance of the phenomena. Adult dose, 2 to 3 gm. daily, and in children 1 gm. in divided doses.—VILLANI, *Gaz. Med. Lombarda*, No. 51, 1898.

**Genital Vegetations.**—Dust with pure resorcin or paint on with a brush slightly moistened, and cover with a dry dressing. Repeat daily until lesions fall off. In multiple sessile growths on the prepuce, glans, banalo-preputial fold, about the vulva, etc., paint with ten-per-cent. resorcin in collodion or apply in twenty-per-cent. strength in oil. When the skin is dry, as over the labia majora, a fifty-per-cent. resorcin collodion may be used.—SILBERMINTZ.

**Motor Insufficiency of the Stomach.**—The treatment comprises: (1) The removal, as far as possible, of the etiological factor. (2) A system of dietetics which gives an adequate functional activity to the stomach, followed by a sufficient period of rest with due regard to the general nutrition of the patient. A large number of laboratory experiments and clinical observations have convinced me that two meals a day of properly prepared and suitable food meets this indication far more perfectly than does the frequent-meal system. (3) Medical treatment, or the use of drugs. (4) Mechanical treatment, comprising: *a*, lavage by the direct method; *b*, intragastric douching; *c*, lavage by the indirect method, protecting the mucous membrane from direct contact with the water by means of a thin rubber bag; *d*, pneumatic gymnastics by intermittent distention and contraction of the stomach by the use of cold or heated air; *e*, gyromele, and *f*, intragastric electrization. (5) General treatment: 1. *a*, physical exercise; *b*, H-extension movement; *c*, outdoor exercise; *d*, massage. 2. Rest method. 3. Baths: *a*, hot and cold general full bath; *b*, foot baths; *c*, sitz baths. —FENTON B. TURCK, *Journal of the American Medical Association*, February 4th.

# Society Reports.

## INTERNATIONAL CONGRESS OF GYNÆCOLOGY AND OBSTETRICS.

*Held in Amsterdam, August 8, 9, 10, 11, and 12, 1899.*

(Special Report to the MEDICAL RECORD.)

### OBSTETRICAL SECTION.

*Third Day—Thursday, August 10th.*

(Continued from page 423.)

**Ovarian Pregnancy.**—DR. CATHERINE VAN TUSSENBROCK, of Amsterdam, read a paper with this title. She began by quoting from Dr. J. Clarence Webster's work on "Ectopic Gestation" the statement, "There is no proof that a pregnancy has ever started in a Graafian follicle." This proof she purposed to give. The case was one diagnosed as ruptured ectopic pregnancy by Dr. Kouwer, of Utrecht, and operated upon by him: A woman, aged thirty-one years, Vpara; she had never had a miscarriage nor any previous pelvic disturbance. At the laparotomy, a great quantity of dark blood gushed forth; the uterus was soft and somewhat enlarged; the left ovary and tube were normal. In the region of the right ovary was found a tumor as large as a walnut, to which blood-clots adhered. The right ovary and tube were removed. From the fourth to the seventh day after operation great pieces of decidua were expelled with labor pains. She made a good recovery. In the specimen exhibited the tube was quite normal; the fimbriæ were somewhat conglutinated, but the lumen was free. Pathological adhesions between the ovary and tube did not exist. From the ovary arose a round tumor, with a broad pedicle, of the size of a walnut. Near its top was an opening which was filled up by a clot at the time of operation. It was hardened in Müller's fluid and preserved in alcohol, and then sectioned in the median line through the opening mentioned. The gestation sac in the tumor was thus cut in half, and an embryo appeared of almost 12 mm. length, fixed by a short and thick umbilical cord. The amnion lay loosely attached to the inner surface of the gestation sac. Dr. van Tussenbroek then went on to say that the demonstration of an ovarian pregnancy in this case, almost certain from macroscopical appearances, was proved by her microscopical sections. These she then demonstrated. As remnants of the corpus luteum were found in the whole periphery of the ovisac, we must conclude that the ovum had developed in a Graafian follicle, which, after rupture, had undergone the well-known metamorphosis into a corpus luteum. Decidual transformation of the connective tissue in the ovisac was nowhere to be found; and therefore Webster's decidual reaction was not a *conditio sine qua non* of the implantation of the ovum. The main conclusion was that ovarian pregnancy was a fact, and that it meant pregnancy in a Graafian follicle.

DR. MEYER asked if the preparation had been examined in series of sections through the whole organ: for without that it was impossible to exclude the possibility that the ovum had had its original site on the fimbria ovarica. He also asked if the layer of lutein cells in the wall of the fœtal sac were not interrupted in a limited space where the specimen demonstrated seemed to indicate such an interruption.

DR. PINARD regretted that the speaker had no macroscopical section of the whole specimen showing the relations of the ovary and tube.

DR. VAN TUSSENBROEK replied to Dr. Meyer, that although the layer of lutein cells did not come quite to the opening of perforation, it came very near it. Series of microscopical sections had been made, but not through the whole specimen. As for Dr. Pinard's remarks, although she had no complete macroscopical section, she thought that what was still left of the specimen would prove definitely that the ovisac was quite free from the tube; this she would demonstrate.

**Management of Labor in Abnormal Pelves.**—DR. DAVIS, of Philadelphia, read this paper. He gave the results of his experience in twelve hundred and twenty-four cases, in all of which he had performed palpation and pelvimetry. He adopted as a standard of abnormality a variation from the average of 2 cm. in the antero-posterior diameter, or of 2 cm. in any other two diameters. In every case of suspected abnormal pelvis, it was necessary, with a view to the management of labor, to make a very thorough examination; if necessary under ether. It was of great importance to determine the relations in size of the pelvis and the fœtal head. He emphasized the necessity of examining the excretion of urea. If this fell below one per cent., it was an indication for prompt interference. Eclampsia had not occurred in his cases when they had been under observation before labor; all eclamptics had been emergency cases. The pregnant woman should be got into the best general condition; the emunctories especially should be in order. The speaker then gave some details of practice in the conduct of difficult labor. He usually employed Simpson's forceps with Toulet's device of tapes for axis traction. He found Walcher's position of very decided service when it became necessary to use forceps and the head was not on the pelvic floor. He limited version to cases of simple flat pelvis in which contraction was not great, *i.e.*, the internal conjugate must be at least 8 cm. He did symphyseotomy, with good results, in cases with a true conjugate of 8.5 cm. and upward if the head failed to enter the pelvis. In Cæsarean section he preferred cœliohysterectomy with intrapelvic treatment of the stump. He described his technique. In summing up, he gave the following figures: Thirty-two per cent. of pelves were abnormal. Of these, twenty per cent. required obstetrical operations. The total maternal mortality in abnormal pelves was 1.2 per cent.; total infant mortality, six per cent. He emphasized the absence of infection and of hemorrhage in his cases; also the good results of his Cæsarean sections.

**Nomenclature of the Oblique Diameters of the Pelvis.**—DR. LA TORRE, of Rome, contributed this paper. He called attention to the confusion which existed in the nomenclature of these diameters. Among French and Italian obstetricians the left oblique diameter, for instance, was that one which ran from the left anterior to the right posterior portion of the pelvis; among English, American, and German obstetricians, on the contrary, it ran from the left posterior to the right anterior portion of the pelvis. To the objection that the Germans had now abandoned the terms left and right, and had adopted the terms first and second, he would answer that this denomination rendered only more indeterminate and vague the clinical significance of these diameters. His conviction was that the oblique diameters should be conceived of as running from the ileo-pectineal eminences backward to the sacro-iliac synchondroses; and that they should take their name from the anterior point of departure. His main reason was that, inasmuch as a very large proportion of presentations were vertical, and that in ninety-five per cent. of these the occiput lay anteriorly and to the left, the line of the sagittal suture and the situation of the occiput in this position (anterior and to the left) should (by reason of frequency) give the name to the diameter; which would therefore be called the left oblique diameter. Secondly, in measuring any line, we always intuitively began from the point nearest ourselves. This princi-

ple, applied to the pelvis, would make us conceive of the diameters as running antero-posteriorly. He would, therefore, urge the general adoption of the French and Italian nomenclature, of which he had demonstrated the rationale.

At the conclusion of this paper Dr. Bar proposed that an international committee should be named to consider the question of nomenclature. The following gentlemen were, later, elected as members of this committee: Drs. Treub (president), Bar, La Torre, Rapin, Queirel, de Kein, Davis, Simpson, Freud, and Jue.

The committee immediately nominated Dr. Bar as its secretary, and indicated that the report would be submitted for discussion at the obstetrical session of the Paris Congress in 1900.

**The Morphological Classification of Pelvic Deformities.**—Dr. La Torre, of Rome, presented a second communication having the above title. It was altogether a defence of the classification, based entirely on morphology, which he had devised and presented before the last International Congress of Medicine in Moscow, together with a critique of the various classifications proposed by others since that time. He referred in detail to Müller's classification, to Tibone's, to Fochier's, and to Delore's. All these he rejected in favor of his own, answering at the same time their objections to his.

**Labor and Nephritis.**—Dr. Favre, of Chaux-de-Fond, read a paper with the above title. In following a series of fifteen cases, which he had treated for nephritic affections previous to pregnancy, M. Favre had observed that, while the temperature remained normal during the first two days after accouchement, it ran up to 38° C. and over on the third day; that albuminuria, also, increased gradually to the third day; that at this time they all showed signs of uræmia or pseudo-uræmia—headache, nausea, and visual disturbances. He believed these were certainly uræmic, and had nothing to do with lactation. He believed that the main factors in the etiology of the albuminuria of pregnancy were urinary retention, the frequent presence of bacteria in the blood, the hydræmia of pregnancy, and fatigue. There were two main factors in prognosis: (1) The kind and degree of the fatigue during both pregnancy and labor; (2) the degree of the albuminuria.

**Omphalotripsy.**—Dr. Porak, of Paris, read this paper. He presented an omphalotribe devised by himself. According to clinical experiences detailed, he concluded that omphalotripsy, crushing the cord to the skin level, was the only sure means of preventing infection, and that a dry powder dressing was the quickest way of obtaining desiccation.

The question was then discussed by Drs. Keiffer, Pinard, Chaleix, Queirel, and Bar. The general impression was that the procedure, in view of present aseptic methods, was unnecessary.

**The Action of Quinine in Pregnancy.**—Drs. Chambrelent and Brutère, of Bordeaux, presented this communication. The authors had found a very great variability in the action of the sulphate of quinine. Frequently, even in large doses, it remained altogether without effect in provoking uterine contractions, and even in some cases seemed to arrest contractions already begun. Certainly in some cases it did cause such contractions. Their conclusion was that caution was necessary in administering the drug.

Dr Davis, of Philadelphia, remarked that it was the experience in America that quinine given for malaria in pregnant women did not interrupt pregnancy.

Drs. Cordes, Pasquali, and Pinard also discussed the question, agreeing in the main with the essayist.

**Sections of Frozen Uteri in Pregnancy, Labor, and the Puerperium.**—Dr. Cosentino, of Catania, presented this paper, with illustrative drawings. One case was that of a VIpara at the beginning of the sixth month of pregnancy, who died of cardiac lesions. The second was that of a woman, aged twenty-six years, IIIpara, who had died during labor. The third was that of a girl, aged nineteen years, who died twenty-four hours after a difficult labor, of septicæmia.

**The Influence of Posture on the Form and Dimensions of the Pelvis.**—Dr. Pinzani, of Pisa, who was to have opened the discussion, being absent, his contribution was read by Dr. La Torre, of Rome. Dr. Pinzani first called attention to the fact that, in the movement of the legs from the lithotomy position to that of Walcher, there takes place *pari passu* a movement of the iliac spines, which describe part of a circle in a forward and downward direction, and also a gradually increasing lumbar lordosis; except that the lordosis, after the horizontal position was passed, increased no further. This he proceeded to explain in detail as follows: There was first an increase of pelvic inclination, limited by the tension of the ligamentum longitudinale anterius of the vertebræ and the intervertebral discs. By this tension the sacrum was fixed. The anterior pelvic arch being drawn further downward, the effect would not be perceived for the entire pelvis, but only for the iliac bones, which moved upon the sacrum, describing an arc of a circle forward and downward. The transverse axis for the movement of the iliac bones lay behind the second sacral vertebra. This axis being situated under the promontory, the symphysis must be removed from the promontory by the rotation, while it approached the point of the sacrum; the sagittal diameter of the brim being consequently increased and that of the outlet diminished. This action of the iliac bones was limited partially by the sacro-iliac articulations, partly by the posterior ligament, and somewhat by the muscles of the abdominal wall and by the psoas. He did not need to say that pregnancy would be generally favorable to this dislocation of the iliac bones, but he ought to add that individual conditions may diminish, even in pregnant women, this mobility. Continuing, he gave the results of his own observations. In one hundred and two women, nearly all in the second week after confinement and the others in an advanced state of pregnancy, he had measured with the finger with the utmost exactness the diagonal conjugate in the lithotomy position, in the obstetrical position, and in Walcher's position. By the change of the first position into the third he had found an increase on the average of 7.5 mm.; maximum 17 mm., minimum 2 mm. Between the first and the second position the difference was on the average 1.9 mm.; maximum 5 mm., minimum 0 mm. Between the second and the third position (one hundred and one cases) the average of the increase was 6.1 mm.; maximum 12 mm., minimum 2 mm. The mensuration in the five female cadavers gave smaller differences. Why in the corpse the effect of the change of position was less than in the living he did not know. His researches confirmed the results of Klein, that in contracted pelves the difference between the length of the diagonal conjugata in the obstetrical and in Walcher's position was on the average 8.7 mm., *i.e.*, superior to the general average difference (6.1 mm.). Moreover he found a great variety in the degree of the increase.

The coccypubic diameter would, as he had mentioned, be shortened in a higher degree than the conjugata increased. He did not know whether exact mensurations of this diameter had been made, except those of Küttner. In the five corpses he had examined he found by changing the lithotomy into the obstetrical position, an average diminution of the coccypubic diameter of 5.6 mm., and of 9.2 mm. by changing the

latter position for that of Walcher. The entire difference between the two extreme positions was thus on the average 14.8 mm., and has varied between 26 and 9 mm. He did not need to say that the antero-posterior diameter of the wide part of the excavation did not change, or, if so, very little.

Dr. G. Walcher, of Stuttgart, after reviewing the work on the subject of those before his time, mentioned his own researches, begun in 1885 on dry pelves, in which he found that the antero-posterior diameter of the brim was changeable, as soon as the sacro-iliac articulations allowed however slight a movement. He could not continue his researches until 1889, and then he pursued them in vivo. He started from the idea that it might be possible to obtain an enlargement of the conjugata vera, if the iliac bones could be made to rotate forward and downward. To obtain this rotation he made use of the thighs as a lever. As the ligaments of Bertini prevented an excessive displacement of the femora with regard to the iliac bones, these would be obliged to displace themselves and to rotate as soon as an effort was made to exceed the limit formed by the Bertini ligaments. When the sacrum was fixed, an enlargement of the antero-posterior diameter might be obtained in this way.

As to the practical side of the question, Dr. Walcher arrived at the following conclusions: In moderately contracted pelves there would be scarcely any reason for using the position with hanging thighs, especially when there was a head-presentation and when the uterine contractions were regular. When the woman was allowed to choose for herself the most convenient position, she would herself place her thighs in the most favorable position for the enlargement of the pelvis. When the contractions were insufficient and the head did not enter the brim, the woman might be placed now and then in the position with hanging thighs, and at the same time the head might be pressed into the pelvis according to Hofmeier's suggestion. Above all things it was in obstetrical operations and particularly in applications of the forceps, the head not having passed the brim, and in extraction after podalic version, that the supine position was useful. When the head had not wholly entered the cavity, the woman being in the position with hanging thighs, the femora must be elevated again, while traction on the head was continued, to displace the anterior part of the pelvis upward. Once the head had entered the excavation, the extraction ought to be finished in the obstetrical position. Dr. Walcher appended a complete bibliography of the subject.

Professor Lebedoff and Dr. Bartoszewicz, of St. Petersburg, after noticing the work done by others, notably Walcher, Klein, Küttner, Pinzani, and Varnier, proceeded to contribute in detail the results of their own measurements, carried out on twenty-five female cadavers and two infants. They had used Klein's instrument for measuring. Their conclusions were as follows: (1) In Walcher's position the true conjugate was always greater than in the horizontal position; the difference varied from a fraction of a millimetre up to 3 mm. (2) The true conjugate was shortest in the lithotomy position; the maximum difference in its length in the lithotomy position and in Walcher's was 7 mm.; the minimum 1 mm. (3) The variations in length of the diagonal conjugate corresponded in general to those of the true. (4) A very marked shortening of the true conjugate was observed as soon as, through flexion of the lower extremities, the pelvis was compressed. (5) The coccypubic diameter presented greater variations than the conjugata vera, but in the opposite direction; it was shortest in Walcher's, and longest in the lithotomy position. Minimum difference, 3 mm.; maximum difference, 11 mm.

Drs. Bué, of Lille, and Bonnaire, of Paris, continued the discussion in a joint communication. After a long and careful consideration of the history of the subject and of the figures of previous observers, the authors detailed their own observations and conclusions. They had made very careful measurements on the cadavers of twelve women dead during the puerperium. They had measured especially the antero-posterior diameter of the brim, and the bis-ischiatic diameter, and in the three positions, Walcher's, the horizontal, and the lithotomy. They used in nearly all their measurements the "forced Walcher," *i.e.*, the bodies being in cadaveric rigidity, they overcame this by forcing the hanging lower extremities backward and downward. The pelvis was dissected and the abdomen emptied. They came to the following main conclusions: (1) The attitude of hyperextension of the whole body (Walcher's) had the effect of enlarging the antero-posterior diameter of the brim, both by throwing backward the base of the sacrum, and by forcing the pubis downward. This increase was less than Walcher indicated it to be. It was, on the average, 3–4 mm. (2) The lithotomy position shortened the same diameter. On the other hand, it enlarged considerably the transverse diameter of the outlet. The average increase in the bis-ischiatic diameter, from Walcher's position to the lithotomy one, was 16–18 mm. (3) The hyperextended position (Walcher's) was indicated—(*a*) to allow spontaneous descent of the head; (*b*) to bring about engagement of the head with the aid of forceps; (*c*) to extract the after-coming head retained at a contracted brim. However, the inconvenience of practising obstetrical manœuvres in this position annihilated in practice to some extent the advantages of the slight enlargement of the brim. (4) The lithotomy position afforded a greater enlargement, but was less often indicated than Walcher's. It should be reserved for cases in which the outlet was contracted (kyphotic pelvis); for those in which the head, wedged tight in the true pelvis in a forehead presentation, had to be extracted by forceps; for those, finally, in which, the head being delivered, the shoulders were retained on the pelvic floor by too large a trunk. The lithotomy position favored obstetrical manipulations. The authors finally insisted specially on this point, that in the lithotomy position the greatest increase was obtained when the knees were placed exactly in line with the shoulders, and neither in abduction nor adduction.

Dr. Kouwer, of Utrecht, supported the methods of Walcher, with whose measurements his own agreed.

Dr. La Torre, of Rome, wished to discuss only the point as to whether the posture of hyperextension should bear Walcher's name or not. He thought not, and claimed the honor for Mercurio (1595) and Melli (1721).

Dr. Nijhoff, of Groningen, hailed Walcher's position as a great advance.

Dr. Pestalozza, of Florence, indicated that clinically one seemed often to get by hyperextended position a greater increase of the true conjugate than actual measurements represented. He had found the symphysis to descend 3 cm. Like Drs. Bonnaire and Bué, he had very rarely found an increase of over 5 mm. in the true conjugate.

Dr. Engelmann showed a series of drawings, representing various positions intuitively adopted during difficult accouchement by the American Indians, Asiatics, etc., which showed that the Hängelage was known long ago to ignorant races, although Walcher had now given us a scientific explanation of the reason for its use. He would point out that the true Hängelage used by the Indians (holding on to a hanging rope in the kneeling position, with knees not touching the ground) was advantageous and rational, in that it

allowed constant change of position according to the subjective sensations of the patient.

Dr. Bar gave his own results in mensuration made years ago. He found that the increase obtained by Walcher's position was lost if that position was at all exaggerated so as to increase lordosis.

Dr. Pinard agreed with all Dr. Bué's conclusions, and insisted on the fact that Walcher's position obtained absolutely no enlargement of the pelvis in ten per cent. of cases, and in the rest this enlargement very rarely exceeded 3 mm.

*Fourth Day—Friday, August 11th.*

Dr. Keiffer, of Paris, demonstrated a series of lantern views of microscopical slides, showing the following conditions: (1) The structure of the normal uterus, and especially its vascular system. (2) The development of fibromyomata. These, he thought he had proved, took origin in the walls of arterioles. (3) The uterine mucosa and the successive phases of menstruation. These preparations proved (he considered) that menstruation was in no sense a merely hemorrhagic phenomenon, but a true secretory function peculiar to the uterus.

Drs. Richelot, of Paris, and Reverdin, of Geneva, demonstrated an operating-table, made of steel tubes, very light, and easily transported.

**Total Hysterectomy in Fibromata Complicated by Albuminuria.**—Dr. Delagenière, of Le Mans, read this paper. He would divide cases of albuminuria, with regard to this question, into two classes: (1) True albuminuria, in which the kidneys were intrinsically affected; (2) transitory, in which the albuminuria was caused by compression, some toxæmia, etc., and did not indicate a permanent kidney lesion. He had done this operation in nine cases of this class, with four deaths. Of the nine cases five were suffering from true and four from transitory albuminuria. Now, of the four deaths three belonged to the former class, and only one to the latter. His conclusions were that in true albuminuria hysterectomy was contraindicated; in transitory it was strongly indicated. He emphasized the importance of looking carefully into the history of the case for possible previous Bright's disease, and of examining thoroughly the urine. He considered that fever, malaise, and a considerable amount of albumin indicated probably a toxæmic albuminuria. He reported a case, that of a woman, aged forty years, in whom the fibroma compressed the right ureter. Operation was followed by an immediate good result, and rapid disappearance of the albuminuria.

**Of a Cause of Intestinal Obstruction Special to Fibromata.**—Dr. Gouilloud, of Lyons, said that after removal of a large fibroma, the "statics" of the intestine being suddenly altered, there might result unforeseen adhesions, and acute or subacute obstruction. He reported two illustrative cases. In one a fibroma weighing 8 kgm. was removed by enucleation; ten days later at a second operation the small intestine was found adherent to the area of enucleation and obstructed. In the second the sigmoid flexure was obstructed, its mesocolon having been drawn down by the suture in closing the pelvic peritoneum of the first operation (hysterectomy) into Douglas' pouch.

**Surgical Treatment of Fibromyomata.**—Dr. B. Jessett, of London, read this paper. After reviewing shortly the history of the subject, he went on to consider the operative indications. He classified fibromata as subserous, intramural, submucous, combined subserous and intramural, polypoid, those becoming malignant, and those complicated by pregnancy. Small quiescent tumors he would leave alone. Subserous should be treated by laparotomy to permit inspection. Enucleation was necessary for single ones or for very few; pan-hysterectomy for multiple fibromata, except when the patient was in poor condition, then a subperitoneal operation should be done. In submucous and polypoid growths, the vaginal enucleation was necessary.

Dr. Gordon, of Portland, discussed the indications for operation. If a woman with a fibroma came to him, and after examination he believed her symptoms to be due to the fibroma, he advised operation, even though the tumor was small. He believed in the vaginal route for submucous fibroids, but for all others the abdominal. And if he could not do a vaginal operation, he believed hysterectomy was the only alternative, with two exceptions: (1) in the case of a pedunculated subserous tumor; (2) in the case of a woman in the child-bearing age. In these myomectomy might be done. But he considered myomectomy bad surgery in any woman past the child-bearing age, because of the likelihood of other fibroids developing later. Very few women with fibroids became pregnant anyway. In hysterectomy those who had borne children and had lacerations should have the total operation done; in the others he would leave the cervix. In conclusion, he said that he denied the assertion that myomectomy was conservative surgery. Conservative surgery should conserve health; and myomectomy failed to do that.

**The Pathogenesis of Cancer.**—Dr. Robert Bell, of Glasgow, presented a communication with this title. The author mentioned the ovum as an example of a cell leaving one organ and proceeding to another, where it took on a new and rapid growth, and entered on a new phase of existence by virtue of its environment. If the transmigration of one cell could take place, it might occur in other than physiological circumstances. Indeed, he said, it frequently was observed pathologically when glands became involved in disease which had previously existed in a neighboring or even a comparatively distant tissue. Why, then, should not the same rule apply to cells having at the moment no pathological or even pathogenic significance? He remarked that if a cell possessing in its original environment an activity normally high found its way into an organ which for some cause or other has had its health—it may be only temporarily—depressed, the invading cell became enabled to enter on a new phase of existence, and by preying upon its host to develop a progeny which possessed quite different proclivities from those they would have possessed had they been the offspring of their parent cell had it continued in its normal sphere of existence. It had been placed beyond doubt that the ovaries and mammæ were in communication through the lymphatics, and the author was inclined to suppose that an ovarian cell was thus enabled to find its way to the mamma and there become the focus of scirrhus. He was quite at variance with those writers who supposed that cancer was due to a parasitic entity which in any way was developed external to the economy. He then endeavored to show how epithelial cells might, and in all probability did, depart from their normal condition in certain circumstances and in their transition became malignant, and how this untoward result might be avoided, and when it had actually occurred be undone. The speaker then pointed out that in carcinoma of the cervix frequent mistakes were made in diagnosis, and in many instances when no cancer existed an unnecessarily pessimistic view was taken.

**The Principles of Treatment in Uterine Fibromata.**—Dr. Woskresensky, of Kieff, read this paper. He based his conclusions on an experience of three hundred cases, of which one-half had been operated upon by him and one-half had not. He believed that the size of the tumor gave no constant indications as to

the principles of treatment. He noticed the frequent bad influence of fibromata on the general organism. Cachexia often developed before malignant degeneration could be diagnosed. He formulated the following conclusions: (1) Fibroma of the uterus was an element of danger to the organism. (2) Radical treatment could be only operative. (3) The operation should be done early, before the patient showed signs of enfeeblement. (4) Total hysterectomy was necessary in fibroma of the body. (5) The ovaries should not be removed, except when special indications therefor existed. (6) Ergotin hypodermically was worse than useless. (7) Pregnancy was no contraindication to operation. (8) Total hysterectomy was preferable to leaving the cervix, because of possibility of recurrence or development of cancer in the latter.

**Large Uterine Fibromata, with Torsion of the Pedicle in One; Total Abdomino-Vaginal Hysterectomy; Technique.**—Dr. d'Hotman de Villiers, of Paris, described the case of a woman, aged thirty-four years, who suffered from acute symptoms caused by the torsion of the pedicle of a fibroma, simulating at first a salpingitis. There were present also two other very large fibromata, the whole weighing 5.5 kgm. He had performed total abdomino-vaginal hysterectomy according to Lebec's method, but with certain modifications of his own. These were as follows: After freeing the bladder he opened first the anterior cul-de-sac, and through this passed a silk ligature into the vagina; then on through the posterior cul-de-sac back into the abdomen. This ligature thus formed a loop in which was comprised the base of the broad ligament and the uterine vessels. This he tied near the cervix, and then cut free on that side. This he repeated on the other side, and so removed the whole mass without trace of hemorrhage. He did not close the peritoneum, but drained through the vagina. He had done this operation eight times, with one death from pneumonia; and had had good results. In the last three cases he had used in addition Doyen's angiotribe. He reserved the operation for large and adherent fibromata.

**Of Special Operations in the Treatment of Uterine Fibromata.**—Dr. Duret, of Lille, referred especially to two operations devised by himself: (1) Autoplastic operation on the pelvic serosa; (2) abdominal morcellement of fibromata and of sessile cystic fibromata. The indications for the latter were: very dense adhesion of the uterus to the pelvic walls and surrounding organs; calcified fibromata; cystic fibromata. The first operation was devised to cover in the pelvic floor with peritoneum in cases in which the removal of very large fibromata had left a vast denuded area, extending over the rectum, uterus, and bladder. It consisted in simply suturing the anterior parietal layer to the end of the posterior parietal layer at the promontory, after loosening it up if necessary.

**On the Treatment of Fibromata during Pregnancy.**—Dr. Doléris, of Paris, read a paper with the above title. He based his remarks on an experience of ten cases. There was a certain class of cases in which he would advise active interference, viz., those in which the fibroid took on rapid growth, becoming even cystic. These were apt to be the starting-point of a grave septicæmic course, and the prognosis was distinctly bad. He did not advise interference if the fibroid was situated on the fundus or the cervix, and was unlikely to cause dystocia.

Dr. Gutierrez, of Madrid, had never met with fibromata requiring interference during pregnancy. He believed it was best to wait till the beginning of labor, or near term, and then, if necessary, do Cæsarean section. This he had done twice.

Dr. Engström, of Helsingfors, related the details of five cases. In one he had removed at the fifth month a large myoma, and two months later twins were born. Later the woman became pregnant again and had a normal labor at term. Three others were of a similar nature—the women were operated on, and bore children later. In the fifth case he had operated for peritonitis; the patient died. He had seen many others which he had not operated on.

Dr. La Torre, of Rome, objected to Dr. Doléris' advice to remove the uterus with the fibroma in pregnancy. If the volume of the fibroma did not prevent the progress of the pregnancy to term, he believed it was wrong to remove the uterus immediately. One could afford to wait until term. It was only right to extirpate by Cæsarean section, and then only at the last moment.

Dr. Solovieff, of St. Petersburg, thought also that it was best to wait till term.

**Surgical Treatment of Fibromyomata.**—Dr. Gutierrez, of Madrid, read this paper. He would make a threefold classification of fibromata in regard to operation: (1) Operations of urgency—*e.g.*, made necessary by extreme anæmia, obstruction, hemorrhage. (2) Operations of absolute necessity—*e.g.*, fibromata of rapid development, or accompanied by too abundant hemorrhage. (3) Operations of relative necessity—fibromata which do not necessitate cessation of work. As to technique, he approved of Doyen's anterior hemisection method in difficult cases. He was against the vaginal route for large fibromata. If the tumor exceeded one finger's breadth above the pubis he would advise the abdominal route. He preferred the total operation. Myomectomy he reserved for subserous pediculated tumors.

**Statistics of Operations for Fibromyomata during the Last Three Years.**—Dr. Treub, of Amsterdam, read this paper. For fibromata of medium size and of soft consistency, causing no symptoms beyond hemorrhage, the speaker usually began with injections of ergotin or electricity. He had seen thus both radical and symptomatic cures. His statistics embraced 76 cases: Myomectomy by abdominal route, 11 cases; by vaginal route, 2 cases. By the abdominal route 1 death occurred from infection. He favored more and more enucleation by the abdominal route. Total myoma-hysterectomy by abdominal route, 9 cases, of which 3 were fatal (1 from operative infection); by vaginal route, 23 cases, of which 5 were fatal (2 from infection by the operation and 1 from intestinal obstruction). He declared himself in favor of this operation, and remarked that soft fibromata rendered morcellement difficult, and that hemorrhage was not always unimportant. Supravaginal amputation, 31 cases, with 3 deaths (1 from infection by operation). He believed in the buried elastic ligature. He would reserve total hysterectomy for exceptional cases.

**New Procedure in Abdominal Hysterectomy.**—Dr. Schmeltz, of Nice, presented a communication on this subject. The main point of this operation consisted in the use of the "angioclast," an instrument devised and named by himself, and which had the advantage over the angiotribes of Tuffier and Doyen of being much more easily handled and of crushing by the mere pressure of the hand. An antero-posterior buttonhole incision was made through the cervix into Douglas' pouch. One branch of the angioclast was passed through this, and the other on the outside of the cervix. Thus each lateral half of the cervix was in turn crushed. He applied no subsequent ligature. The operation was completed as an ordinary supravaginal amputation. This method of hæmostasis shortened the operation very greatly.

**The Surgical Treatment of Fibromyoma of the Uterus.**—Dr. Schauta, of Vienna, opened the discussion with an account of the results of his personal experience founded on 424 cases of operative treatment

of myoma uteri with opening of the peritoneum, in a series of 2,263 cœliotomies performed by himself. He discussed in detail most of the typical operations, and gave in each his own statistics: In 148 cases of vaginal total extirpation he had 5 deaths (of which 2 could not be considered as due to the operation); in 25 myomectomies by laparotomy he had 5 deaths (of which 3 were from embolism and pneumonia). Supravaginal amputation, with intraperitoneal treatment of the pedicle, he had done only 3 times, with 2 deaths. Of 106 cases of abdominal total extirpation he had 12 deaths, of which 2 were not due to the operation; giving, therefore, a mortality of 9.4 per cent.. He then described his technique for the last-mentioned operation. His conclusions were as follows:

1. Operative treatment for fibroid tumors was not legitimate except when they were the cause of troubles that were not to be overcome by other means.

2. Vaginal total extirpation should be considered as the safest and, in the long run, most successful operation. It should be performed in all cases when the tumor did not extend above the level of the umbilicus, and when it could be easily drawn into the small pelvis.

3. For large, not easily movable tumors, wholly or partially intraligamentous, abdominal total extirpation should have the preference.

4. Supravaginal amputation with intraperitoneal treatment of the stump should be gradually set aside in favor of abdominal total extirpation, although the immediate results of the former were more favorable: it had been proved that there were more chances for absolute recovery when no part of the cervix was allowed to remain.

5. In emergency cases, supravaginal amputation with extraperitoneal treatment of the stump was, as it afforded facility for speedy and absolutely extraperitoneal execution, an advantage not to be underrated, in cases of extreme anæmia, asphyxia, weakness of the heart, and suppuration or necrosis of the tumor.

6. Vaginal enucleation of sessile, submucous tumors, either by way of the dilated cervix or by the vaginal fornix, after anterior or posterior colpotomy, with or without opening of the peritoneum, should be resorted to only in cases in which there were special indications. Myomata being generally multiple, it would not be likely that the operation would afford durable results, and therefore it could not be considered as less dangerous than the radical operation, with removal of the uterus.

7. Curettage should be looked upon as an uncertain mode of treatment, was not wholly free from danger, and should be limited to rare cases of beginning myomatous development.

8. Castration should be strictly objected to on the ground of its not bearing comparison with the radical operations, with regard to reliability and immunity from danger. In quite exceptional cases, when it was not possible to perform supravaginal amputation with extraperitoneal treatment of the stump, it might now and then be resorted to.

9. It was not to be thought that the methodical use of forcipressure (pinces à demeure) afforded the patient advantages superseding the use of ligatures, except in so far as they facilitated a speedy operation in typical cases. In cases of emergency or danger their use was certainly to be justified. He had had seven deaths in forty cases, mainly from secondary hemorrhage after removal of clamps.

10. The full value of drainage of the supravaginal wound for furthering throughout the chances of asepsis, and for the avoidance of exudation, in abdominal as well as in vaginal total extirpation, should be always kept in mind.

11. The question as to whether removal of the ovaries should be performed, with vaginal or abdominal total extirpation, was not yet decided. "Ausfallerscheinungen" (climacteric symptoms) had been observed either way. If the ovaries were removed these appeared immediately; if they were left, after weeks and sometimes months.

Dr. Doyen, of Paris, presented a most exhaustive report upon the subject under discussion, occupying thirty-five printed pages. Of this only a short abstract can be given. He began by justifying a more extensive practice of surgical interference, inasmuch as grave complications of fibromata not infrequently occurred, viz., phlebitis, albuminuria, intestinal obstruction, malignant degeneration. Palliative measures, so called, should be altogether discredited. He would endeavor to show that his method of vaginal hysterectomy without preliminary hæmostasis, by anterior hemisection, together with that of total abdominal hysterectomy by subperitoneal decortication of the inferior segment of the uterus, constituted the two greatest advances of late years in the surgery of fibromyomata (1887–92). He would claim for his own technique in these operations that it was so simple as to be incapable of any notable improvement, so safe as to suppress almost entirely the risks of operation; that it was suitable, with slight modifications of detail, to all cases without exception; and that it was within the reach of all surgeons. He then discussed at length the history of operations for fibroma, from the vaginal myomectomy with conservation of the uterus, of Amussat (1840), down to his own procedure, published first in 1887. Since 1892 he had changed the technique of his hysterectomy operations only in one or two details, viz.: In the vaginal operation, the substitution of momentary angiotripsy followed by ligature *en masse* of the broad ligaments for the old pinces à demeure; in the abdominal operation, the adoption of Trendelenburg's position, the suppression of pinces à demeure in favor of angiotripsy, and the isolated ligature of the uterine arteries and the stumps of the adnexa.

Dr. Doyen then proceeded to discuss the indications for operation. His conclusions were as follows:

1. Fibromata should be removed in all cases in which they caused serious symptoms, or in which they increased steadily in size.

2. Albuminuria, as a complication, was a very decided indication for operation.

3. Operative technique should be, in these days, fixed as definitely as that of an amputation of the thigh.

4. Myomectomy, either by the vaginal or abdominal route, the uterus being left, was now but rarely indicated.

5. Multiple myomata required hysterectomy.

6. Hysterectomy should be done by the vagina when the uterus was mobile and could be easily pulled into the pelvis.

7. A large vagina (previous pregnancies) was an indication for the vaginal route; the same might be said of obesity, in the case of small tumors, as a fat abdomen rendered a laparotomy very difficult.

8. The abdominal route should be chosen in all cases in which it appeared more favorable than the vaginal. In cases in which the uterus approached the umbilicus, the experience of the individual surgeon counted for a great deal. Among definite indications for laparotomy were old adhesions, hydro- or pyo-salpinx, the presence of large tumors of the adnexa. When there was any doubt as to the practicability of the vaginal operation, it was better to choose the abdominal.

Dr. Doyen then gave exact details of his operative technique for all varieties of fibroma and for all the routes he practised. His statistics, since perfecting his technique, showed forty-two vaginal hysterectomies without a death, and twenty-five abdominal with one

death; this was of a woman who had an infectious phlebitis of the lower extremities before operation.

Dr. Baldy sketched the history of the subject. Since 1853 (Burnham, Kimball) there had been three periods. In the third, in which we now were, the great question was the relative merits of myomectomy and hysterectomy. He dismissed in a few words all other operations. In his opinion, hysterectomy was the operation of choice. Myomectomy did not cure with certainty; pain in many cases persisted; bleeding, depending as it did principally on situation rather than size, frequently continued; there was danger of recurrence (Kelly, the great advocate of myomectomy in America, had had three known recurrences in ninety cases, and probably many others unknown). The operation, moreover, was more dangerous than hysterectomy; and the dangers of hemorrhage and sepsis were greater. Adopting, then, hysterectomy as a general thing, he preferred usually the abdominal route. In the vaginal operation there was no chance of revising the diagnosis; the operation field was limited; morcellement was frequently necessary; the possibility of treating complications or accidental injuries to the hollow viscera was minimal. In the abdominal operation he preferred the operation at the neck. It was a shorter operation; it was applicable to all cases; it necessitated less handling; it opened up less connective-tissue spaces and inflicted less trauma; it was less liable to infection; the anatomical relations of the vaginal vault were retained, and the vagina was not shortened; the floor was more easily re-covered with peritoneum than when the cervix was removed. In hæmostasis, ligature was the only sure method. Forcipressure and cauterization were still on their trial. In conclusion, his position was directly in opposition to that of Schauta.

Dr. Delagenière, of Le Mans, claimed that the palliative method of tying the uterine arteries by the vagina had a definite place. He had done this five times since 1896 with uniformly good results. He thought it was indicated in (1) small interstitial fibroma; (2) multiple fibromata; (3) cases in which more radical operations were refused, and in which the main symptom was hemorrhage.

Dr. Reynier, of Paris, agreed with Schauta that every fibroma should not be operated. Still, fibromata were very often far from benign; their evolution was dangerous; a young woman benefited more from interference, provided this was not dangerous, than from being left alone; operations were becoming more and more innocuous, especially in the young, while they remained more or less dangerous for the old. For all these reasons he was becoming more and more a partisan of early operation. Dr. Reynier then presented his own statistics based on 111 operations: 53 vaginal hysterectomies and 58 laparotomies, nearly all hysterectomies. He described his own technique for abdominal hysterectomy and concluded as follows: Vaginal hysterectomy was the operation of choice in cases in which the uterus was not larger than a fœtal head, when the uterine cervix was not obliterated, and there was a dilatable vulvo-vaginal outlet. Abdominal hysterectomy should be done in cases in which the size of the uterus was greater than a fœtal head. For this operation one should be familiar with several different techniques, and should employ each according to indications.

Dr. Tuholski, of St. Louis, agreed on the whole with Dr. Baldy's remarks, but was not so radical. The supravaginal amputation was his preference; but if the cervix contained fibroids he did a total operation. He would still treat the stump extraperitoneally when time was of great consequence. He based his remarks on an experience of one thousand laparotomies.

Dr. Alexander, of Liverpool, said that the object of gynæcological surgery, in his opinion, was to remove the disease without destroying any organ. This principle had been slighted in the operations just advocated. He believed myomectomy was the operation of the future. The fibroid caused the symptoms; therefore it was rational to remove the fibroid only. It was unjustifiable to remove the uterus in young women. He had done twenty-three myomectomies, in one case removing twenty-five tumors, without a death and without recurrence of symptoms. Recurrence of the tumor often did not necessitate operation. In Dr. Kelly's statistics three out of ninety had needed a second operation. Even so, the preservation of the uterus in the other eighty-seven more than overbalanced the necessity of a second operation.

Dr. Carstens, of Detroit, agreed altogether with Dr. Alexander. He had made it a rule to be guided by the age of the patient. In a young woman, sterile, he advised myomectomy; in one near or beyond the menopause, hysterectomy; in the latter, if a virgin, a supravaginal; if a multipara (with lacerations which might induce malignant disease), a total operation.

Dr. Bell, of Glasgow, after discussing the pathogenesis of fibroids (which he considered to lie in the organization of a blood-clot), said that in operative treatment he preferred supravaginal amputation, but considered that, in most cases, mammary gland by the mouth should be tried for a considerable period before operation; this had frequently given good results.

Dr. Jacobs, of Brussels, would operate all fibromata, except small nodules without symptoms and remaining stationary. The operation of choice was total hysterectomy, except in the virgin, when it was the supravaginal operation. Contraindications were extreme anæmia, intrinsic albuminuria, degenerated tumors with grave visceral complications, cancer of the cervix—in a word, all cases left until too late. Early operation was necessary while the patient was in good condition. His personal statistics were as follows: Abdominal hysterectomy in 133 cases gave three per cent. mortality; vaginal, 3.7 per cent. mortality.

Dr. Giles, of London, thought that all cases which gave trouble should be operated. Ergotin and electricity were worse than useless. The total hysterectomy was preferable as a usual thing; myomectomy and the supravaginal only in special indications. The ovaries should be preserved.

Dr. Engström, of Helsingfors, preferred abdominal myomectomy; he presented statistics of 180 myomectomies (1888–99) with a mortality of not quite three per cent. He had never seen cancer arise after this operation, and recurrence had been rare and had not necessitated operation. He knew of nine of his patients who had later become pregnant, of whom one had previously been long sterile. Of these, five came to term and four aborted.

Dr. Jonnesco, of Bucharest, gave a long critique of Dr. Doyen's conclusions, disagreeing with several. We should operate early, not for "alarming symptoms" only. He thought the presence of a fibroid was sufficient operative indication. The abandonment of the combined operation was the greatest step in advance of late years. He believed in total hysterectomy in most cases; a partial operation, in his experience, was frequently followed by recurrences. He rejected the statement that Doyen's technique was the simplest and the best. Others were as good; and we must be eclectic and choose the operation suited to each case.

Dr. Jessett, of London, said that myomectomy was rarely indicated. Total hysterectomy should be done for multiple fibromata and in those cases past the menopause; otherwise, the supravaginal operation is indicated. The ovaries should be left.

Heywood Smith, of London, said that fibroma was a dangerous disease, and should be operated upon when it caused the least symptoms. He preferred the subperitoneal to the pan-hysterectomy operation because of its rapidity.

Dr. Henricius, of Helsingfors, had long operated by Chrobak's retroperitoneal method, which gave him three per cent. mortality.

Dr. Sinclair, of Manchester, protested against the tendency to hurry operation. The likelihood of a malignant degeneration was no greater than that of disappearance of the tumor. Enucleation in the fleshy myoma was very dangerous or impossible. He believed strongly in the vaginal route when possible. He emphasized the importance of leaving the ovary.

Dr. Jayle, of Paris, emphasized the train of mental and nervous symptoms following removal of the ovaries, and strongly urged leaving them.

Drs. La Torre of Rome, Galvani of Athens, Tourney of Paris, Villar of Bordeaux, and Pestalozza of Rome also took a short part in the discussion.

At 5 P.M. Dr. Doven, of Paris, gave a second series of cinematographic views, representing two abdominal and three vaginal hysterectomies, according to his own method. He also showed views of his operating-table and of his armamentarium for the performance of hysterectomy. As before, the rapidity of operation was the salient point. The images were extremely clear, and each step of the operations could be followed.

*(To be continued.)*

## Correspondence.

### OUR LONDON LETTER.

(From our Special Correspondent.)

EXIT THE HEAT-WAVE—HOSPITAL-ABUSE CORRESPONDENCE IN "THE TIMES"—SANITARY CONGRESS—A STRIKE OF SURGEONS—OYSTERS AND COCKLES—DEATHS OF PROFESSOR CUMING AND F. E. HICKS.

London, September 1, 1899.

The heat wave I wrote about in my last has passed away and we have had several days of broken weather; in some places showers, in others heavy downpour and thunder. The farmers are rejoicing and hoping for more, as the long drought has dried up the ground to a great depth. This also affects the rivers, as the water is absorbed before reaching them. The threatened scarcity of water is therefore not yet removed. On the other hand, the hop crops are injured by the heavy rains, and the pickers are suffering from exposure and want of work.

The correspondence in *The Times* on hospital abuses has gone on merrily enough. Mr. Loch, secretary of the Charity Organization Society, pronounced the inquiry system, as at present carried on, to be only a sham—a term which many attribute to his society. Sir Trevor Lawrence, treasurer of St. Bartholomew's Hospital, took up the cudgels for hospital managers, and declared that to make it a reality would be a waste of money and time, fortifying himself with the small amount of abuse discovered at his hospital, where in the last five years seven hundred and sixty thousand applicants have been treated. A discussion in *The Times* even in this dull season cannot fail to do good by directing public attention to the subject.

The Sanitary Congress met at Southampton on Tuesday, when Sir William Preece delivered his presidential address. He declared that we moderns might study with advantage the wisdom of Moses as to sanitation, and he had no doubt that Moses would have approved of our modern dust destroyers, for he despised dust and endeavored to render it harmless. The book of Leviticus he described as "a treatise on hygiene by the greatest sanitary engineer the world has ever known." The teaching of Moses comprised pure air, pure water, pure food, pure soil, pure dwelling, and pure bodies. These are the sanitary requirements of to-day. Sir William looked forward to the time when electricity would give us pure air, pure water, and help us in the treatment of sewage; while aided by sanitary science the war against microbes would be so successful that human life would undoubtedly be prolonged beyond the psalmist's allotted term.

The president deprecated the plan of casting our sewage into the sea, and thought if the bacterial treatment of sewage enabled us to get rid of sewage farms, it would be a most beneficial advance. He advocated the use of sea-water in towns for various purposes.

At the luncheon of the Institute, Mr. H. Law, chairman of the committee, said they had held seventeen hundred examinations, granted thirty-two hundred certificates, and were about to begin other examinations in hygiene, one for meat inspectors and another for school teachers. The exhibitions they had held had been visited by three-quarters of a million of people. In the evening the mayor of Southampton opened this year's exhibition, which is quite equal to its predecessors.

A strike of surgeons has actually taken place in the colliery districts, which affects some hundred surgeons and from two to three thousand miners. It seems that one of the miners' clubs refused to listen to the representations of the Colliery Surgeons' Association recently established, and advertised for medical men to come into their district. One man has done so, and of course will not be recognized by the colliery surgeons, and if he is wise will withdraw from a position which must become untenable, for the other surgeons are absolutely unanimous and will under no circumstances recognize the intruder. Moreover, they decline to attend any member of the Wigan Society, which has treated them so badly. The club is governed by a board, and the quarrel is really with that board rather than with the members. Each member of that board draws 5*s.* and travelling expenses for attending a meeting, more than in many cases a surgeon receives for attending an accident case, whatever number of visits may be required. In one district the amount paid for accident cases was only 1*s.* 2*d.*, in another 2*s.* 4½*d.* per case. The surgeons offer to attend accidents for 15*s.* per case, this fee to cover attendance for twelve months if necessary. They have offered to meet the miners themselves at the general meetings, but the board will not hear of this. It is believed that the men themselves, if the matter could be properly explained to them, would be quite ready to meet the surgeons, whom they have long been accustomed to trust, but their board seems determined to fight the matter out. There is therefore no resource but to meet the board with their own trades-union weapons. This the Colliery Surgeons' Association has been driven to, and it is probable they will succeed.

As the oyster season opens to-day many are recalling the cases of typhoid which have been traced to the bivalve. The report of the local government board enumerates those oyster beds which are free from suspicion of pollution, and some of the newspapers advise consumers to insist on a guarantee that their purchases are obtained from clean beds. Some of them are good enough to say that medical men will be happy to tell them which are the clean beds, and thus another burden is laid upon us, for of course such advice will be expected to be gratuitous, and we must arm ourselves with the local government report.

But the oyster is not the only dangerous shell-fish. An outbreak of typhoid has been traced to the consumption of raw cockles gathered from mud-flats near a sewerage outlet at Ermouth. Cockles are mostly eaten cooked, but every now and then trippers to the seaside may be seen eating them raw, evidently a very dangerous proceeding.

Dr. James Cuming, of Belfast, died rather suddenly on Monday from disease of the heart, in his sixty-ninth year. He was professor of medicine at the Queen's College for some thirty-four years, and enjoyed a consulting practice throughout the province, his opinion being valued and his character respected by all his professional brethren. In 1884 he was president of the British Medical Association, when his personality contributed largely to the success of the memorable Belfast meeting. He had intended to be present on Sir Thomas Lipton's yacht with Lord Russell at the coming America cup race, his daughter being married to the Hon. Charles Russell.

Francis Edward Hicks died on the 14th ult. in his ninetieth year, being one of the oldest members of the College of Surgeons, his diploma dating 1832. He practised for upward of thirty years in the Cavendish Square district, and retired in 1876. He succeeded his father, the late Samuel Hicks, who died at the ripe age of ninety-four years.

## "OVERCROWDED PROFESSIONS."

To the Editor of the Medical Record.

Sir: A friend has lent me your paper of September 2d, with its leader on "Overcrowded Professions." You have my sympathy in your professional congestion, but I doubt if it is as bad as that of the parsonic order. Can you tell me if your medical schools offer everywhere to every college graduate of decent morals a free training with all needful expenses paid, so that he may attain professional life entirely at the expense of the charitable? I do not think the doctors are quite so foolish, and it is this barbarity I protest against with all my heart.

In your comments on my letter you speak of the self-delusion of the young man who feels sure of personal success where others fail, and in the very admirable paper on "Suggestion," by Dr. H. H. Seelye, I catch a glimpse of a possible cure. Could not every aspirant for professional life be treated by suggestion? It might be hinted to them that the chances are about one hundred thousand to one against their having genius; that while very good, they are but ordinary commonplace young men after all, and could serve their generation better by planting potatoes and raising pork than by trying to doctor the souls, bodies, or estates of men. It might work a cure, though when vanity is allied to physical indolence recovery is doubtful.

But you are better off, after all, than the ministers. To succeed in your profession a man must have both knowledge and skill. I see with pleasure some friends of mine getting on in the world, but they deserve it—they are good doctors. But what do you think of the standard of judgment that makes the following possible? and it it is not an isolated case, but a symptom. I asked a friend about a young clergyman, settled a year or more in a somewhat important parish: "How is Mr. Blank doing?" "Oh," was the answer, "he is exceedingly popular. Certainly, he is a very poor preacher, but he is a most delightful society man." Your advantage is that most folk care more for their bodies than they do for their souls, for a man might have the manners of a Lord Chesterfield, but if he did not know a mint julep from a dose of Epsom salts no sensible person would allow him to play tricks with their stomachs. But then headaches are a present annoyance, while moral weakness has few pathological symptoms; and if a preacher is gifted with insight and honesty and tries very hard to cure the real troubles in the body politic, the chances are that some person, who suffers from an abnormal moral malady and makes a sordid profit out of it through the folly of others, will make such outcry against him that to save his life he must leave the whole parish to itself. Skill in my profession does not insure success, but in yours it will, unless handicapped by bad habits.

My remedy for the overcrowded ministry is to place the theological student upon his feet and let him work for his profession like a man, as you make your students, and you get men after all. We turn out by our system a mucilaginous assortment of incompetents, that fail to win the manhood of the nation to the church. And were it not for the few brilliant exceptions that command respect, the church would be in a worse way than it is to-day.

Magee Pratt.

Hartford, Conn., September 11, 1899.

To the Editor of the Medical Record.

Sir: In the article "Overcrowded Professions" in a recent number of the Medical Record, the writer endeavors to comfort the physician by stating that his condition is equal to that of the clergyman, a statement which conveys the idea that the writer actually believes the two professions can be compared to each other, and that the poor condition of their members is due to the same cause. I take the liberty to assert that the medical and clerical professions can by no means be compared. When the latter is overcrowded, we must not forget that it is overcrowded by professionals, clergymen, men who worked hard till they obtained their degree and title, and a person without theological education will never venture to fulfil the duty of a clergyman.

But what of the medical profession? If the latter were overcrowded with physicians only, the profession would flourish. But to our regret we see that it is overcrowded, not by professionals, but by ignorant creatures who harm not only the income of the physician, but also his reputation. I need only mention the great number of ignorant midwives who endanger the physician's bread, and what more, the patient's life! How many cases of puerperal sepsis occur through the midwife's ignorance, how many perineal lacerations occur that are either not recognized or ignored by the midwife, and the woman remains crippled till she is compelled to undergo a painful and dangerous operation, a thing that could be avoided by a skilful physician. It is true that a great number of women are too modest to be confined by a male physician. But have we not women physicians that are as skilful as their male colleagues?

Next come the so-called "Christian Scientists," who make use of the people's ignorance. We have all heard of the many deaths attributed to these "healers," yet there are thousands of superstitious people, who, being afflicted with grave diseases, would rather go to a Christian Scientist or spiritualist than to submit even to the most skilful physician.

Lastly I will mention the number of druggists who dispense medicines without a physician's prescription. If these invaders of the profession were legally repressed, if a law was passed and energetically executed that medicine, surgery, and midwifery should be practised by physicians only, no matter how the number of physicians might increase none of them would have cause to complain, and the profession would be one of the most flourishing in existence.

M. Gottesman, M.D.

77 Ludlow Street, New York City.

# Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending September 16, 1899:

| | Cases. | Deaths. |
|---|---|---|
| Tuberculosis | 131 | 117 |
| Typhoid fever | 99 | 16 |
| Scarlet fever | 63 | 4 |
| Measles | 41 | 6 |
| Diphtheria | 148 | 15 |
| Laryngeal diphtheria (croup) | 4 | 10 |
| Cerebro-spinal meningitis | 0 | 3 |
| Chicken-pox | 4 | 0 |

**Ice-Cream and Micro-Organisms.**—Dr. Reginald Duffield, medical officer of health for Paddington, London, in his report to the local vestry for the past year, states that a bacteriological examination of ice-cream sold by street venders and in shops demonstrates two facts: (1) That the compound sold by the street venders, being made by boiling the ingredients previous to freezing, contained as a rule fewer micro-organisms than that sold by the better-class manufacturers, who make their cream ices from cream and fruit, not from custard; and (2) that the premises occupied by the street venders required supervision to insure that the ices were not exposed to exhalations from drains, etc.

**The Difficulty of Procuring Skilled Teachers for the Deaf.**—A British weekly speaks as follows on the above subject: "In the report on schools for the blind and deaf some curious facts appear. In one very small school-board district the expense of educating one deaf child trebled the school rate. There is a remarkable difference in the cost of educating the blind and the deaf. The former is comparatively easy; the latter requires teachers of exceptional skill. To give language is one of the most difficult tasks, but with the opportunity of a steady course of prolonged training extending over some eight years, it is successful, and association with others becomes possible. In compensation, while the maintenance of the blind requires throughout life some support from society, the education of the deaf renders them independent. Difference of ability, too, requires taking into consideration, and the London school board are preparing to execute a very hopeful plan for establishing a small institution for the defective deaf who cannot be educated with other deaf children of ordinary intelligence. Another difficulty is the dearth of trained teachers, especially men. The prospects are not attractive pecuniarily, and yet men are more required on account of the physical strength and endurance required and a perseverance through a long course of years which cannot be expected of women. It is estimated that there are in England and Wales about thirty-two hundred deaf children, probably an underestimate."

**A Patent-Medicine Firm Come to Grief.**—A man and his wife recently made an agreement with their family physician to make and sell under their name an alleged remedy for malaria, the prescription for which was furnished by the physician. It was a profitable arrangement to all parties until the man and wife quarrelled and went to law, when the scheme was made public, much to the physician's disgust probably.

**Sleeplessness from Overwork,** and especially literary work, requires mental rest and change of air and scene. Temporary exposure to the cool air of the bedroom or the wet pack, or both, may be of use, and so is a glass of whiskey and water at bedtime, especially in those unaccustomed to the use of alcohol. But if the insomnia continue it is necessary to give a mild hypnotic such as twenty grains of sulphonal or thirty or forty grains of bromide of potassium to break the habit of sleeplessness. Capsules containing thirty minims of turpentine given at bedtime are sometimes beneficial in the insomnia of overwork and worry. The drug acts as a stimulant and derivative, and is stated to be most successful in plethoric cases. No beverages containing caffeine should be taken after breakfast.—Bradbury.

**Overcrowding in London.**—According to a tabulated statement, there are in the parish of St. Mary's, Newington, 4,057 tenements with one room, 7,670 with two rooms, 1,752 with three rooms, and 331 with four rooms, which are overcrowded; altogether 13,810 tenements out of a total of 49,393. These are estimated to contain 15,150 overcrowded persons in tenements of one room, 40,184 in those of two rooms, 13,742 in those of three rooms, and 3,580 in those of four rooms, or altogether 72,656 people.—*Sanitary Record.*

**The Course of the Plague in England.**—In England the plague generally showed itself in London in June or in July, though sometimes earlier, and increased in intensity until August. It gradually died away in November and December, the cold of England taking the place of the heat of a more southern country in temporarily destroying the pestilence. This was the course in the sixteenth and seventeenth centuries, and if the disease comes here again there is no reason why it should not follow the same course as far as duration is concerned. In the plague of 1592–93 the visitation began in the first year, then died away, recommenced in 1593, and did not afterward recur. The visitation in 1603 lasted for one year only. The visitation of 1625 lasted for one year, but there was a recurrence of it in the year 1630, and thereafter it was intermittent for about twenty years. It then disappeared until 1665, when it lasted until the winter of that year, and then disappeared altogether.—*London Times.*

**Dangers of the Plague on the Pacific Coast.**—Dr. V. C. Vaughan contributes to the *Popular Science Monthly* an article entitled "Are We in Danger from the Plague?" After reviewing at considerable length the history of the present epidemic and the means of prevention and treatment he answers the question as follows: "I will have to answer this question very much as I did two years ago: 'Yes, we are in danger, but this danger, being foreseen, may be easily avoided.' In my opinion our most vulnerable point is along the Pacific coast. With the plague at Hong Kong it is possible that it may be transferred to Manila, and the transports bringing soldiers to this country may also bring the infection. However, I think the chances of this happening are small. The length of time required to make the voyage from Manila to San Francisco is so great that with the infection on board it would be almost certain to manifest itself before reaching our shores, and knowing its presence on board a ship reaching San Francisco or any other point on the western coast, thorough inspection and disinfection will keep the disease out of this country. The probabilities are that for several years to come the larger cities of India, at least, will remain infected, and our sanitary authorities must be vigilant. The facts that if the plague reaches us at all it must come by sea, that a long voyage must be made before it can reach us, and that the disease will most probably appear on board ship before arrival at any American port—all

these conditions are in our favor. The general government should take upon itself the control of all measures to prevent the introduction of infectious diseases from without. Quarantine detention is a relic of ignorance of the true nature of infectious diseases. All transports and other vessels should be provided with proper disinfecting apparatus. The government should supply the Marine Hospital service with every needed equipment, and if this is done the plague can enter America only through incompetency in the service. There is another source of danger on our western coast that must not be overlooked. The plague is now widely distributed in Formosa, which is under the control of Japan, and our intercourse with the last-mentioned country should be most carefully watched."

**Influence of the Weather upon Crime.**—Edwin G. Dexter writes an article on the above subject in the *Popular Science Monthly* for September, and concludes that the tendency to homicide varies with those meteorological conditions which bring about an emotional state necessitating a considerable discharge of motor stimulus. The same conditions bring about irritability and unruliness in the child, accompanying suicidal tendencies. This supposition is upheld by the fact that suicide is less common in the colder climates where the metabolic processes are slow, and in the torrid zone where the heat produces a general depletion of energy for motor discharge, than in the temperate regions where the climate is exhilarating.

**New Explanation of the Presystolic Bruit.**—Dr. C. C. Gibbes, writing on this subject in the *Clinical Journal* of July 12, 1899, draws the following conclusions: (1) In consequence of the different tensions existing in the right and left ventricles, these cavities under the circumstances of mitral constriction do not act synchronously. (2) The base to apex portion of the right ventricular systolic wave occurs when the left ventricle is in diastole. (3) The right ventricular muscle vibrations are heard during the diastolic period, and they gradually increase in intensity toward the end of it. (4) The so-called presystolic bruit is composed of three parts: (*a*) right ventricular muscle vibrations; (*b*) an auricular systolic bruit; (*c*) a slapping first sound, the muscle vibrations being the cause of the peculiar and intimate relation between the bruit and that sound. (5) In the double mitral murmur these vibrations prevent the distinction between the two murmurs which is heard in the double aortic murmur.

**Endometritis, Congestion, or What?**—In an article on this subject in the *Yale Medical Journal* for March, 1899, Dr. Barber concludes as follows: (1) Simple endometritis, uncomplicated, is rare; a leucorrhea, when present, is not indicative of it, without the presence of micro-organisms, which would argue that all scrapings should be microscopically examined for correct diagnosis. (2) Gland-tissue disturbances of the endometrium, whether from congestion or lack of blood supply, is not, according to Welch, an inflammation, and therefore not an endometritis, in the true definition of the term. (3) Such disturbances are better and more scientifically treated from the medical than from the surgical standpoint. (4) The curette, a powerful factor in the treatment of some forms of endometritis, is not curative in this form, and is, according to good authority, used much too frequently without due reason, and often by the irregular with criminal intent.

**Practical Aphorisms.**—Dr. H. A. Hare says that there are two aphorisms which he is in the habit of emphasizing to his classes—one is that "when called to care for a patient through an attack of illness the physician should be a watchman all the time, and a therapeutist only when necessity arises." Surely, he says, there is no disease commonly met with in which this holds true more than it does in pneumonia. The second is that in all acute infectious diseases, and particularly so in croupous pneumonia, patients may be divided into three classes, namely, those who are so mildly ill that all they need is good care and little or no active treatment, cases on the contrary so malignant that nothing can be done which will produce cure, and a third class which, lying between these two types, is capable of cure, but only when the individual is aided by the most skilful treatment.—*Therapeutic Gazette.*

**Charcot as an Artist.**—It is related of Charcot, the distinguished alienist, that he had marked artistic ability, and that when he was seventeen years old his family had some hesitation whether to make him a doctor or a painter. He chose the medical profession. He was fond of drawing sketches of his patients and of landscapes he saw in his travels, and was not above making an occasional caricature. Several albums are filled with designs of this kind. A study of his work as an artist was prepared by Dr. Henri Meige in connection with the erection of his monument, and is deposited in the Salpétrière.—*Popular Science Monthly.*

**Literary Malaria.**—Literary malaria is thus diagnosed by Mrs. Earle in the *Book Buyer:* "Literary malaria is the state of strain and bewilderment, involving an inability to do creative work, which is brought about by poring on old books in search of local color and illuminating facts. It is a disease most incident to historical novelists. The preliminary dive into history may be delightful, but the result is that the brain is fretted by the search, especially by defeat in the search, and the result of digging in this humus of decayed literature is a 'fever and ague' of the mind. The material is there, and it sends up exhalations that seem of themelves to form shapes and dramas that only require the aid of the pen to record them; but a subtle undermining of the executive power of the brain has been going on, and the old musty styles which will never do for modern readers go singing through the brain and obsess it."

**A New Remedy for the Phylloxera.**—The Italian minister of agriculture and several scientists of that country are engaged in testing a medium which is to protect the Italian vineyards from the ravages of the phylloxera. This remedy was first employed by the vintager Lauro D'Angelo on Elba. It consists of copper sulphate, and its application is exceedingly simple and cheap. According to the *Naturwissenschaftliche Wochenschrift*, the plants are sprinkled with dissolved copper sulphate and some is thrown on the ground in a powdered state. By the rains in fall, winter, and spring, the powder is dissolved and enters the soil. The method employed by D'Angelo consists in giving the vines first the liquid treatment, followed by five with the powder. In the former case there are used one per cent. of lime, 1.8 per cent. of copper sulphate, per one hundred kilos. of sulphur; in the second case the vine plants receive two treatments with two per cent. of copper sulphate and three with five per cent. to every one hundred kilos. of sulphur.—*Scientific American.*

**Works of Art from a Psychological Standpoint.**—Even works of art cannot escape from the psychologist and the medical man. Dr. C. H. Stratz points out some curious symptoms of disease in types represented in works of art. He finds that Botticelli's Venus in the Uffizi at Florence is suffering from consumption.

and should not be riding across the sea without clothing. It is needless to state that nothing of this kind was ever attempted by the old masters; they selected types which appealed to them, and painted them as they saw them, and it is practically time wasted to hunt up hidden meanings in works of art.—*Scientific American.*

**Tuberculosis in the German Army.**—The *Militär-Wochenblatt* publishes an article on tuberculosis in the German army, from which it appears that the number of cases has fallen from 2.9 per 1,000 in 1890–91 to 1.8 per 1,000 in 1889–99, the death rate for the same periods being 0.24 per 1,000. In the Bavarian army the decrease in cases has been 2.3 and the death rate 0.32 per 1,000. The number discharged from the German army on account of the disease during the five years ending in 1896 was 7,205, or 51.9 per 1,000 of those discharged for any reason whatsoever. It must be remembered that no man is admitted into the army who in the medical examination which precedes entrance is found to be suffering from the disease; apparently, therefore, it is contracted in the army. The chief predisposing cause is stated to be a "cold"; the next in importance is the strain of military duty, but this does not include the blowing of musical instruments, which comes under a separate heading. The treatment pursued was more or less successful in 23.3 per cent. of the cases. In 1.2 per cent. a perfect cure was effected. In the remaining 76.7 per cent. the treatment failed, and death resulted in 16.1 per cent. The decrease in the number of cases in recent years is attributed largely to the discovery of the bacillus of the disease by Koch in 1882, owing to which it is easy to detect the disease and reject recruits suffering from it who would otherwise have passed the medical examination.

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended September 15, 1899:

SMALLPOX—UNITED STATES.

| | | Cases. | Deaths. |
|---|---|---|---|
| Florida, Jacksonville | September 2d | 1 | |
| Massachusetts, Fall River | September 2d to 9th | 1 | |
| Ohio, Cincinnati | August 25th to September 1st. | 6 | |
| Cleveland | September 1st to 8th | 4 | |
| Pennsylvania, Philadelphia | September 9th | .. | 1 |
| Texas, San Antonio | August 31st | 1 | 1 |
| Sixteen places | August 5th to September 2d. | 76 | 4 |
| Virginia, Portsmouth | September 9th | 1 | |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Belgium, Antwerp | August 26th | 3 | |
| Brazil, Rio de Janeiro | July 28th | 54 | 34 |
| Cuba, Casilda | August 1st to 31st | .. | 1 |
| Greece, Athens | August 26th to 28th | 11 | 2 |
| India, Bombay | August 15th | .. | 11 |
| Mexico, Chihuahua | September 4th | .. | 4 |
| Mexico | August 20th to September 7th. | 9 | 6 |
| Tuxpan | September 4th | .. | 2 |
| Russia, Moscow | August 12th to 19th | 1 | 1 |
| Odessa | August 19th to 26th | 1 | 3 |
| Warsaw | August 12th to 19th | .. | 5 |
| Spain, Valencia | August 22d to 29th | 4 | 1 |
| Turkey, Erzeroum | August 5th to 12th | 2 | |
| Smyrna | August 13th to 20th | .. | 1 |

YELLOW FEVER—UNITED STATES.

| | | | |
|---|---|---|---|
| Florida, Key West | September 9th to 12th | 92 | 3 |
| Port Tampa City | September 11th | .. | 1 |
| Louisiana, New Orleans | From outbreak to Sept. 11th. | 7 | 2 |
| Mississippi, Jackson | September 10th | 1 | |
| Mississippi City | September 10th | 1 | |

YELLOW FEVER—FOREIGN.

| | | | |
|---|---|---|---|
| Brazil, Rio de Janeiro | July 28th | 5 | 2 |
| Cuba, Havana | August 31st to September 3d. | .. | 5 |
| Colombia, Barranquilla | August 20th | 1 | 1 |
| Colon | September 4th | 1 | 1 |
| Mexico, Orizaba | August 15th to 26th | .. | 6 |
| Tuxpan | September 4th | .. | 2 |
| Vera Cruz | August 24th to 31st | 16 | 11 |

CHOLERA.

| | | | |
|---|---|---|---|
| India, Bombay | August 15th to 17th | .. | 1 |
| Calcutta | August 15th to 17th | .. | 27 |
| Japan, Yokohama | July 16th to 20th | 2 | 2 |
| China, Karachi | August 12th | 14 | 17 |

PLAGUE.

| | | | |
|---|---|---|---|
| Egypt, Alexandria | August 20th | 2 | 1 |
| China, Karachi | August 12th | 1 | 2 |
| India, Bombay | August 15th to 17th | .. | 71 |
| Calcutta | August 5th to 17th | .. | 52 |

**Tobacco and the Latin-American Race.**—It is feared that over-indulgence in tobacco may have a prejudicial effect upon the Latin-American peoples, especially those in South America. According to *Prometheus*, not only do children of two or three years smoke all day long, but mothers have been seen trying to quiet their babies by putting cigars in their mouths.—*Scientific American.*

**Thucydides on the Plague.**—In the detailed account given by Thucydides of the plague at Athens, B.C. 430, though we cannot with certainty identify the disease, it is clear that it was considered contagious. It was supposed to have come from Ethiopia to Egypt and Lybia, whence it passed to Persia, taking Lemnos on its way, from which it fell on Athens. Afterward when Hagnon went with forces to help the Athenian army at Potidea he took the disease with him, so that ten hundred and fifty out of four thousand perished in forty days.—*The Medical Magazine.*

**Examination of Liquors.**—By having liquors examined, and only pure liquors sold and condemned liquors destroyed, precisely as in the case of unclean or impure meats, milk, fruit, and confectionery, much could be practically and in a minimum lapse of time accomplished for the decrease of the liquor evil. The Prohibitionists themselves, by placing, replacing, abolishing, and experimenting with all sorts of statutes on the statute book, have accustomed us to state regulations of the sale of intoxicants, and least of all can complain of yet one more experiment toward the decrease of drunkenness.—*Popular Science Monthly.*

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## Books Received.

*While the* MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK, 1899. 8vo, 531 pages. Illustrated.

PYORRHŒA ALVEOLARIS. By John Fitzgerald, L.D.S. 8vo, 62 pages. Illustrated. The Medical Publishing Company, Ltd., London.

A MANUAL OF DISEASES OF THE NERVOUS SYSTEM. By Dr. W. R. Gowers. Edited by Sir W. R. Gowers and Dr. James Taylor. Third edition. Vol. i., 8vo, 692 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia. Price, $4 net.

THE GROSS AND MINUTE ANATOMY OF THE CENTRAL NERVOUS SYSTEM. By Dr. H. C. Gordinier. 8vo, 589 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia. Price, $6 net.

INDEX CATALOGUE OF THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE, UNITED STATES ARMY. Second series. Vol. iv. D—Emulsions. Folio, 917 pages.

MATERIA MEDICA, THERAPEUTICS, MEDICAL PHARMACY, PRESCRIPTION WRITING, AND MEDICAL LATIN. By Dr. W. Schleif. Edited by Dr. B. B. Gallaudet. 8vo, 354 pages. Lea Brothers & Co., Philadelphia.

ASTHMA. By Ernest Kingscote, M.B., C.M., L.R.C.S. Edin. 8vo, illustrated, 183 pages. Henry J. Glaisher, London.

ANNUAL REPORT OF THE SUPERVISING SURGEON-GENERAL OF THE MARINE HOSPITAL SERVICE OF THE UNITED STATES FOR THE FISCAL YEAR 1898. 8vo, 855 pages.

TRANSACTIONS OF THE VERMONT STATE MEDICAL SOCIETY, 1898. 8vo, 229 pages.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK, 1899. 8vo, 531 pages.

TRANSACTIONS OF THE AMERICAN CLIMATOLOGICAL ASSOCIATION, 1899. Vol. xv. 8vo, 317 pages. Illustrated.

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 56, No. 14.
Whole No. 1508.

NEW YORK, SEPTEMBER 30, 1899.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### A FURTHER VIEW OF THE MANAGEMENT OF THE DEFORMITY OF HIP DISEASE.[1]

BY A. B. JUDSON, M.D.,

NEW YORK.

HAVING tested by further experience the value of a promising method of preventing and correcting the deformity of hip disease, I desire to call attention to the subject again. In a paper read before the association in 1889 a number of clinical facts were set in order, and from them deductions were made in favor of this method, which, omitting preliminary and argumentative matter, may be said to consist in the education of the patient,

FIG. 1.

FIG. 2.

Case I. Duration of disease before treatment, nineteen months. Under treatment, two years five months. Photographed in 1879, six months after treatment. Age, nine years.

FIG. 3.

FIG. 4.

Case I. Photographed 1899, twenty years after treatment. Age, twenty-nine years.

wearing the hip splint, to the habitual observance of the normal rhythm of human locomotion. At the risk of repetition I recall a few points.

The deformity and factitious shortening are caused by the patient's instinctive and habitual effort to keep the affected limb clear of the ground by elevating the pelvis on that side, with adduction as a necessary accompaniment (flexion and adduction are here considered in the same category). The patient does this to escape the pain which might come from a sudden and unexpected contact of the foot with the ground, and also to withhold the bad foot from the ground in favor of the well one, which hastens forward to do the work. The result is that the affected foot visits the ground for a moment only, while the well one lingers on the ground, and the natural rhythm, or time, is destroyed. True time may be expressed as follows: "One—two—one—two—one—two—one—two," and false time thus: "One–two—one–two—one–two—one–two—one–two." It is found that if the patient gives up false and resumes true time, which can be done by an effort of the will or as the result of drill, the affected limb gives up some of its adduction and flexion in order to reach the ground more conveniently to do its share of the work. With this come also horizontal adjustment of the pelvis and a decrease of shortening.

Violation of rhythm and the deformity appear to be incidents of nature's method of protecting the diseased joint from pressure and concussion by transferring a large part of the work of locomotion from the affected to the sound limb. One of the advantages of treatment by the ischiatic crutch is that it furnishes complete protection with a return to natural rhythm and release from adduction, apparent shortening and tilting of the pelvis. This will demand an apparatus strong enough to give to the body the support which it is accustomed to receive from a well limb.

Patients who have recovered with serious lameness, when instructed in this simple mystery, have overcome a large part of their lameness and deformity by learning to observe natural time in walking, an improvement which could not be expected, of course, if bony ankylosis were the result of hip disease. It is an

[1] Read before the American Orthopedic Association, at New York, June 2, 1899.

interesting fact that throughout the early and active stages of the disease the position of the limb readily yields without pain to a slight amount of continuous

Fig. 5.

Fig. 6.

Case II. Duration of disease before treatment, one year. Under treatment, two years seven months. Photographed in 1880, eight months after treatment. Age, six years. Examined 1899, twenty years after treatment. Age, twenty-six years. Condition like that of Case III. in 1899, excepting that there is one and one-fourth inches of real shortening.

force. Even after recovery the condition is far from immobilization or intractable fixation.

It may be said, by the way, that the rhythm of human locomotion is a subject which has probably not received the attention to which it is entitled. The very simplicity of the normal rhythm makes a slight deviation from it very noticeable, as in the incipient lameness of a child who simply accentuates the blow given to the ground by the hastening well foot. Violation of rhythm is one of the constituents of lameness. Lameness in general is essentially asymmetrical walking, complete symmetry of gait requiring similarity of the two limbs not only in their length and relation to the rest of the body but also in their movement. It is a point of practical importance that the lame needlessly add to their lameness by neglecting to keep correct time with their feet. A well person can pass for lame by the simple device of giving more time to one foot than to the other, a matter capable of instant demonstration, and one who is seriously lame can lessen the appearance of being so by habitually observing the natural rhythm of locomotion. If the trouble is the result of hip disease, not only is the appearance improved, but the cause of the lameness is by this method lessened with the removal of adduction and undue flexion.

This method is naturally placed in comparison with operative correction. Warm personal regard for Dr. V. P. Gibney would make me hesitate to differ with him in opinion. He will, however, enjoy with me the humorous element which comes to light in his having referred to the wrong boy in his argument in favor of operating for the correction of these deformities. In giving the previous history of one of the cases in which he had operated with excellent success he says: "Dr. Judson finally succeeded in arresting the disease, presenting his case as cured in a series reported in volume II. of the Transactions of the Academy."[1] This boy was, indeed, badly deformed, with good reason as will appear further on, but he was not in the series presented to the Academy. The patients so presented recovered with but little flexion and adduction. Their present condition is shown in the accompanying cuts.

The boy on whom Dr. Gibney operated had been described by me as showing bad deformity, the result of careless walking, in the following words. In the same connection I referred to two other patients who had avoided deformity by walking symmetrically. I reproduce the whole passage substantially as follows:

"Why do patients similarly affected and treated exactly alike recover with such different degrees of deformity? A young girl, for instance, was in the third stage before treatment was begun in May, 1880. She has recovered with no adduction, almost no flexion, and with very little lameness. I attribute this good position to the fact that her mother was very anxious about her only daughter, and was always with her, so that every step the child took, wearing the hip-splint, was taken under the necessity of appearing as well as she could. Her steps were timed equally, and her affected limb assumed and retained a useful position because it had to do, so far as was possible, one-half of the work of locomotion.

"A boy recovered (treatment begun June, 1883) from the disease in a more moderate form, but he limps about most awkwardly with 20° of adduction and 50° of flexion. I explain his bad position by the fact that his mother, one of the best women in the world, was busy out of the house every day, leaving at home all day her family of four boys. As the patient was most of the time in excellent general health, he vied with his brothers in all their games and developed his well limb at the expense of the affected one, which was elevated and adducted to keep it out of the way.

"In another case (treatment begun November, 1883) the patient, who recovered after long-continued purulent discharges, was a girl endowed with uncommon beauty, and although she was by no means docile, and under very little restraint at home, her vanity led her

Fig. 7.

Fig. 8.

Case III. Duration of disease before treatment, four years. Under treatment, four years. Photographed in 1879, eighteen months after treatment. Age, thirteen years.

to try to appear to the best advantage, and, thanks to her careful gait and studied attempts to be graceful, she now walks with very little lameness, with flexion not more than 10°, and no adduction.

[1] Transactions of the American Orthopedic Association, vol. vii., 1894, pp. 195–197; The International Medical Magazine, Nov., 1894, vol. iii., pp. 713, 714.

"I advise especial attention to the manner of walking, insisting on the patient's keeping time in his steps so far as is practicable, and leading him to adopt a proud bearing. A girl is told to practise deportment before a looking-glass, and the parents are informed of the importance of encouraging the child to adopt deliberate and graceful movements on all occasions." [1]

These views[2] have been but confirmed by intervening experience. Intractable cases will occur, exceptions perhaps to prove the rule, like that of the boy referred to. For him there was no resort except to operative correction, which was well done by Dr. Gibney, as shown in the photographs which form a part of his valuable paper.

The series referred to, showing the results of treatment in severe cases, was reported to the Academy in April, 1880.[3] Their condition at that time and also twenty years later is shown in the cuts so far as photographs could be obtained. These patients were all

Fig. 9.

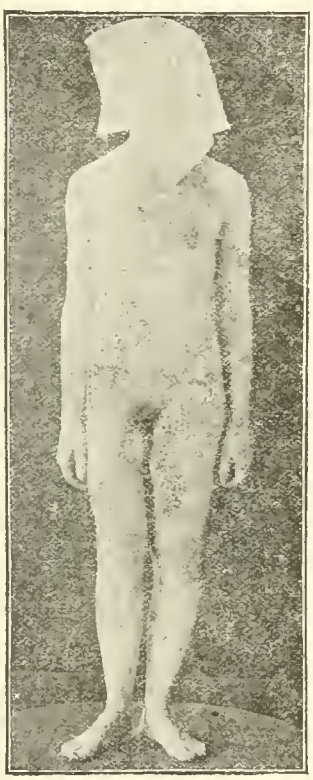

Fig. 10.

Case III. Photographed 1899, twenty-one years after treatment. Age, thirty-three years.

advanced in the third stage in its worst features before treatment was begun, and their recovery was something in the nature of a surprise. In fact the series would have contained four cases if a patient similarly affected and under treatment had not died of tuberculous meningitis.[4] The method is applicable as well to cases of moderate severity, a number of which were reported in the *American Medico-Surgical Bulletin*, January 1, 1895, vol. viii., pp. 4-6.

In orthopedic charities, where patients equipped with the ischiatic crutch might be formed into companies, military drill would doubtless do much toward securing a final good position of the limb, remembering that complete success will depend largely on an exact adjustment of the apparatus. In cases of recovery with normal motion in the joint the question of the management of deformity is happily shut out.

[1] Transactions of the American Orthopedic Association, vol. ii., 1889, pp. 181-183.

[2] See also St. Louis Courier of Medicine, May, 1881, vol. v., p. 372; MEDICAL RECORD, May 21, 1887, vol. 31, p. 586.

[3] Illustrated Medicine and Surgery (Fox's Quarterly), New York, vol. i., April, 1882, pp. 45-52. See also MEDICAL RECORD, October 28, 1893, vol. 44, pp. 545-548.

[4] MEDICAL RECORD, May 1, 1880, vol. 17, pp. 490, 491.

## THE NEGLECT OF SEXUAL SYMPTOMS IN THE TREATMENT OF THE MALE GENITO-URINARY ORGANS.

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In private and dispensary practice during the past five years I have been called upon to treat a large number of patients affected with various forms of sexual symptoms. Many of these patients have given a history of some form of venereal disease of their genito-urinary organs, but a considerable proportion have never had any venereal disease whatsoever. A large proportion of these patients have been treated by reputable physicians, specialists in genito-urinary diseases, and also by general practitioners. The point about the condition of these sufferers which has impressed me most strongly was the apparent neglect, by many of these medical men, of important sexual symptoms. Why have these symptoms been so ignored?

For several years I have studied the subject very carefully, and have come to the conclusion that, as a rule, medical men do not study, largely from a lack of opportunity, sexual hygiene, and as a consequence the importance of such matters are little appreciated or understood.

That the sexual apparatus is of vast importance few of us will deny. Many of the specialists in genito-urinary diseases are in reality urinary specialists so far as their knowledge and treatment of the genito-urinary tract are concerned. I do not believe in placing sexual symptoms in the foreground and considering them alone, but I do plead for a much more scientific study of the sexual organs in health and disease, than has been accorded them up to the present time. Some of the causes of the suppression and belittling of disturbances of the sexual system I believe to be the following:

First: From childhood to the time of puberty the majority of children, boys and girls, are taught absolutely nothing about sexual hygiene. They have to learn by their own experience one generation after the other. There is a deep mystery cast over the whole subject, as if it were something improper and indecent to discuss, even between father and son or mother and daughter. Is it any wonder that wrong ideas are received, injurious acts performed, and children grow to adolescence with crooked and misshapen ideas in regard to a function which is next to self-preservation in importance and intensity? If parents clothe or feed their children improperly they usually find it out and correct the error. When, however, it comes to a question of sexual hygiene we immediately tread on forbidden ground, and ignorance and mystery reign supreme. This lack of proper sexual teaching in youth undoubtedly affects both physician and patient in after-life.

Second: How much is taught in our medical schools on the sexual function and its relation to health and disease? Practically nothing. If the subject is broached to a patient before a class of medical students or even graduates in medicine, it causes a general smile of ridicule from the students, and the patient crawls into his shell. If he proceeds, and in answer

to questions explains his sexual symptoms, he is the object of more ridicule. Of course it is a delicate subject, but is that any reason for keeping the very important function enshrouded in mystery and bringing harm and suffering to the ignorant? There is undoubtedly room for delicacy and proper modesty, but cannot we have these and yet get at the reasons for the patient's sexual disorder?

Third: The sexual instinct being for many reasons associated with the most sacred relations of life, people as a rule, even if in some particulars sexually disturbed, prefer from natural causes to say nothing. If they do consult a physician they are liable to say something misleading unless drawn out by a medical man who has knowledge of the subject, tact, and patience all combined. He must also be possessed with ideas of the importance of the derangements of this function, otherwise he can accomplish little. With the patient's confidence, as in many other disturbances, but more particularly in sexual matters, half the battle is won. Many genito-urinary physicians, however, make light of the whole subject before the patient has had a chance to tell his story. Others, without making a physical examination, and after gaining a few points which they think indicate mental or nervous disease, turn the case over to a specialist in nervous diseases. In some cases the physician may be right in his guess, but not right in knowing so little about his patient's condition.

Many of these patients have functional disturbance of the sexual organs which can be detected by a skilled examination. Patients of this last class of cases, who can be relieved only by local treatment, are thus passed on to a nervous specialist, who, of course, does not pretend to give local treatment, and the patient is not relieved. He may then drift into the hands of a quack, where he at least gets sympathy, for he is allowed to tell his story, he may also receive some sort of local treatment used in a blind way by the quack on general principles. He also may receive an electric belt which he wears night and day for the next ten years. In this way the patient may receive benefit, but more often is simply fleeced by his sympathetic quack adviser.

These sexual cases constitute a large body of patients which should be treated by the legitimate profession; instead of which they are buffeted about from pillar to post. That they are difficult cases to manage I do not deny, but we of the legitimate profession should make more of a study of them, and relieve if not cure many more patients than we do at the present time. The time has already come when the regular profession has begun to treat patients with disturbances of the genital organs in a much more scientific and thorough way. This class of patients is being looked upon more and more each year as we look upon other patients, and is being treated after improved methods, in many instances with most satisfactory results.

Dr. Eugene Fuller, whom I have assisted in private and hospital work for several years, was the first to call attention about seven years ago to certain conditions of the sexual apparatus which involve the seminal vesicles, producing the most varied nervous and general symptoms. Later Dr. Fuller wrote a book entitled "Disorders of the Male Sexual Organs," in which is given in a thorough and scientific manner a careful study of the physiology, pathology, and treatment of the seminal vesicles. The treatment outlined in this book has done a great deal to relieve and cure a large class of formerly much-neglected sufferers. Many other physicians have taken up this treatment and written on the subject. It is a treatment, however, which requires special training to be effective, and this special training can be gained only by the routine examination of a large number of patients, otherwise the form of treatment as recommended by Dr. Fuller will not be successful.

The number of patients with urethritis seriously damaged in their genital apparatus by improper and violent methods of treatment I believe to be large. I am positive from my own experience and from other sources that the Janet method of irrigating the urethra and bladder has been the cause, directly and indirectly, of much damage to the sexual organs. In a small number of selected cases I believe the method to be of use. I do not believe, though, that it is a desirable form of irrigation for the majority of cases of urethritis. If we had to contend only with a urinary tract the method would be perfect. But when we consider the complex genito-urinary apparatus, the various organs in direct and indirect relation to the urethra, we should hesitate before applying this treatment indiscriminately. Many of the cases of urethritis treated by the Janet method of irrigation have been apparently cured in short order. The superficial observers may proclaim with loud voice that the great cure for acute urethritis has come, but the observer who looks underneath, and who sees many of these cases afterward, will be satisfied that frequently much damage has been done to other organs, mainly genital, which is of a serious nature and difficult to relieve.

In a limited number of cases in which the urethritis is in the front urethra, applications in the first twenty-four hours directed to this part alone may produce a rapid cure. The term urethritis is used by me to designate the two classes of cases, in one of which we find the gonococcus and in the other we do not. It may be well to say in passing that the methylene-blue stain alone is not reliable, for in order to be sure that we are dealing with the gonococcus we should use the Gram strain as a final test. The decolorization of the diplococcus shows it to be the specific micro-organism of gonorrhœa. Dr. Henry Heiman brings out this point in a very convincing way in his well-known study of the gonococcus.

There is a third class of cases, in which there has been no discharge either of a specific or non-specific nature, but in which the sexual organs have been injured by improper methods of intercourse. Cases of this class demand the exercise of considerable skill on the part of the physician in order to arrive at a correct diagnosis.

The three classes just briefly described are all amenable to some form of local treatment, except when there is a tuberculous condition present, in which event all local treatment should be discontinued.

The history of the following case will give an idea of some of the symptoms present in a patient first infected with gonorrhœa and later manifesting symptoms produced by local disturbances in the sexual organs:

Case I.—G. C——, aged thirty-five years, tailor, unmarried. The disease began with a specific urethritis two and one-half years ago. He was treated by a physician for five weeks with urethral irrigation. He improved very much, with disappearance of the discharge. The discharge returned in two weeks without known cause. He went to another physician, and was told he had cystitis. There was much pain in the lower abdomen, frequent urination, and free discharge. He did not improve, so he went to another physician, who gave medicine and later a front injection. He was better at first, then worse again. He went on in this way for six months, when he came to me. When I first saw him he complained of dull pain in sitting, in the region of the anus and perineum, with great discomfort from itching in the rectum. He had a few feeble erections, with some discharge. He was very nervous and apprehensive, and could not attend to work. Examination showed the seminal vesicles to be inflamed and thickened; very sensitive, especially

on the right side extending into the prostate. The perivesicular tissue was involved about both vesicles; otherwise examination was negative. The vesicles having been stripped once in five days for two months by me, all symptoms disappeared, and the discharge ceased. But he was still in need of more treatment to cure his condition entirely, when the patient suddenly ceased his visits. He afterward told me he did so because he thought he was well, and was anxious to try his sexual power again; but indulgence brought back a discharge in twelve hours and pronounced general nervousness. As he had disobeyed orders he was ashamed to come back to me. He went to another physician, who passed sounds first, and then gave the regulation treatment, an injection to use at home. Double epididymitis followed, which became better in ten days, but he had fearful itching and pain in the region of the anus and perineum. There were no erections. He was extremely nervous and very much depressed about his sexual power. He had no nocturnal emissions for several months. This condition continued for about a year or longer. In the mean time the patient went to the country to live and tried several physicians. Up to three months ago, when he saw me again, he had been to eight specialists. His condition when seen by me three months ago was as follows: The urine showed some threads, was not cloudy, he had no apparent discharge; no gonococci were found in the urine as passed at first. Examination showed the prostatic region to be sensitive, the seminal vesicles were both thickened and bound down by perivesicular tissue; they were not much enlarged, but rather sensitive to manipulation. The stream of urine was of normal size. The endoscope showed the urethra to be normal. The patient was extremely nervous, he had pains in the legs, hot flashes over the whole body, and was very apprehensive and depressed; he had poor erections, with failure on attempted intercourse.

The vesicles were stripped gently each five days. Some purulent material was expressed, under the microscope showing a macerated state of spermatozoa: no gonococci were seen. Immediate relief followed the first treatment, and improvement has been constant, with return of good spirits and sexual tone. This relief lasts four days; then he begins to feel return of the old feelings, when another treatment is given with immediate relief. He was advised to have sexual intercourse every two weeks with the use of a protector. No sounds have been used in this case by me. A tonic was also given, but the stripping has been the only treatment in his varied experience which has helped him. He has gained eight pounds. It will probably take from six to ten months to cure this patient completely. This case is not unique by any means; in fact, it is one of a large class. I believe this man to have had but one infection of gonorrhœa, but that it was driven into the sexual organs by improper treatment, such as irrigation and sounds. I feel sure that if he had finished his first course of treatment with me two years ago he would then have been cured.

Case II.—This was a case of a man in whom there was no history of venereal disease. G. M——, aged thirty-three years, clergyman, unmarried. He never has had sexual intercourse. Seven years ago he began to have irritation in the bladder, with slight pain in the neck of the bladder and rather frequent micturition. For a year, he passed the sound himself daily; he also has had the bladder washed out several times, but with no relief. He has very frequent nocturnal emissions, three to four a week. Examination was negative except for lack of tone in the region of the prostate and seminal vesicles, with considerable pain on pressure over the lower portion of the vesicles, which were bound down by old inflammation. I began treatment December 5th last, and at first little improvement followed stripping. But soon relief began to follow each treatment, so that this procedure was essential to the patient's comfort. After a few months large particles of inflammatory material were expressed with each stripping. The general tone of the patient has much improved; the irritation is nearly gone, and nocturnal emissions occur only one-third as often. He can now, before feeling discomfort, go a month without a stripping, and the interval is gradually lengthening. He has now been treated by me for eight months. He is much more buoyant, and the sense of irritation evinced by frequent urination has gone. Besides this treatment as described he has been given cod-liver oil and frequent rectal irrigations to relieve constipation.

These two cases give a good idea of the sexual symptoms seen in gonorrhœal and non-gonorrhœal cases when the disturbance is to be found in the sexual organs.

We must always remember that there may be a disease of the urethra or other neighboring organs at the same time that there is a disease in the genital apparatus. If so, this must also be treated. We may have a deep urethritis, or inflammation of the ejaculatory ducts, etc. In such cases we may have to use in addition deep injections, applications through the endoscope, etc. The urine should always be carefully examined to help us arrive at an opinion as to the present cause of a discharge and any other evidence of disease, and to treat the cause of the trouble and not the effect. The discharge in itself is of no importance as a discharge, but it is the diseased region we should treat, after a careful and scientific study of the case from all sides. If the genital organs per rectum are found to be normal, we may then proceed to examine the urethra and other regions as indicated by the history of the case. An injection should not be given immediately on finding evidence of a discharge. The seat of the trouble should be treated. We have come to a time when such empirical methods are not justifiable.

The two cases I have reported have been stripped regularly every five days, and occasionally the result of the strippings have been examined microscopically to see how the condition of the vesicles changes.

In the cases with a gonorrhœal history the expressed vesicular material should be taken from the urine by the centrifuge and planted on chest-serum agar as the only positive method in chronic cases of determining whether or not the gonococcus is still present.

Stripping of the seminal vesicles in some cases will increase a discharge for a time as the contents of the vesicles become softened. This need cause no worry, but should be looked on as a good sign, particularly if the discharge at the same time becomes thinner. From the first few strippings we may obtain little result. As the vesicles become softer the contents are more easily expressed.

Good results cannot be obtained by this method of treatment till a thorough course of training the finger has been completed. This fact accounts for some of the unsatisfactory results obtained by those unfamiliar with the conditions found per rectum.

In conclusion I repeat: (1) Sexual symptoms in genito-urinary practice should be carefully investigated and thoroughly studied.

(2) Indiscriminate use of irrigation is distinctly against scientific teaching, its effect on the genital organs often being injurious and causing the spread of the gonococcus.

(3) Before urethral instrumentation is employed every case should be examined per rectum with a finger educated to the rectal touch.

(4) Various forms of remote nervous symptoms are directly traceable to disorders of the sexual organs.

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## THE INDUCTION OF PREMATURE LABOR IN CASES OF ALBUMINURIA.

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The scope of this paper is far more limited than the first part of its title would imply. To cover the entire question of the induction of labor prematurely would necessarily involve:

1. The consideration of all the conditions which in modern obstetrical practice would be deemed indications for this step, such as acute or chronic renal troubles, dystocia, chronic cardiac or pulmonary disease, uncontrollable vomiting, etc.

2. The best method of inducing labor under each and every one of these conditions.

Questions so broad could not be compassed in a brief paper like the present, which will deal with only one phase of the subject, namely, the necessity for the more frequent application of this method (*i.e.*, forced delivery) of relieving the pregnant uterus in a patient suffering from chronic renal lesions, with a brief consideration of the best method of procedure under such conditions.

There is no condition which an obstetrician more dreads to meet, nor one which calls for more earnest and thoughtful study, than that group of symptoms which point to impending eclampsia. From the time that albumin is discovered in the urine of the pregnant patient there is no peace of mind for her physician until the ordeal of labor is not only passed, but well passed. He may console himself temporarily with statistics as to the number of women whose urine presents albumin in greater or less quantity, who yet pass through their labor without a symptom; he may try to convince himself that the policy of non-interference has many adherents among those foremost in the ranks of obstetrical authority; he cannot disabuse his mind of the conviction that he, as well as they, are laboring absolutely in the dark, in default of any accurate knowledge as to the etiology of this much-to-be-dreaded accident, and that in any single case he knows not where he stands. He dare not give a prognosis—he can only be on the alert, and work and hope for the best.

Apart from the question as to the probable outcome of the case if left to nature—that is, of course, with the proper and necessary medical supervision—is that other question as to whether a more positive course should not be taken out of regard for the mother's future welfare. This course may or may not be the death warrant for the child, according to the period of gestation and other conditions; danger to the child and its possible death it always means, hence the degree of hesitation one always feels in sanctioning a positive course.

The induction of premature labor, as a rule, for the prevention of eclampsia, in cases presenting albuminous urine deficient in urea, has many opponents. Dr. Fordyce Barker, in an article in the *Journal of Obstetrics* for July, 1878, takes a most conservative stand; but he, as well as others, seems to regard the matter entirely with a view to the prevention of eclampsia. This accident having been successfully avoided, the condition of the patient is presumably as good as is to be expected. Not a word is said as to any permanent damage done to the kidneys by allowing the pregnancy to continue uninterrupted. Convulsions have been avoided, and the case is a success.

Not all cases of albuminous urine terminate in eclampsia; not all cases of eclampsia terminate fatally, either for mother or child. Statistics as to the proportion vary so much as to be wellnigh unreliable, and I shall make no attempt to quote them. Each case must be judged on its own history and its probable chances of safety, not only for the mother's life, but for her future well-being.

There are, to my mind, indications which point so unmistakably to danger for the mother that the question of the induction of labor prematurely should be seriously considered, and I think decided in the positive more frequently than it now is. This seems a very radical stand to take, but I take it on the ground that not only is the life of the mother of more importance than that of the unborn child when it is a matter of the life of one or the other, but further, that the future good health of the mother should weigh more than the life of the child. If to carry a child to term means to shorten by many years the mother's life, then the question of terminating that pregnancy before serious damage is done should be most carefully considered.

The theories as to the causes governing the onset of eclampsia have been very numerous. Dr. John Byers, in an article in *The Lancet* (April, 1897), has grouped them under the following heads:

1. The reflex neurosis theory, which, briefly stated, claims that a reflex action on the sympathetic and the renal nerves is set up by the new condition in which the uterus finds itself.

2. The kidney theory, which calls special attention to the presence of albumin in the urine, and to the failure on the part of the kidney to eliminate certain excrementitious products, as urea, kreatin, etc.

3. The toxæmic or blood-poison theory, which asserts that nerve centres are poisoned by a toxin, the product of ordinary retrograde metabolism of both mother and child, which is usually eliminated without undue effort, but which, if the eliminating organs fall short of their allotted task, is stored up until its auto-intoxicating action is manifested by eclamptic symptoms.

It would be most interesting to take up, seriatim, the arguments for and against these three theories. This Dr. Byers does in his paper, and decides in favor of the toxæmic theory as covering all cases, even those not presenting albuminous urine before labor. With his conclusions I cannot altogether agree. The more I study the question as presented by individual cases, the more I am convinced that different factors will be found at work in different cases.

Often it would seem as if a combination of two of the causes so clearly defined by Dr. Byers could be made out. For example, how explain the revolt of the kidneys in the very early months of pregnancy? Could the comparatively slight increase of real eliminative work thrown upon them by the pregnant condition cause such marked symptoms of gastric, intestinal, and renal irritation as are sometimes seen, unless the theory of reflex nervous disturbance throws some light upon the question? The condition of the uterus during normal menstruation would seem to be not far removed from that during the first six weeks of pregnancy, yet whereas no symptoms may be present in the one case, numerous reflexes are at once inaugurated by the conditions attending pregnancy. Of course this statement does not hold in the great majority of cases.

Whatever may be the causes at work in different cases, there is a distinct class of cases in which the trouble can clearly be made out, and it is to this class and to its conduct that I would particularly call attention. The cases to which I refer are those in which a decided kidney lesion can be determined by chemical and microscopical urinalysis. That albumin may exist in the urine and sometimes in considerable quantity as a merely functional condition, most pathologists will admit, and while an obstetrician would watch this feature with more than ordinary care, he would, I think, scarcely be justified in suggesting premature delivery on this ground alone.

But when, in addition to the albumin present, there is found evidence of a nephritis, acute or chronic, the question is altogether different. Here is no functional trouble to be relieved, as is a transitory albuminuria upon the conclusion of labor, leaving no permanent trace, not even recurring in future pregnancies. Here is evidence of an organic lesion, affecting one of the great eliminative centres of the economy, and the question is, What is to be the result of pregnancy completed to full term upon these organs?—not the immediate effect. Not every woman surrenders at the time of labor to these conditions—but what are the effects upon her future well-being? Statistics do not follow up these cases. The same physician does not always have the opportunity of watching them through successive years, or even through successive pregnancies. To my mind, there is no question that a pathological condition has been set up, or, being yet latent, has been brought to light by the pregnant state, whose results are disastrous in direct ratio as the condition is allowed to remain, unrelieved by the termination or removal of its cause.

No one would take the ground that the induction of premature labor in cases suffering from nephritis means the cure of the kidney lesion; what we do mean is, that in some way which we do not as yet thoroughly grasp, the existing pregnancy makes increasing demands upon the organs of depuration, throwing upon them a burden which they are totally unable to sustain, until the strain ends in such a hopeless crippling that no amount of care during or following labor is sufficient to restore them to their original degree of usefulness. Is it not then the most conservative, though at first sight the most radical, plan when we find the burden of pregnancy either developing or extending an already existing nephritis, to remove the cause of the trouble? The strain of a few months of pregnancy must be equal to years of ordinary wear and tear.

It would be a most valuable contribution to obstetrical literature if those whose practice in this direction is large, and covers more particularly successive pregnancies in the same patient, were to give us carefully recorded observations as to the condition of the kidneys in those patients whose urine has in one or more pregnancies exhibited albumin alone, as well as the condition of the kidneys in patients one, two, or more years after a labor complicated by decided kidney lesions. Such careful reports would be of great value in deciding upon the best course to pursue in any given case. That there is no well-grounded consensus of opinion as to the urgency of a positive course when a well-marked kidney lesion exists, was forcibly demonstrated to me recently by the difficulty I experienced in getting men upon whose judgment I relied to approve of the induction of labor in a case in which it seemed urgently demanded. Theoretically, yes, it was the approved course; practically, would it not be better to wait for the viability of the child? Yet the patient was laboring under an organic heart trouble, mitral and aortic regurgitation with left ventricular hypertrophy, an acute hemorrhagic nephritis grafted on to a chronic condition, cystitis, and a left inguinal hernia.

In a paper read before the State Homœopathic Society in 1895, I quoted a case which to my mind bears out the argument. A woman, pregnant for the first time, showed slight œdema of the hands and feet at three months. No trace of albumin could be found upon repeated examinations up to the fifth month, although the œdematous condition had extended to the face. The patient neglected to present herself for one month. Upon her return, the urine showed a startling amount of albumin; the limbs were enormously distended, nausea and vomiting had returned, and an intense pruritus supervened. I was in favor of a forced delivery, but the patient being then within two weeks of seven months, we determined to wait. The patient, however, miscarried, the child being dead. The placenta was fatty. In six weeks the patient's condition was apparently normal.

Late the same year she conceived again, and the same set of symptoms developed much earlier and with greater rapidity than in the first pregnancy. Again I was induced against my better judgment to wait, but at the fifth month such positive uræmic symptoms had developed that I felt it imperative to relieve the patient, and labor was successfully induced. The symptoms subsided far less rapidly on this occasion than on the first. A careful watch was kept upon the kidneys. The evidences of acute nephritis gradually subsided, but a chronic catarrhal condition remained.

Upon finding herself overdue a few days the following year, she consulted me with regard to an immediate operation, which I refused. She consulted another physician, who urged her to let the pregnancy continue. She submitted, and all but lost her life. In the event of another pregnancy, I should not hesitate one moment. The kidneys have shown most conclusively that they are not able to bear the strain, and why subject them to five or six months' stress, in a vain endeavor to reach the period of viability? It has been my experience in these cases to have the child born dead—the placenta being extensively fatty. When the symptoms do not appear so early in the course of the pregnancy, perhaps not until the seventh month, but persist, I feel that each day adds rather to the danger to the child than increases its chances. More and more of the placenta is cut off from active service by fatty change, until the child dies from lack of nourishment, as happened in a recent case, when again I was persuaded to follow a negative course and wait. I believe that a rapid delivery would have given the child a far better chance at least than it had in the womb of a mother whose inability to nourish it properly was caused by a chronic interstitial nephritis with mitral regurgitation, the chronic condition being intensified by an acute desquamative nephritis. As the nurse remarked, "One can at least do something with a live baby." Here again the placenta was fatty. Seven months had been passed, and the case should have been terminated.

In the induction of labor for the conditions above cited, there are several points to be taken into consideration, and their value carefully weighed and considered. Were the case one of dystocia from bony malformation, and it was found necessary to bring on labor prematurely, any of the simpler methods of starting uterine contractions, such as the use of the continuous hot douche, the tampon, the introduction of a bougie into the cavity of the uterus, or the newer method of injecting glycerin, might answer. The dystocia is not increased by the delay, and the patient will not suffer constitutionally more than is common in the shock of an ordinary labor. If anæsthesia and an instrumental delivery become necessary, there is nothing to hinder such a termination, that is, no special considerations as to heart and kidneys.

But this is not the case when a patient presents herself at any stage of pregnancy and examination reveals organic trouble in the kidneys. Here the pros and cons as to method must be most carefully weighed. Will the patient sustain more damage if the labor is inaugurated by one of the simpler methods, and she is allowed to suffer the delay always incidental to the use of these methods? The pangs of a very long labor are often enough in themselves to determine eclampsia, even when the kidneys have given no evidence of failing powers of elimination until the very last moment. If then for a patient with damaged

kidneys we resort to these slower methods, are we not inviting the very trouble we would avoid? A few hours here may mean life or death. The uterus is unprepared for the work thrown upon it, and only exceptionally responds quickly. If response is too long delayed, anæsthesia and a forced delivery become necessary, in the end adding extra shock to what has already been borne.

On the other hand, if forced delivery is decided upon, an anæsthetic must be used, and the question of its effect on poorly acting kidneys comes to the front. Are we not immediately jeopardizing the mother's life by anæsthesia and the shock of a surgical operation? Which anæsthetic shall be used?

When, however, these questions are well weighed, I think it will be admitted that the safest measure is the rapid forced delivery. The ease with which the patient can be handled under an anæsthetic, the necessity often for version, the absolute assurance of surgical asepsis in an operation requiring from one-half hour to two hours only, the comparative ease with which unlooked-for accidents, as hemorrhage or delayed placental detachment, may be met, added to the fact that the operation may be positively indicated after all other methods have failed—these, I think, surely outweigh the possible danger from anæsthesia especially as we have our choice in that matter.

As to the methods of forcing dilatation, no instrument can be managed with the same intelligence and delicacy as the hand, after the cervix has been sufficiently dilated to render the insertion of even one finger possible. While time is a consideration, I have never found it necessary to dilate with such extreme rapidity as to sacrifice the integrity of the cervical fibres. This is what frequently happens with the branched steel dilators, used forcibly. The insertion of one finger, then two, and so on until the whole hand can be used as a wedge, will answer every purpose. Moreover, I have always been able, with an assistant pushing the uterus well down, to insert one finger of each hand, then two of each hand, thus very much multiplying the stretching force.

One more point: The cervix thus forcibly dilated has a tendency to retract. If instruments are to be applied and the child delivered by the occiput, there is no special danger. Usually, however, to save time, version is performed. Care must be taken in such case that the cervix does not retract before the head is delivered, encircling it and thus causing serious delay. If the cervix is fully paralyzed before extraction is begun, this danger is obviated. A too rapid extraction favors this contraction. Pressure on the head from above, keeping it well flexed, favors easy extraction.

159 West Forty-eighth Street.

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**Vesico-Visceral Fistulæ.**—Each case must be treated on its own merits, but a few general rules may be laid down: (1) In the first place, any cause of urethral obstruction should be removed, and a direct passage for urine obtained either per urethram by a catheter tied into the canal, or by drainage of the bladder through the perineum. By this means the urine will, in many cases, be prevented from leaking into the fistula, which may then close, or at least be put into a condition capable of cure by subsequent erasion. (2) Any foreign body in or near the bladder, or any other cause of inflammation, should be removed if possible. (3) Abscesses and suppurating cysts in the pelvic cellular tissue must be treated on general principles. (4) All callous fistulous tracts must be laid open and scraped, excised, or cauterized.—Henry Morris.

## THE TOXIC ORIGIN OF CERTAIN NEUROSES AND PSYCHOSES.[1]

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The importance of various toxæmic states in the etiology of nervous disease is receiving more attention each year on the part of those who are giving special study to these conditions, and whose aim is to seek for ultimate causes, with reference to the nature and treatment of disease. The fact appears to be that many nervous diseases are immediately produced by toxins of diverse kinds, originating largely in the gastro-intestinal tract and in the metabolic processes of the organism, but that the clinical picture depends quite as much upon hereditary and acquired neuropathic tendencies and environment as upon the precise character of the poisons. The physiological action of the various toxins is of the utmost importance; and it is greatly to be regretted that their isolation, identification, and experimental study are either impossible in the existing state of knowledge, or else, where possible, encumbered by methods which are too burdensome and complicated for clinical purposes. For the present we are obliged, as practical clinicians, to accept evidences of a more general character; less specific, it is true, but still, when taken in conjunction with the clinical picture, quite as conclusive in their bearing as many another clinical phenomenon which we are obliged to interpret as intelligently and reliably as the circumstances will permit.

What are these evidences, and how are they obtained?

In the first place the clinical picture presented will often be, to the experienced clinician, more or less suggestive in character. Vertigo, general pains, headache, general malaise, slight irregular fever, unaccountable periods of feeling of extreme exhaustion, which come and go without assignable cause—these and many other symptoms might be mentioned, some of which are extremely suggestive of auto-infection, and yet may, with the possible exception of the last mentioned, be due to a variety of other causes.

If a neurological study of any given case excludes organic disease and hysteria, then a possibly toxic origin becomes a probability and should be considered; and further it should be regarded as a possible complicating factor in many cases of structural disease, modifying the clinical picture in a marked degree. As I shall not again refer to this phase of the subject I wish here to say that I have seen great amelioration of many incurable organic diseases by the removal of a complicating toxæmia.

The evidences of auto-infection are to be sought for in the urine, the stomach contents, the fæces, and the blood. In the urine the most comprehensive single process is the estimation of the ethereal sulphates. In ordinary states of health about one-tenth of all the sulphates excreted in the urine is combined with aromatic principles mostly of intestinal origin. When this proportion is greatly increased it means a corresponding increase of intestinal putrefaction and resulting absorption. The presence of a considerable quantity of indican, phenol, cresol, or pyrocatechin means the same thing; but an excessive proportion of ethereal sulphates may be found in the absence of a pathological quantity of either of the above-named aromatic principles, combined, of course, with others of unknown character. The presence of acetone or sugar means the presence in the blood of materials toxic to the organism. So likewise does the presence of Gerhardt's iron reaction, which indicates the pre-existence in the blood of a morbid substance resembling

[1] Read before the Indiana State Medical Society, Indianapolis, June 1, 1899.

diacetic acid in some of its reactions, but which I have fully satisfied myself by laboratory experiment is not identical with that substance.

But there is no doubt that these demonstrable urinary products of blood infection fall very far short of covering the ground. There are unquestionably many toxic substances in the blood which do not combine with the sulphates when excreted in the urine, and which, further, cannot be demonstrated by any known chemical method.

In cases, therefore, in which a toxæmia is suspected, and urinary analysis gives negative results, an investigation of the contents of the stomach and colon is desirable and may throw a strong light on the case. In the intestines the presence of large quantities of parasites and protozoa, and of colonies of bacteria to an extent which experience and observation have shown to be pathological, furnishes a sufficient warrant for assigning to this condition an important pathogenic rôle. It is the opinion of competent observers that many of these organisms secrete poisons which are very deleterious to the human body, although this conclusion rests largely upon clinical grounds. In the current volume of "International Clinics" I have reported a case of this sort and quoted numerous observers along the same line. There are many other poisons, besides those comprised in the aromatic group including phenol and indol, with the exact chemical nature of which we are as yet unacquainted.

The stomach should be examined in these cases whenever practicable, whether there are subjective stomach symptoms or not. When the latter are slight and of very long duration, patients will deny their existence, although important conditions may be found upon examination. In a case referred to me by Dr. H. N. Newnam, of South Milfred, and which was fully reported before a recent meeting of the Chicago Medical Society, transient paraplegia and tetany were found to be the result of such an obscure condition, and promptly disappeared upon its removal. In another case referred by Dr. C. L. Ames, of Ada, Ohio, a very chronic neuropsychosis was found to be based upon such a condition, and appropriate treatment was rapidly followed by extraordinary improvement. In this case the ethereal sulphates were greatly increased, phenol and indol being the predominating aromatic principles, but there was also gastrectasia with motor insufficiency and as much as 180 c.c. of nutrient culture medium in the fasting stomach. A very interesting phenomenon in this case was the occurrence of a large quantity of acetone in the urine and a very strong iron reaction coincidently with an acute exacerbation of the symptoms.

So far as the blood examination is concerned, the direct search for toxins is, in the present state of our knowledge, entirely impracticable. Besides this there are other difficulties of a clinical character standing in the way of such examinations. The most that we can do at present is to study the histology of the blood which we know to be materially modified by certain toxins contained in the circulating fluid. A marked leucocytosis and possibly in other cases a leucopenia with modifications in the shapes and sizes of the red cells are perhaps the most important changes to be noted, and, while not at all distinctive in character, help to make up the complete clinical picture which every thorough clinician desires. A careful blood examination should therefore not be omitted in any case of sufficient importance or obscurity to require a comprehensive clinical study.

A slight febrile reaction is present in a certain number of cases of auto-infection, its presence or absence probably depending upon whether the circulating toxins act upon the thermogenic centres or not. In a case of psychoses of intestinal origin, recently referred to me by Dr. L. D. Beyers, of Decatur, an elevation of one-half to one degree was found for several weeks. In another case of several months' duration recently seen in consultation with Dr. J. J. Reynolds, of Defiance, Ohio, the elevation was from one to two degrees.

Indirectly it seems to me quite probable that these auto-infective processes may lead to certain structural alterations of the nervous system, which will later bring the case strictly within the category of organic brain disease. Such a process is not difficult to understand, inasmuch as the vascular changes which undoubtedly result from toxic processes may give rise to nutritional and later inflammatory or even neoplastic changes. A number of cases which clinically corroborate this view have fallen under my observation, in one of which, under the care of Dr. W. K. Mitchel, of Ligonier, Ind., an exceedingly chronic intestinal toxæmia probably led to a localized pachymeningitis.[1]

Many more cases could be cited, bearing in a clinical way upon the problems included in the topic of this paper, if time permitted. The evidences which I have gathered in a somewhat extended clinical study along these lines appear to me entirely conclusive that toxins from various sources may and do give rise to many neuroses and psychoses met with in practice, and I firmly believe that the more these conditions are studied the larger will be the list of cases which find their most plausible explanation in the causes indicated.

I desire, in conclusion, to point out a possible fallacy which I have never for a moment lost sight of and have repeatedly pointed out in published articles—viz., that toxæmic conditions may be the indirect result of nervous disease, as well as the cause of the latter. This is simply another illustration of the so-called vicious circle, which is no new dictum in pathology. It renders more and more complex these clinical problems, and makes it necessary for us to be constantly on our guard in formulating conclusions with reference to the essential pathology of any given case.

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## Clinical Department.

### DANGERS OF HEADACHE POWDERS: REPORT OF A CASE, WITH TESTS FOR THE SUSPECTED INGREDIENTS.

By JACOB SOBEL, M.D.,

NEW YORK.

Self-medication has of late assumed such large proportions that, with all the means of procuring various medicaments, the wonder is that so little harm has been done. In fact, considering the reckless sale of dangerous and heroic drugs, and the opportunities of the layman, one is surprised at this moderation in self-damage. This sale of proprietary drugs by pharmacists who ofttimes know as little about the constituents of the given preparation as the patient himself, and the doctor's advice column in the various newspapers, which furnishes prescriptions *ad infinitum* and *ad nauseam* simply upon the patient's diagnosis, without regard for a possible existing contraindication, are the causes in great part of the present evils. Among these, none is more prominent nor worthy of greater consideration than the indiscriminate sale and self-administration of proprietary headache powders, which for the most part contain the anilin synthetics, in who knows what proportions.

[1] This patient was later examined by Dr. H. M. Lyman, of Chicago who agreed with me fully as to etiology, but believed the process to be a sclerosis rather than an inflammation.

It is with the desire of emphasizing the dangerous use of the common anti-neuralgics and febrifuges by persons who are not familiar with their physiological action that the following case is reported:

Miss B——, aged twenty-five years, school-teacher, had been suffering from neuralgia and neurotic headache for some time. This headache had always responded very kindly to one powder of the "Anti-Headache or Half-Hour Headache Healer," which, according to the pamphlet accompanying the box, is guaranteed not to "contain morphine, opium, antipyrin, or other dangerous drugs." The directions given are that, if not relieved by one dose, the powder is to be repeated in half an hour; "in extreme cases three doses may be taken."

On April 7th I was summoned to the patient because "she had taken some headache powders and had suddenly become very blue." My directions over the telephone were to give whiskey, to keep the head low, and to apply hot-water bags and blankets to the extremities. The reply being that whiskey and alcohol in every form would be absolutely refused by the patient, a cup of strong black coffee and half a teaspoonful of aromatic spirits of ammonia were ordered. Upon reaching the patient at 1:30 P.M. I found her in a drowsy condition, with the nose, lips, finger-tips, and toes cyanotic and cold; pulse, 96, somewhat irregular, soft, and small; temperature, 97.6° F.; respirations, 20. The pupils were slightly dilated, reacting to light, and the hands were somewhat clammy. The patient was conscious, and said that her headache, extreme weakness, and chilly sensations troubled her. Soon after my arrival I administered atropine gr. $\frac{1}{150}$ and spiritus ammoniæ aromaticus ℥ ss. per os, and kept the extremities warm.

At 2:15 P.M. the pulse was 96, somewhat stronger; respiration, 20. Spir. ammon. aromat. ℥ ss. was given. At 3:15 P.M. the patient stated that she felt better except for her headache. Pulse, 96; her general condition was much improved, but cyanosis of the lips, finger-tips, and toes was still present, though to a less marked degree. Strychninæ sulphatis gr. $\frac{1}{60}$ was given every four hours, with hot drinks p.r.n. At 8 P.M. the patient felt very much better. The sensation of warmth was returning; the cyanosis of the finger-tips and toes had almost entirely disappeared, but the lips were still slightly cyanotic. Pulse, 84, regular and strong; temperature, 98.2° F. The feet and hands felt warm.

The following morning the patient had a pulse of 72, of good quality, and a temperature of 98.6° F.; respirations, 18. She had slept fairly well during the night. The cyanosis of the lips and extremities had disappeared completely. The patient complained of severe headache, for which the following was prescribed: ℞ Sodii bromidi, ammonii bromidi, āā ℥ ii.; Aquæ menthæ piperitæ q.s. ad ℥ ii. M. S. ℥ i. t.i.d.

On April 9th the patient was up and about, none the worse for her attack.

The following history was then elicited from the patient and her sister, who is a rather accurate observer. At about 12 M. the first powder had been taken without any relief; this was followed in fifteen minutes by another with a negative result. The desired effect not having been attained, she took a third powder within fifteen minutes, and very soon afterward she became cold, drowsy, and noticed that her finger-tips were blue. She took to the couch, thinking that some disease was brewing, and did not in any way associate her condition with the powders. Her lips became blue and her face livid. Nausea or vomiting did not occur. From the history the patient's appearance before my arrival and before the administration of the black coffee and aromatic spirits was far more alarming than the picture as I saw it. At that time her entire face was said to have been intensely blue and her eyes to have had a vacant, distant look. The patient stated that after the third powder "her heart wouldn't beat at all, and then it beat like crazy; once I thought it was beating on the other side."

This history presents, of course, a clear case of poisoning by headache powders, with the following symptoms: Marked cyanosis, prostration, cardiac weakness with irregular heart action, coldness of the extremities, dilated pupils, anxious facial appearance, but complete consciousness.

The next question was, naturally, What is the particular offending ingredient? Two drugs only occurred to my mind, viz., acetanilid and antipyrin. Phenacetin, on account of its expense, did not enter into the consideration. However, to surmise is one thing, to know another; accordingly I took samples of the powder to the Good Samaritan Dispensary, where, with Mr. F. C. Schumacher, I made the following tests: Each powder weighed ten grains, was of a brownish-white color, presented a shining appearance when rubbed on the fingers, and had a sharp, pungent, bitter taste. The appearance and taste were suggestive of acetanilid. When added to water the solution became flocculent, showing the presence of some insoluble substance, perhaps acetanilid, certainly not antipyrin, which is very soluble in water.

A. Tests for antipyrin: (1) To gr. iii. of the powder 10 c.c. of water was added, and then five drops of tinctura ferri chloridi; the solution became slightly colored. In the presence of antipyrin the solution would have turned a bright red. (2) To gr. iii. of the powder 10 c.c. of water was added, and then 2 c.c. of pure spiritus ætheris nitrosi; the solution remained clear. In the presence of antipyrin the solution would have turned dark green, owing to the formation of iso-nitroso-antipyrin. In making this test, I emphasize the use of pure nitrous ether, because otherwise even in the presence of antipyrin the test will fail. This test then is of double value, first in testing the presence of antipyrin, and secondly the purity of the nitre.

Antipyrin having been excluded, acetanilid was tested for as follows:

B. (1) Two grains of the powder were heated with 1 c.c. of a concentrated solution of NaOH and gtt. iii. of chloroform added; an offensive, poisonous odor of phenylisocyanid ($C_6H_5NC$) was given off. This is the iso-nitril test and reacts to acetanilid. On the addition of bromine water the mixture became yellow-red, thus corroborating the presence of acetanilid. (2) Two grains of powder were heated to boiling with 2 c.c. of hydrochloric acid and an equal volume of a saturated watery solution of chlorinated lime added; this gave a turbid red or violet fluid, which turned dark blue on supersaturation with $NH_4OH$ in excess. This is the indo-phenol reaction and speaks for acetanilid. (3) To two grains of the powder 1 c.c. of a sulphuric and chromic acid reagent (chromic acid gr. $\frac{1}{3}$, 10 c.c. of water, gr. xxx. of concentrated sulphuric acid) was added; this gave an intense red color, which immediately turned blue and then faded. This test responds accurately to acetanilid.

Phenacetin was excluded by Mr. Schumacher with the zinc powder and tincture of chloride of iron test.

Thus, whatever other ingredients these powders might have contained, I felt convinced that acetanilid was the disturbing factor and gave rise to the symptoms enumerated. It might be argued that in this instance the prostration and other symptoms were due to an overdose of the powders, and that had the original directions been followed nothing unusual would have occurred. It is, however, this very self-medication, this treatment without regard to idiosyncrasy or the underlying conditions, that is objected to.

All pharmacists under the existing laws have a perfect right to sell headache powders, proprietary or

otherwise. It is highly advisable, however, that they prepare their own powders, know exactly how much of each ingredient they contain, and fortify them (if necessary) with cardiac stimulants such as caffeine, sparteine, monobromate of camphor, etc. No more than three grains of acetanilid should be dispensed in any one powder.

The indiscriminate self-administration of headache remedies composed of powerful aniline synthetics cannot, however, but work infinite harm, unless the public be warned against the great danger which lurks in this method of medication.

## A CASE OF HEREDITARY ARTHRITIS DEFORMANS TERMINATING IN FATAL PERNICIOUS ANÆMIA.

By JOHN S. BILLINGS, Jr., M.D.,
NEW YORK.

Most authorities lay little stress upon the influence of heredity on the disease known as arthritis deformans, and no reports of cases of direct inheritance of the disease have been found by the writer. Writers as a rule limit themselves to the vague statement that "heredity has a certain amount of influence." But by heredity they almost invariably mean a family history of gout, rheumatism, or miscellaneous joint affections. But all consider such influence slight, and Strümpell goes so far as to state that it has none whatever. The general opinion is that a family history of gout can be found for most individuals affected with the disease, and Garrod states that in two hundred and sixteen out of five hundred cases there was a history of some joint affection in the family. No extended search of the literature has been made for cases of arthritis deformans in which the parents of the patients have suffered from the same disease, but no such cases are referred to in the Index Catalogue of the Army Medical Library at Washington. The following case indicates a well-marked tendency to inheritance of the disease:

A. M——, woman, aged forty-seven years, single; seamstress. She was seen August 13, 1898, complaining of pallor, swelling of the feet, and "rheumatism of the hands." There was no history of tuberculosis, cancer, insanity, rheumatism, or gout in the family. Her mother and maternal grandmother had suffered from the same joint affection as herself, viz., a chronic symmetrical enlargement of the carpal and metacarpal joints, coming on late in life, without redness or heat, with little pain or swelling, and answering in all particulars to the description of arthritis deformans. Her maternal grandmother was first affected at the age of forty years. The disease progressed steadily for five years, when it became stationary. No other joints than those above mentioned were affected. She was able to use her hands to a remarkable degree, the patient speaking with pride of some fine needlework done by her grandmother at the age of forty-eight years. She died in her fiftieth year, cause not ascertained. The patient's mother first noticed stiffness of her fingers and wrists at the age of fifty years. There was no pain and but little swelling, with the exception of the small joints. There was no redness or tenderness. The fingers became flexed on the palms and the hands on the forearms. The skin of the hands became smooth and shining. No other joints were ever involved. The disease became stationary at the end of five years. She died thirteen years later of pneumonia. The patient insisted strenuously that her own joint affection corresponded in almost every detail to that of her mother and grandmother.

Past history: The patient was always healthy and strong. There was no history of acute illness. Her menses were regular until one year ago; since when they have been scanty, painless, and very irregular as to the time of occurrence. For the past ten or twelve years she has been subject to periodical attacks of severe dyspepsia with hyperacidity, flatus, and vomiting. There was no history of syphilis. About twelve years ago she first noticed slight swelling and stiffness of the joints of the little finger of the left hand. There was no redness or tenderness. The joints slowly enlarged, became more stiff, and a slight crackling could be elicited on forcibly straightening the finger. She had very little pain. The ring finger of the same hand was next involved, then the little finger of the right hand. The disease progressed slowly until all the carpal and metacarpal joints, with the exception of the left thumb, were involved. At the end of six years the disease came to a stand and made no further progress. No other joints were ever affected.

Present illness: About twelve months ago, for no apparent reason, the patient began to lose flesh and strength. No change took place in the joint affection. Her gastric disorder was giving her little trouble at the time. In fact, she was, and continued to be, less dyspeptic than at any time for the past ten years. Pallor, sallowness, and dyspnœa upon exertion were first noticed about eight months ago. There had been slight œdema of the ankles since the beginning of her illness. This symptom had become very marked within the last six weeks. The patient had fainted several times within the past two months, and had two severe attacks of nosebleed, the last one two weeks ago. She was very nervous. The pallor, dyspnœa, and debility had progressively increased. Her appetite remained good.

Present state: She was sparely nourished, but not emaciated, with marked pallor of the mucous membranes. She had the typical general lemon-yellow jaundice, giving the skin an earthy look. The pulse was twenty-two to the quarter, small in volume, and well sustained, regular in force and rhythm. The vessel walls were apparently normal. The carpal and metacarpal joints of both hands were enlarged and rigid, with the exception of the left thumb, in which the power of motion was fairly well preserved. There were typical Haygarth's nodosities around the joints, which were firmly locked. The fingers of both hands were flexed and carried to the ulnar side. The right hand was flexed upon the wrist and the forefinger carried over the second finger, giving the hand the appearance of a bird's claw, so often described as typical of arthritis deformans. The left hand was in a position midway between flexion and extension. The skin over both hands, and especially over the fingers and finger joints, was thin and shining. The nails were brittle and cracked, and showed signs of old paronychiæ. There were several small subcutaneous nodosities along the sides of the fingers (nodi neuritici; Heberden's nodes). All the other joints of the body were apparently normal. The thorax was well formed; the lungs were clear throughout.

Heart: Apex beat in fifth space in nipple line; punctate. The area of cardiac dulness was normal. The heart sounds were somewhat feeble. There was no accentuation of aortic or pulmonary second sounds. A soft systolic whiff was heard at the apex and faintly at the base; it was not transmitted to the axilla. A very soft venous hum was heard over the veins along the left side of the neck.

Abdomen: There was no apparent enlargement of the liver or of the spleen. The abdominal walls were relaxed. Both kidneys were palpable, the left so readily as to justify its being termed movable. There was slight ascites, and well-marked symmetrical œdema of the lower third of both legs. There was no glandular enlargement.

Urine: Dark brown, clear, no sediment; acid; specific gravity, 1.030. There was a distinct trace of albumin; urea 1.8 per cent.; no sugar; no diazo reaction. The microscope showed a few hyaline casts.

Blood: Red corpuscles 1,344,000 per c.mm.; leucocytes 9,200 per c.mm.; hæmoglobin forty-eight per cent.; hæmoglobin index, 1.9. Stained specimens showed moderate schizo- and poikilocytosis. No nucleated nor polychromatophilic red corpuscles were observed in a large number of specimens. The red corpuscles were intensely stained. A differential count of one thousand leucocytes showed a marked increase in the lymphocytic elements; a so-called lymphæmia. Polynuclears 9.5 per cent., lymphocytes 84.3 per cent., large mononuclears 6.1 per cent., and eosinophiles 0.1 per cent.

The patient was ordered glycerin extract of bone marrow, one drachm three times a day. When seen a week later there was no improvement.

Blood: red corpuscles 1,060,000 per c.mm.; leucocytes 18,000 per c.mm.; hæmoglobin, thirty-nine per cent.; hæmoglobin index, 1.3. Stained specimens were as on previous examination. There were no nucleated red corpuscles. The lymphæmia was more marked. Polynuclears 5.1 per cent., lymphocytes 94.3 per cent., large mononuclears 0.4 per cent., and eosinophiles 0.2 per cent. Prognosis was entered as most unfavorable on account of absence of any attempt at regeneration of red corpuscles.

The patient was not seen again, and it was subsequently learned that she died two weeks later.

The existence of the same disease in three generations of the same family, and all on the maternal side, would seem to be more than a coincidence. The theory that the disease is a trophoneurosis is better supported by the facts than any other. The wasting and hypertrophy which go on side by side, the trophic changes in the skin, so similar to those observed in definite neuro-arthropathies, and finally the well-attested fact that many cases arise during periods of grave mental distress and shock, all lead to the conclusion that arthritis deformans is to be classed among the trophoneuroses. And in no class of diseases is the influence of heredity more strongly marked than in the various neuroses; so that it is not difficult to understand that the condition, conducive to the development of arthritis deformans may, under exceptional circumstances, be transmitted from parent to child. The influence of heredity is difficult to reconcile with the other theories, however, and as the question of the causation of the disease is an open question, the question of its hereditary transmission must be left open also.

Aside from the existence of arthritis deformans in three successive generations, the case is interesting in regard to the severe and fatal anæmia. Several authorities on diseases of the blood have attempted to formulate certain conditions to which the results of the blood examination must conform, in order that a given case may be classed as one of pernicious anæmia. Perhaps the requirement most generally insisted upon is that the blood should contain nucleated red corpuscles; not only the ordinary nucleated red corpuscles (normoblasts), but also the giant nucleated red corpuscles (megaloblasts). These latter are twice the size of the normal red corpuscle, with large, rather palely staining nuclei and polychromatophilic protoplasm.

The other conditions necessarily present to justify a diagnosis of pernicious anæmia are as follows: Marked decrease in the number of the red corpuscles; a relatively slighter decrease in the per cent. of hæmoglobin, so that the hæmoglobin index, or relative amount of hæmoglobin in each red corpuscle, is greater than normal; variations from the normal in shape and size of the red corpuscles (poikilo- and schizocytosis). There is rarely any leucocytosis until the close, but a moderate relative increase in the lymphocytic forms (lymphæmia) is observed in a majority of the cases.

Taking everything into consideration, it is the writer's opinion that the case reported here is to be classed as one of pernicious anæmia, notwithstanding the absence of nucleated red corpuscles in the blood. Such absence points to inactivity of the blood-making organs and is of grave significance. Those interested in this subject are referred to an article by the writer in the *New York Medical Journal* for May 20, 1899.

A third point of interest in connection with the case is the marked lymphæmia. As stated above, a moderate increase in the numerical proportion of the lymphocytes is the rule. But occasionally such increase is very marked, as in the present case. Several cases of terminal lymphæmia of high degree have been reported in pernicious anæmia. The writer, while serving as interne in the Johns Hopkins Hospital, Baltimore, saw such a case, in which, for a few days before death, the leucocytes were 100,000 per c.mm., and of these ninety-nine per cent. were lymphocytes. If such a case was first seen at its close, it would be difficult to determine whether it was one of lymphatic leukæmia with marked anæmia, or pernicious anæmia with terminal lymphæmia.

32 East Fifty-third Street.

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## REPORT OF TWO CASES OF ACUTE SUPPURATIVE OSTEOMYELITIS.[1]

By G. H. GRANT, M.D.,

RICHMOND, IND.

The infection of a bone that results in acute suppurative osteomyelitis may originate either centrally in the medulla, or externally in the periosteum. In either situation the exciting cause is an invasion of the tissues by one or more of the pyogenic germs: most commonly the staphylococcus aureus. Traumatism and local inflammation and general low-health conditions predispose to the disease, which may be produced in either case not only by the direct absorption of pus-forming germs through an open surface, but also by such germs being carried there from the digestive or respiratory tracts by the blood. Usually, however, the infection has its origin through an external injury or inflammation, and is oftener observed in young growing persons whose bones are highly vascular. The active habits of boys make them more liable to injuries with this disease as a sequel than are girls.

The following histories again illustrate the frequency with which unusual cases occur coincidently in general practice. Both patients were boys of about the same age, both had extensive bone disease following infection from the same slight cause, a "stone bruise," and both were under my care at the same time.

Case I.—June 15, 1898. Henry Roth, aged ten years, inmate of Wernle Orphan's Home, sustained the injury commonly called "stone bruise," while running barefoot. Three days later, the collection of blood becoming painful, he punctured the skin with a hedge-thorn. On June 21st he began to feel sick and to have pain in his left leg, but he did not make his condition known until he was found in bed in the dormitory, late in the afternoon of June 24th, six days after his attempt at amateur surgery. I was at once called to see him, and found him with a temperature of 105.6° F., pulse 130, respiration quick, tongue dry, countenance drawn with pain, left leg flexed at the knee, and a large abscess on the left heel, the site of

[1] Read before the Wayne County (Ind.) Medical Society, January 4, 1899.

the "stone bruise." Not having been informed that the case was surgical, I was obliged to postpone incising the abscess until the morning of the 25th. Under the usual precautions the abscess was evacuated, washed out, and drained with strands of iodoform gauze. At this time the patient complained of great pain in his left knee and in his abdomen. Six hours after the incision the temperature fell three degrees and the pain in the knee abated, but the abdominal tenderness was increasing rapidly; and although the local manifestations steadily improved, a violent peritonitis ensued. Enormous abdominal distention and excruciating pain occurred; the temperature in twenty-four hours rose again to 104° F., respiration was shallow, and the patient seemed about to succumb. These symptoms attained a maximum on July 1st, gradually declining until at 8 P.M., July 4th, the temperature was 100° F. and the pain was endurable. At 7:25 A.M., July 5th, he had a hard rigor; the temperature rose rapidly to 105° F.; he began to expectorate bloody mucus; great dyspnœa and local pain in the right lung appeared; and for the next eight days this enfeebled little boy went through a typical attack of lobar pneumonia. His "critical sweat" occurred July 12th. His temperature fell to 100° F.; the delirium and dyspnœa ceased, but the bloody expectoration persisted several days. As he emerged from his pneumonia he again began to complain of his left knee, the pain becoming intolerable at the inner condyle of the femur. In spite of his great prostration and toxæmia I deemed it unwise to delay free drainage at the point of tenderness, and on July 17th, under full anæsthesia, I incised the tissues and divided the periosteum an inch and a half. Serum and blood only escaped. With the intention of penetrating the bone, if no improvement followed, the incision was kept open with iodoform-gauze strands and the leg was immobilized in a fenestrated plaster splint.

Within twelve hours his temperature fell to normal, the first time since his illness began; and the pain entirely ceased. No bad effects followed the ether, and all indications seemed favorable. On July 31st I removed the splint, and the patient was allowed to be up and to go about on crutches. I received daily telephone reports of continued improvement until August 29th, up to which time he had been considered about recovered by his care-takers. On that date he was seized with a sudden pain in the middle of his left thigh, and on examination his nurse found a swelling, the size of a small egg, on the other side of the middle of the left femur. The following day, when I saw him, the lump had become indistinct, and was surrounded by a boggy fulness. Thus, after nearly a month of apparent improvement, the disease had found a new focus—a treacherous characteristic of this infection. Free incision over the collection allowed the escape of several ounces of milky fluid, the bone beneath being found denuded and partially surrounded by an irregular shell of new bone, forming from the elevated periosteum. The limb was again immobilized, the cavity irrigated daily with hot carbolized solution, and a month was devoted to a vain effort to effect the growth of a shell of bone firm enough to take the place of the sequestrum. But

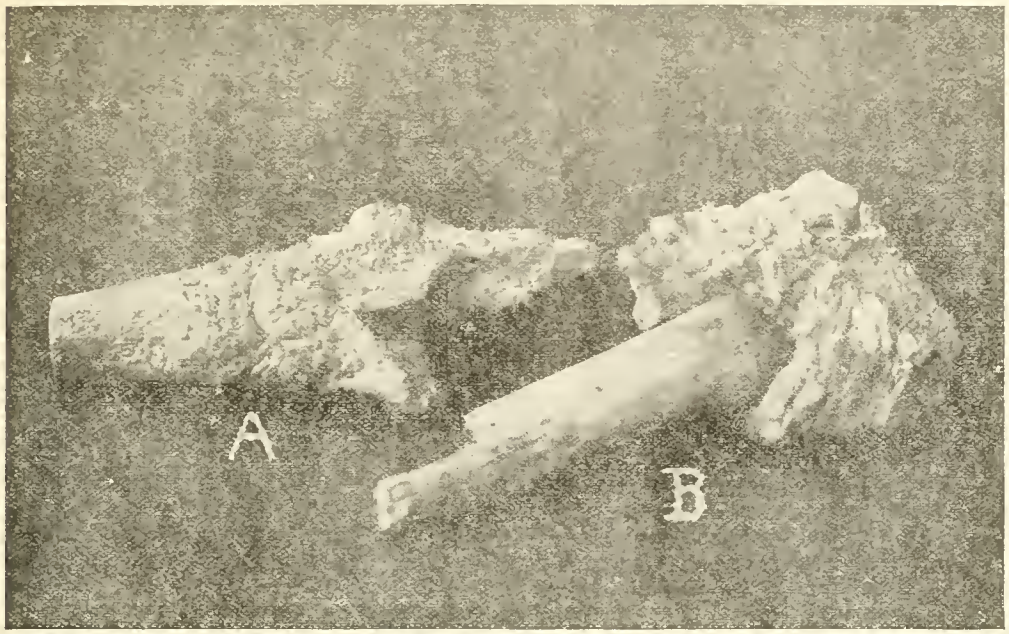


FIG. 1.—A, Upper Fragment of the Femur, showing new bone proliferation; B, Sequestrum within the Lower Shell of New Bone.

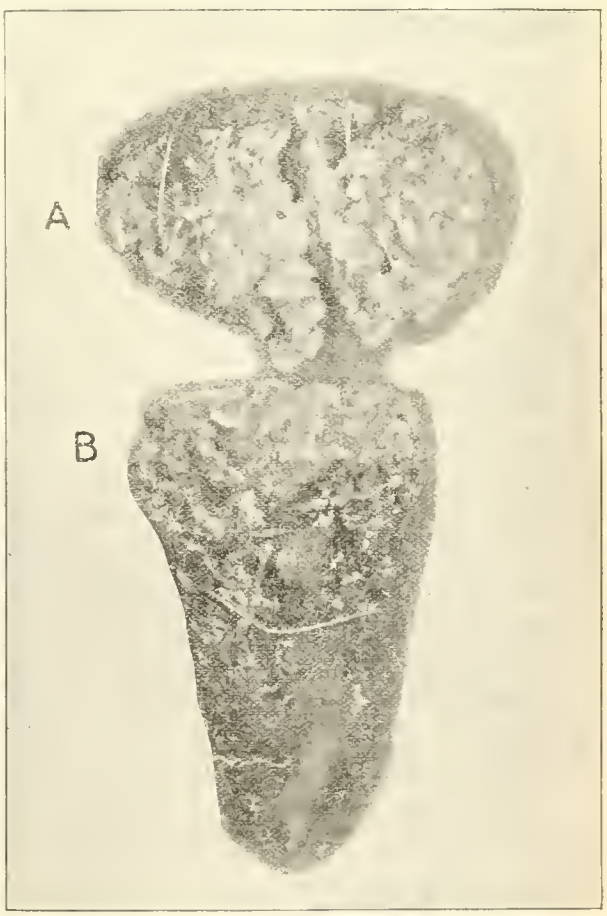


FIG. 2.—A, Upper Articular Surface of the Tibia, in two fragments; B, Fragment of the Shaft.

the patient grew daily more exhausted, having but scant rest day or night, and was rapidly becoming too septic to live long: so I removed him to St. Stephen's Hospital, Richmond, Ind., and on October 11th I amputated his thigh at the upper fourth. He rallied well from the operation. On October 21st he was taken back to the Wernle Home, and is now fat and well.

Case II.—August 23, 1898, I was called to see Luke Smith, aged eight years, who was said to be suffering from "inflammatory rheumatism." He had been sick in bed two weeks, and was feverish, sleepless, in constant pain, which made him alert to guard against every movement of his body or jar of his bed. No physician had seen him within this time, but his parents had gotten medicine for him on their own diagnosis until his condition grew so alarming that a change of plan was evidently imperative, and I was asked to examine him. His temperature was found to be 104° F., pulse quick and weak, skin deeply pigmented and dusky, and the face wearing a senile look of anxiety and anguish. The calf of his left leg and his left knee were red, swollen, and boggy, and a large abscess had formed on the buttock of the opposite side. I had never seen this patient before, and no thought had been entertained by his parents that any injury had occurred to him; but with my other case in my mind I ventured the opinion that he had had a "stone bruise," and asked how long ago he had "opened" it. At first no such circumstance was recalled, but at length the patient volunteered the interesting information that he had a painful "stone bruise" while barefoot four weeks previous, and that he had released the collection of blood by tearing it open with his finger-nails. Examination of his left foot showed a large, partially healed sore at the head of the first metatarsal bone, on the sole of his foot. After opening the abscess on the right buttock I made a free incision inside the crest of the left tibia, and demonstrated to the parents that his "rheumatism" was really a large, bad-smelling collection of pus. A counter-opening was made along the outer border of the quadriceps tendon, liberating more pus, and facilitating drainage. Previous to the time this little patient tore open the "stone bruise" he was in perfect health, but following that incident he said his foot became very sore, and stayed so until his "rheumatism" got so bad he forgot the foot. Through the lower incision the tibia was found denuded, and gave the "sand-stone" feeling as far as it could be reached. The day following this operation the temperature fell to 100° F., but the pain and apprehensiveness remained. Consent was not obtained to the removal of the dead bone until October 3d, at which time I took him to St. Stephen's Hospital, and operated on him one week previous to the case first detailed. The tibia was so completely disorganized that the head was removed in two pieces by my fingers, and the larger fragment, the shaft, broke off from the sound portion while being manipulated in examination. All the rest of the necrosed tissue I removed by chiselling; the knee-joint and large cavity remaining were thoroughly irrigated with a hot bichloride solution, 1:4,500, the wound packed with iodoform gauze, and the patient put to bed, where he made an uneventful recovery, being removed to his home ten days after operation. He is now very active, fat, and well, getting about town on crutches; the fibula is enlarging, and with the aid of some local support I believe he can eventually walk without a crutch. It is of interest to note the fearful rapidity of the destruction of bone in this latter case. I first saw him about four weeks from his original injury, and yet it was apparent that his tibia had been necrosed throughout its upper third for some time.

Few surgical conditions show more prompt and gratifying improvement than do these of infective bone disease after the dead and infective tissue is removed. Not only is this true in acute infection, but in tuberculous as well. The unfortunate feature about them is, that they seldom come under a surgeon's care until the tissues are extensively destroyed.

817 South A Street

## Progress of Medical Science.

**Asthma.** — Dr. Sidney Martin (*Deutsche Medizinal-Zeitung*, July 27th) says: "Spasmodic asthma is a nervous affection and occurs primarily as well as secondarily. The typical, uncomplicated attack, such as is seen in adults and children, occurs suddenly in the early morning hours, between two and four o'clock, in the form of intense dyspnœa, the patient of necessity catching a chair or the bed in order more readily to bring into action the accessory respiratory muscles. The cardinal symptoms of the asthmatic attack are embarrassed circulation, diminution of the oxygen supply, and absence or marked diminution of air to the lungs; these symptoms last a variable length of time and run their course with cough and mucous expectoration. The etiology of the different attacks is various and for the most part vague. Hay asthma is a form of the disease which is directly traceable to the inhalation of the pollen of plants and flowers. Again asthma may precede indigestion, or the latter may cause an asthmatic attack, the so-called peptic asthma. Asthmatic attacks also follow pulmonary affections. Bronchitis too may cause asthma (bronchitic asthma), as may diseases of the nose and throat. In some instances (summer asthma) the attack occurs for years during the summer months, disappearing in October or November, only to return again the following year. Many theories have been advanced in explanation of the asthmatic attacks. The assumption of an acute inflammation of the bronchi might well be dropped, since asthma is neither a febrile nor an infectious disease. Another theory has it that the attack is due to an acute swelling of the bronchial mucous membrane. The most acceptable theory is that the attack is due to a spasm of the bronchi, during which the smooth muscles of the smaller bronchi are firmly contracted, thus rendering the entrance of air into the lung exceedingly difficult. As far as treatment is concerned, the first indication is to relieve the attack. In uncomplicated cases subcutaneous injections of morphine, and chloral or chloroform inhalations relieve the attack. The continuation of such medication, however, is to be deprecated, and such treatment is to be undertaken by the physician only. The inhalation of the smoke from burning nitre paper or prepared cigarettes and powders is the popular remedy, and gives relief in many instances. The powder contains stramonium and nitrate of potassium; the cigarettes, tobacco and stramonium. At times pills containing 0.03 of morphine and 0.002 of atropine, given before bedtime, are very efficacious. In place of atropine, extract of stramonium might be used. Furthermore, it becomes necessary to prevent recurrences, since they lead to bronchitis and emphysema. Very frequently, in patients who have many attacks, iodide of potassium and arsenic are used. The iodides may be combined with stramonium. Unfortunately, stramonium, if pushed to the limit, produces a paralysis of accommodation, especially in nervous individuals. Arsenic in the form of Fowler's solution is a very useful drug in the continuous treatment, and may be combined with iodide of potassium. Local

conditions also require attention. The insufflation of solution of sodium bicarbonate or sodium chloride is very useful in instances in which there is a nasal hypersecretion, *e.g.*, hay asthma. An application of cocaine to the nasal mucous membrane, as well as cauterization, relieves the attack at times. The regulation of diet is of the utmost importance. Meals must consist of easily assimilated substances, which must be taken in moderate quantities. By these means, combined with alkalies after meals, the attacks of peptic asthma are very much ameliorated. In many cases in which other drugs have failed, cod-liver oil produces brilliant results. If the above line of treatment is followed, asthma in children will be readily cured; on the other hand, the condition of adults who have had many attacks will only be benefited; and, finally, in some cases the treatment, as in epilepsy, seems to be useless."

**The Urine in Chronic Disease.**—Dr. Boardman Reed (*International Medical Magazine*, July, 1899) states that "the urine should be examined most carefully in every case of chronic disease, with few exceptions, from infancy to old age, and when it is one of unusual importance, or much obscurity, many more tests should be made than are customary. Next after the tests for albumin and sugar, perhaps the most necessary one is that for indican, and it is very easily and quickly made. That for the aromatic sulphates is no less important, but is more difficult. Either indican or aromatic sulphates in large excess must raise a strong suspicion of intestinal disease. The total amount of solids passed in twenty-four hours is roughly ascertained by a very simple calculation, and affords valuable knowledge as to the renal adequacy. Another unusual test that furnishes most useful and, I may even say, indispensable information in all cases of malnutrition, whatever the age of the patient, is that for the total acidity—the total amount of acid elements of all kinds, free and combined as salts. This will be found to vary in neutralizing power in adults all the way from the equivalents of 5 or 10 c.c. to 70 or 80 c.c. of the one-tenth normal solution of caustic soda in each 100 c.c. of urine. A very low percentage of acids is frequently seen as a result of over-medication with alkaline drugs or the stronger alkaline waters. A high acidity, on the other hand, is very often found in consequence of much fermentation in the stomach or intestines. It is usually present before the development of rheumatism, and its persistence threatens danger to the system generally through a too great diminution of the alkalinity of the blood. A determination of the amount of uric acid in the urine of twenty-four hours frequently affords the key which unlocks a difficult problem. It is scarcely necessary to remind an association of physicians, at this day, that a microscopic examination of the urine is in most cases quite as necessary as the usual chemical analysis, if we would learn the whole lesson that this most important of the excretions can teach us. Even in the absence of albumin, hyaline casts are danger signals at least, while epithelial and granular casts are usually an evidence of serious structural lesions. A gonorrhœa cannot be certainly differentiated from other purulent urethral discharges except by the gonococci, and tuberculosis of the genito-urinary tract is often revealed by finding the bacilli in the urine. Spermatorrhœa, though not so common or deadly as the quacks pretend, is a real disease which is often overlooked, and cannot be demonstrated without the help of the microscope."

**Early Signs of Phthisis.**—Dr. John W. Moore (*Medical Standard*, July, 1899) says of the relative values—diagnostic and prognostic—of certain signs and symptoms which herald the onset of pulmonary consumption: "The so-called 'tuberculous red line' along the gums may mean much or little. Its absence encourages; its presence, on the other hand, may be due to other causes than tuberculosis. I have seen it in the neighborhood of carious teeth, or where "tartar" incrusts the crown of a tooth. Its diagnostic value is thus qualified. Clubbed finger-tips are common to phthisis with many other wasting diseases or conditions which interfere with nutrition, such as valvular or other heart affections. Morning sickness and want of appetite for breakfast are common forerunners of consumption. To the same category belongs distaste for fatty foods and capricious appetite. Myotatic irritability of the pectoral muscles and of the platysma myoides is a valuable sign. So also is tenderness on pressure over an apex of a lung which is the seat of commencing tuberculous deposition. Interrupted inspiration (jerking, or cog-wheel, inspiration) is a sign of doubtful value. It is so often present in nervous youths or in nervous and chlorotic girls that its diagnostic importance is largely discounted. Among the earliest physical signs of phthisis we should include lessened movement of the chest wall (expansion), an abnormally clear percussion note, deficient vesicular breathing, relative or absolute intensity of the heart sounds over the affected apex, and relative or absolute intensity of the pulmonary second sound."

**Kolpotomy for the Removal of the Adnexa.**—Dr. Raczinski (*Deutsche Medizinal-Zeitung*, August 10, 1899) says that the advantages of the vaginal method of extirpation over laparotomy are as follows: (1) The patients consent more willingly to the operation, and at the same time it is possible to remove the smaller and harmless new growths, without waiting until the growths become unbearable on account of their dimensions, or until inflammatory adhesions, suppuration, or malignant degeneration occur. (2) Diminished chances of infection from the air, the hair, beard, mouth, and nose of the operator. (3) The possibility of operating under poorer conditions. (4) Diminished mechanical irritation of the intestines and parietal peritoneum by the hands of the operator and his assistants, sponges, instruments, sheets, etc., which come in direct contact with the abdominal cavity. (5) Diminished danger in cases of flow of the purulent contents from the torn sac of the new growth. (6) More satisfactory post-operative course of the case and speedy convalescence. (7) Absence of danger of ventral hernia. (8) No need of wearing an abdominal binder. (9) The possibility soon after the operation of doing bodily work. (10) Diminished mortality.

**Life Prolonged for Two Hundred and Forty-Three Days as the Result of Saline Transfusion in a Case of Diabetic Coma.**—Oliver reports the case of a coal miner, thirty years old, who came under observation first suffering from diabetes of eight months' duration. He had developed rather rapidly polydipsia and polyuria. In a few months he had lost fifty-six pounds in weight. The urine contained a large amount of sugar. The knee-jerks were absent. There had been gradual loss of strength, and emaciation had been progressing rapidly. After treatment with codeine and dieting, the patient was so much improved that he undertook to go home, a distance of fourteen miles, by rail. Later in the day he was found in a state of deep unconsciousness in a railway carriage on an entirely different line from that by which he should have travelled. He was at once transfused with two and a half pints of saline solution (one drachm of sodium chloride to one pint of boiled distilled water, allowed to cool to 112° F.), the fluid being permitted to pass slowly into the right median

basilic vein. A purge was also administered. By degrees consciousness was regained. For the first day or two after the transfusion only a small amount of urine (twenty-one ounces) was passed free from albumin and acetone, but rich in sugar. In a few days after this the daily discharge of urine was one hundred and ninety ounces. At this time the patient's skin, especially that of the hands, was much bronzed. For some time afterward the patient kept remarkably well for a diabetic. He was unable to return to his former heavy work, but on the whole life was fairly enjoyable. The disease, however, gradually progressed to a fatal termination, death taking place in coma two hundred and forty-three days after the operation of transfusion.—*The Lancet*, August 26, 1899.

**Fatal Acute Alcoholic Intoxication in a Child.**—Dr. Walker reports, in the *New York Medical Journal* of August 19th, the case of a boy six and one-quarter years old, who obtained surreptitiously and drank about three ounces of whiskey. Shortly afterward, while at breakfast, the child first dropped a plate and then fell from his chair. A little later he fell asleep on the floor, and he was put to bed. The child continued soporose for nine hours, when the pupils were found equal, dilated, and unresponsive to light; the internal and superior recti were contracted; the conjunctivæ were insensitive. The pulse was 145, small, weak, and compressible, but regular. The respiration was 40, easy and quiet. The skin of the head and face was cool and slightly moist. The tongue and lips were somewhat dry. The trunk and the extremities were hot and dry. The axillary temperature was 103.2° F. In spite of all remedial measures there was slow but continual failure of heart and respiration. After the lapse of three hours more a severe clonic convulsion occurred, lasting perhaps ten minutes, and from this time there were almost constantly recurring localized spasms of the muscles of the face and extremities; the left side being affected much more than the right. Occasional nystagmus was present. Cheyne-Stokes respiration set in four hours later, and death from cardiac failure took place about twenty hours after ingestion of the whiskey. The rectal temperature rose to 105.3° F. just before death.

**A Simplification of the Phenylhydrazin Test for Sugar in the Urine.**—By reason of the length of time necessary and the complications of the process, the usually advised method of testing for sugar in the urine by means of phenylhydrazin has not been widely accepted. Karewski, in the *Berlin. klin. Wochenschrift*, 1899, No. 19, suggests a simpler procedure. Five drops of pure phenylhydrazin are added to ten drops of glacial acetic acid, and to this 1 c.c. of saturated salt solution. To this white cheesy mass, 3 c.c. of urine is added and the whole boiled in the test tube for three minutes. After cooling for some time the presence of sugar can be detected by means of a macroscopic yellowish precipitate, if the sugar is present in greater quantities than 0.5 per cent.

**The Influence of Antitoxin on Diphtheric Paralysis.**—As the result of observations made at the Eastern Fever Hospital of the London Metropolitan Asylum's board at Homeston, Woollacott (*The Lancet*, August 26, 1899) presents the following summary of the influence of antitoxin on diphtheric paralysis: Up to the present the percentage has increased on the whole. There is some evidence that large doses, *i.e.*, not less than four thousand units, of antitoxin are more effective than small ones, both in preventing paralysis and in diminishing the mortality due thereto. The earlier antitoxin is given in diphtheria, the less likely is paralysis to follow. Should it occur after early injection, it will probably be mild, and of comparatively short duration. The type of paralysis has, on the whole, become less severe, or, at all events, less dangerous to life. Finally, diphtheric paralysis has become more prone to attack the young. This change in age incidence has possibly made some minor differences in the relative frequency with which the various forms of paralysis are observed. The practical conclusion is that the full value of antitoxin is obtained only by using it early and in efficient doses. If this is done, not only is life saved, but tedious complications are prevented, or at least deprived of their dangerous characters.

**Successful Nephrectomy for Sarcoma of the Kidney in an Infant.**—Dr. Robert Abbe reports in the *Annals of Surgery*, vol. xxx., No. 3, 1899, the case of a girl infant who at birth was observed to have a tumor in the right side of the abdomen, which continued to increase with its growth. The chance of survival appeared so slight that it was decided to attempt the operation of removal at the age of one month. A slight gain in the child's weight at this time, however, led to a postponement. At the age of three months the growth of the tumor was found to have been parallel with the child's growth, but it did not seem as if the child had vitality enough to endure the necessary surgery, so that delay for a few months was advised. Under closest scrutiny of the child's health and nutrition during the interval, the weight increased five pounds. When the child was eight months old, it presented a wrinkled and old appearance, and the tumor filled three-quarters of the distended abdomen. It sprang from the left loin and crowded the colon far to the right of the median line. The condition of the patient seemed now to justify operation, and the following extra precautions were observed, and it is thought they conduced largely to success in so frail a subject: (1) A specially warm room for operation; (2) a heavy ironing board thickly padded with blanket and sheet and kept hot until the child was secured to it by bandages, so that it could be raised to a Trendelenburg position; (3) all of the extremities were well enveloped in cotton and flannel, and the remaining parts of the uncovered chest and abdomen were constantly warmed during the operation by relays of steamed towels. Care in sacrificing as little blood as possible resulted in the loss of not more than an ounce during the operation. Through a median incision above the naval to introduce two fingers the peritoneum was found pushed to the right. A transverse incision through the left half of the abdomen from the navel to the lumbar muscles gave free access to the growth, which could be separated from the abdominal wall by blunt dissection. The colon was spread out upon the median and upper aspect of the growth. Much care during its separation had to be exercised in order to preserve its nutrient vessels. The vascular pedicle of the large growth was at last isolated, separated from the ureter, and tied with catgut. The ureter was cut off close to the bladder; the abdominal wound was closed in tiers, buried silkworm-gut interrupted sutures being applied at points essential for strength, and continuous catgut sutures for other layers. The post-operative course was one of uninterrupted convalescence. The remaining kidney gradually increased its function, until within ten days it was secreting much more than normal for both. The child quickly gained color and flesh (six and one-half pounds in three months, and became as fine in health and activity as its two well sisters. The removal of the tumor seemed to be clean and complete, the enucleation from its cellular bed being perfectly satisfactory. No infected gland or extension of disease was encountered. The opposite kidney was normal on palpation. On histological examination the tumor proved to be a pure spindle-cell sarcoma.

# MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 51 Fifth Avenue.

New York, September 30, 1899.


## THE DIFFERENTIAL DIAGNOSIS OF APPENDICITIS.

A TYPICAL case of appendicitis occasions no difficulty in diagnosis; not so, however, with aberrant cases. There are few abdominal and even pelvic conditions that appendicitis may not sometimes simulate, and there are no pathognomonic signs. The disease may pursue an entirely latent course and be unattended with obtrusive or characteristic symptoms, or it may not come under observation until peritonitis has developed. Sometimes the nature of the disease is masked by the administration of opium. A knowledge, therefore, of the conditions with which appendicitis may be confounded will often prove most useful. A number of interesting cases illustrating some of the difficulties in diagnosis have recently been reported by Mühsam in the *Berliner klinische Wochenschrift* for July 31, 1899. In one of these the decision lay between appendicitis, pancreatic hemorrhage, and perforated gastric ulcer; the autopsy disclosed a perforated duodenal ulcer close to the pylorus. In the case of a boy, five years of age, a fatal ileo-colic intussusception was mistaken for appendicitis. In another case in which appendicitis was first diagnosticated, and perforated typhoid ulcer subsequently, the latter condition was found upon post-mortem examination. A diagnosis of appendicitis was made in two cases in which, upon operation, peritonitis following perforation of a gastric ulcer, with abscess formation in the ileo-cæcal region, was found. Carcinoma of the cæcum has been mistaken for appendicitis, but in one case of carcinomatous stenosis of the sigmoid flexure reference of the pain to the ileo-colic region and a sense of resistance in this situation led to a diagnosis of appendicitis, the error being disclosed upon operation. In one case of fecal abscess from perforation of the bowel by a pin that had been swallowed, a diagnosis of appendicitis with adnexal disease had been made. It is important in the diagnosis of appendicitis to secure a careful history of the beginning of the trouble, and especially to know whether gastric symptoms were present earlier or at the beginning. Pain radiating to the shoulder is suggestive of disease of the liver; if associated with signs of perforative peritonitis the possibility of duodenal ulcer must be borne in mind. Pain in the right hypochondrium is said to be more characteristic of this condition, and pain in the left hypochondrium more characteristic of gastric ulceration. Intussusception may be recognized from the history and the occurrence of characteristic bloody stools, together with the presence of a tumor in the abdomen or at the anus. A diagnosis of typhoid fever may be arrived at from the general condition, and from examination of the blood, of the fæces, and of the urine. Fecal abscess resulting after the swallowing of needles or pins, or peritonitis, especially with pain in the right iliac region after stricture of the bowel, may elude accurate diagnosis.

## THE PROBLEM OF THE TROPICS.

IF we are to "take up the white man's burden" with any degree of success, our soldiers and emigrants from this country to tropical regions must first learn how to live in health under their new conditions. American medical men, too, should seize every opportunity to become versed in the etiology, diagnosis, and treatment of the tropical diseases. The question of the ability of the white man to acclimatize himself in the tropics is one that has been fully discussed in medical journals in all parts of the world within the past few years. Opinions differ widely on the subject. Pessimists say that it is impossible. For example, Mr. Benjamin Kidd, who is regarded by some as an authority on matters connected with the tropics, speaks as follows: "The attempt to acclimatize the white man in the tropics must be recognized to be a blunder of the first magnitude. All experiments based upon the idea are mere idle and empty enterprises foredoomed to failure. Excepting only the deportation of the African races under the institution of slavery, probably no other idea which has held the mind of our civilization during the last three hundred years has led to so much physical or moral suffering, and has strewn the world with the wreck of so many gigantic enterprises." However, Mr. Kidd expresses the opinion only of the minority, and such authorities as Manson, Sambon, and Cantlie hold that under certain conditions the white race is eminently fitted to cope with the dangers and difficulties of tropical life. The last issue of the *British Quarterly Review* contains an article founded upon the recent writings of some experts best qualified to speak judicially on the subject, and it is to be remarked that they, one and all, give views diametrically opposed to those of Mr. Kidd and the pessimists. Of course there is no evading the fact that in bygone days the mortality was fearful, but that it is not so now, when ordinary care is exercised, is easy to demonstrate. The *British Quarterly* says: "It must be borne in mind that the conditions of civilization in former years have greatly changed. Improved sanitation has reduced mortality to an enormous extent. In India the annual mortality of European troops prior to 1859 stood at 69 per 1,000, now it has fallen as low as 12 per 1,000. Colonies which were once called the European's grave, such as the West Indies, Hong Kong, and Algeria, are now

recommended as health resorts. The real obstacles to the colonization of tropical lands are not temperature and moisture, but living organisms. Aboriginal man, wild animals, poisonous snakes may be serious obstacles to a foreign invasion, and many an attempt at conquest has been frustrated by such opponents; but the most fearful foes are the minute pathogenic organisms, or, in other words, the diseases peculiar to each region. These are sometimes amazingly fatal. These organisms have their especial geographical distribution, just like other animals and plants which do not become parasites of man. Some diseases like malaria and dysentery have a very wide distribution; others, like endemic hæmaturia, sleeping-sickness, and verruga, have very narrow limits; others again, like cholera and yellow fever, have restricted endemic areas, but under favorable conditions may become widely diffused in great epidemics. They are all intimately associated with other forms of life, and their limitation and diffusion are therefore dependent on the limitation and diffusion of other plants and other animals." If we are to accept Manson's theory in regard to the connection between malaria and a certain species of mosquitos, then the distribution and prevalence of malaria are due to the distribution of these mosquitos; and the dissemination of plague is probably owing to its prevalence among, and conveyance to man by rats. To revert, however, to the question of the white man's ability to live in health in tropical lands, it must be said that a certain period of time is required for a newcomer to adapt himself to climate and environment and thus to acquire a degree of immunity. Again by some it is urged that if a white person wishes to retain his good health in the tropics it is absolutely essential that the strictest attention be paid to diet and clothing. On this point the *British Quarterly* has this to say: "The general opinion is that a vegetarian diet is better suited to a tropical climate, and that the use of alcohol is to be entirely prohibited. We cannot agree altogether with these statements. The eminently carnivorous Anglo-Saxon would be very unwise if he radically modified his diet on first landing in a tropical colony, and alcohol is not more deadly in the tropics than in any other climate."

Perhaps this expression of opinion will not meet with universal approval. Although it might be unwise for a European to alter the nature of his food at once, still there can be no doubt that less meat is required in a hot than in a temperate or cold climate, and it is just as certain that the less spirits consumed by the Caucasian in the tropics the better it will be for his health. The marvellous decrease in mortality among Europeans resident in tropical lands has been almost wholly effected by improved sanitation, and this fact goes to show that the diseases of the tropics can be as successfully fought as those of the temperate zone. What is now required is a more intelligent method of probing the secret of these diseases, and a more accurate understanding of the means by which they are conveyed to man. As we pointed out in the MEDICAL RECORD some years ago, it would be well—in view of the work to be done in the West Indies and the Philippines—if a number of schools for the teaching and investigation of tropical diseases were established in this country.

## DIABETES IN CHILDHOOD.

SUGAR may appear in the urine under various conditions, but only its persistent presence is indicative of the existence of diabetes. The latter likewise is of varied origin and must be considered finally as a permanent derangement of metabolic equilibrium. The disease, though not rare in children, is not at all common early in life. The prognosis seems to vary almost directly with the age of the patient, the disease appearing to acquire special virulence, pursuing a rapid course, and invariably terminating in death in childhood, while after the middle period of life, and particularly late in life, it often pursues a relatively benign and indolent course, and is not responsible for death; although, when it is once firmly established, recovery is rare. An interesting case of diabetes in a child is reported by Sequeira in *The Lancet* for July 15, 1899, in which the sugar almost totally disappeared in the course of an attack of catarrhal jaundice, although it remained unchanged during an attack of measles. The patient was a child, three years and two months old, who, following an attack of influenza six months previously, had complained of excessive thirst, had passed large quantities of urine, and had lost flesh. The most prominent symptom, however, was constipation. Prolapse of the rectum had developed in consequence of a fissure of the anus, it was thought, and stretching of the sphincter had been practised. Examination of the urine disclosed the presence of a large amount of sugar. No history of diabetes in any other member of the family could be elicited. The patient presented a bright malar flush, clear conjunctivæ, and dry and almost vermilion-red lips; the surface of the tongue was dry, glazed, and beefy in appearance; and the skin was harsh and dry. The muscles of the limbs were flabby, but there was generally a fair covering of subcutaneous fat. The edge of the liver was palpable one finger's breadth below the costal margin. For a week no restriction was placed upon the diet. During this period as much as 2,500 c.c. of urine with a specific gravity of 1.040, and containing eleven per cent. of sugar, were passed in twenty-four hours. At the end of this time the diet was partially restricted, and some amelioration in the symptoms took place. After nine days a strictly diabetic diet was instituted, and the effect was remarkable. The patient became quite comfortable, and ate, drank, and slept well. The intense thirst diminished, the quantity of urine fell at once to 1,000 c.c. in twenty-four hours, and in a few days to between 500 and 600 c.c., while the sugar fell to four per cent. Subsequently, however, the amount of urine and the proportion of sugar again increased. Improvement then followed upon administration of Fowler's solution of arsenic in doses of two minims thrice daily. In the further progress of the case jaundice developed, with elevation of temperature and enlargement of the liver, while the amount of urine fell to between 635 and 775 c.c., the specific gravity

to 1.016, and the proportion of sugar to 0.7 per cent. The former condition of affairs, however, soon became re-established. Subsequently the child passed through an attack of diphtheria, but without noteworthy reduction in the glycosuria. Soon after this acetonuria developed and was followed by sopor, coma, and death. Upon post-mortem examination no gross change was appreciable in the pancreas; the kidneys were in a state of cloudy swelling; the wall of the urinary bladder was hypertrophied; the liver and the bile-ducts exhibited no abnormity.

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## ANIMALS AS DISSEMINATORS OF THE PLAGUE

When the plague reached Egypt and the African shores of the Mediterranean, fears were expressed that the epidemic might once again invade the continent of Europe. These prognostications have unfortunately been fulfilled. How or by what means this malady is spread remains as yet an unsolved problem. However, this much is known, that rats are peculiarly liable to the infection, and in India and China it has also been shown that by the agency of these vermin plague has been conveyed from district to district. That bubonic plague affects rats and through them spreads among men may then be regarded as a fact which has been demonstrated in a sufficiently conclusive manner. Wherever plague has occurred among human beings it has almost invariably been preceded by an epidemic among the rats. It has likewise been observed that the interval between two outbreaks of the plague seems to be about the time required to renew the rat population, which is always decimated by the virulence of the infection. It is possible, therefore, that rats have played an important part in the introduction of the disease into Portugal.

But rats are not the only animals prone to infection by the plague germs. Some few months ago Dr. Alice Corthom, on plague duty in Bombay, had her attention called to the fact that several monkeys had been observed to drop dead from the trees. Some of the bodies were procured, and upon dissection were found to present all the signs of plague, and the correctness of these investigations was confirmed by subsequent examinations at the plague research laboratory in Bombay. Squirrels also which died suddenly were examined with a like result. *The Lancet*, commenting upon this new phase of the matter, says that "the importance of the fact that monkeys and squirrels are also susceptible to plague infection cannot be overestimated, especially in relation to the carrying of infection from one district or village to another."

Although it would appear that this country has, for the present at least, but an indirect interest in the plague question, the fact should be borne in mind that a widespread epidemic in Europe must needs have a disastrous effect on the commerce of the world at large. And the possibility of the introduction of the disease in this country through the instrumentality of rats in ships coming from infected ports should be borne in mind, and doubtless is, by sanitary officers.

## YELLOW FEVER—A CONTRAST.

A report from Havana recently received in Washington states that the number of deaths from yellow fever in that city last month was far less than during any August in the last ten years. In August of every year, from 1889 to 1898, the number of fatalities from yellow fever was from six to twenty-six times as many as in August, 1899, when only ten deaths occurred. The improved condition is due, of course, to the better system of sanitation introduced by the United States authorities. In the mean while there are thirty or more new cases of yellow fever reported in Key West every day, and the statement is made that nothing can be done, and "the fever must run its course"!

There is a moral in this contrast which we hope will not be lost sight of when new sanitary legislation is proposed during the next session of Congress. It surely ought to be no more difficult to stamp out or repress yellow fever in Key West than it is in such pest-holes as Havana and Santiago were under Spanish rule. But in the latter the authorities can establish regulations and see that they are enforced, while in Key West the municipal authorities, the State authorities, the military authorities, and heaven knows how many other authorities must consent before the orders of the Marine Hospital officers can be executed, if they can be executed at all. If Key West were attacked by a material foe, martial law would be proclaimed, and the municipal authorities, and the State authorities, and all the other authorities would for the time being have nothing to say in opposition to the supreme military authority. There ought to be equal power granted to the national sanitary authority to compel obedience when the city is attacked by a microbic foe. The casualties inflicted by the army of Gen. Juan Amarillo are vastly greater than those that the soldiers of Gen. Ramon Blanco could have caused had they been able to make a dash across the water from Havana last year. Yet no determined resistance can be made, and "the fever must run its course."

There should be a central health authority for this country, a department, or at least a bureau, of public health, and in time of epidemic invasion the head of this department or bureau should have the power to enforce his decrees against the opposition of local health boards or commercial bodies. We cannot doubt that, had the Surgeon-General of the Marine Hospital service that power now, the fever at Key West would run its course in very short order.

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**An Insulting Suggestion.**—The proprietor of a sanatorium near this city is sending to the physicians of New York an advertising circular accompanied with the following letter:

"Dear Doctor: The inclosed circular will emphasize the fact that I am giving especial attention to its subject-matter at the sanitarium. For each and all you send, or who come through your recommendation you will be entitled to a check of $15, and I am certain will also win the sincere gratitude of the patient."

## News of the Week.

**The Idaho State Medical Society.** — The seventh annual meeting of this society will be held at Lewiston, Idaho, October 5 and 6, 1899, under the presidency of Dr. C. W. Shaff, of Lewiston. The secretary and treasurer is Dr. Ed. E. Maxey, of Caldwell.

**The South African Medical Congress,** which was to have been held in Cape Town during this month, has been postponed to September, 1900, the unrest caused by the war scare having threatened to keep away many practitioners living in the country districts and beyond the borders of Cape Colony.

**A Doctor Decorated.**—Dr. A. Rose, of this city, writes: "Allow me the pleasure to inform you that His Majesty George I., King of the Hellenes, by decree of August 13th, A.C., has conferred to me the Silver Cross of the Knights of the Royal Order of the Saviour. This high distinction I owe to my modest labors, the first of which were published in the MEDICAL RECORD."

**Philadelphia's Promise of Filtered Water.**—The board of experts appointed by the mayor of Philadelphia for the study of the water supply and the best means of its improvement has recommended slow sand filtration for all but a small portion of the supply, and for this rapid sand filtration is recommended. The total cost, it is thought, will reach $12,000,000, which it is proposed to raise by a loan. The experts say that plans for the new system can be completed in six months, and that the plant can be completed and in operation within two years.

**The Tenth Congress of Italian Alienists** will be held in Naples, October 10th to 14th, under the presidency of Professor Tamburini, of Modena. The following are the subjects proposed for discussion: (1) Practical methods of individual psychological investigation in asylums and clinics; (2) the light thrown by anatomical data on normal and pathological psychology; (3) psychiatry and the study of the individual and his activity in social relations; and (4) intoxications and infections in the pathogenesis of mental and nervous diseases.

**The Prophylaxis of Malaria.**—The Rome correspondent of *The British Medical Journal* reports an interesting experiment relating to the agency of mosquitos in the spread of malaria. Professor Grassi, of the University of Rome, he writes, recently obtained from the Italian Railway Company leave to use two rooms in a cottage situated near Maccarese, a place well known as malarious, on the line between Rome and Civita Vecchia. The windows of the two rooms were covered with perforated zinc, and for eight days Professor Grassi left home every evening at 5:30, accompanied by a family living outside the Porta San Giovanni, consisting of father, mother, and five children, varying from one to nine years of age, for the above rooms, where they passed the night. The windows of the rooms were left open, but the entrance of mosquitos was prevented by the perforated zinc. Professor Grassi took care that none of the members of the family left the rooms between sunset and sunrise. At about 8 A.M. every morning he and the family returned to Rome. The experiment was completely successful, inasmuch as twelve days after Grassi and the family had returned permanently to Rome not one of them had been attacked with malaria, while during the same time several persons sleeping only 100 metres away from the cottage, and not protected in the same manner, were taken ill with the disease. Professor Grassi and his subjects having slept with open windows naturally breathed the night air of this intensely malarious spot, and they drank the water found there. It may therefore, he says, be deduced that their immunity was due solely to the fact that having protected the windows with perforated zinc those species of mosquitos which produce malaria could not penetrate through the zinc into the rooms.

**The Study of Tropical Diseases.**—The commission from the Johns Hopkins University, with Prof. Simon Flexner at its head, which went to Manila last spring in order to study tropical diseases and to collect material for the use of the new department on that subject, has returned after a successful summer in the Philippines.

**Retirement of Dr. Tryon from the Navy.**—Medical Director and ex-Surgeon-General James Rufus Tryon, of the United States Navy, having reached the age of sixty-two years, has been placed, according to the law, on the retired list with the rank of rear admiral. Dr. Tryon is a New Yorker by birth, and has been in the navy thirty-six years, having been appointed assistant surgeon September 22, 1863. He was assigned to the West Gulf blockading squadron, and later was attached to the Naval Hospital at Boston. He was appointed surgeon in 1873, and surgeon-general in 1893. Upon retiring from this position at the expiration of his four years' term, he went to Spain as United States representative to the International Medical Congress, where he had the distinction of being the last official American to have an audience with the Queen, war at that moment being a foregone conclusion. During the recent war Dr. Tryon was on duty as general inspector of naval hospitals. When in Boston in the early part of his service he showed a special capability in hospital management, and this was, as it were, his specialty while in the service. He designed the United States naval hospital at Yokohama, and it was he chiefly who brought the medical corps and the naval hospitals to that high state of excellence which was commended throughout the world during the war with Spain, and which resulted in such an astonishingly insignificant loss of life afloat, from wounds or disease, during and after the period of hostilities.

**A New Cure for Insanity and Old Age.**—The newspapers report the cure of a case of insanity in Chicago by means of "goat lymph." The happy result was obtained in the case of an inmate of the Kankakee Asylum who had been pronounced "hope-

lessly insane." The report further states that the discoverer of this goat juice is able with it to arrest the progress of senile changes. He has gone to see the other great discoverer of wonderful serums, Dr. R. Koch, of Berlin, in order to induce him to give the remedy a trial on some of his insane compatriots.

**St. Rose's Home for Incurable Cancer.**—Mrs. Rose Hawthorne Lathrop has made a report of the work of this home, established by her in Cherry Street six months ago. The average number of patients in the home has been seven, six having died, and others entering at once. One became so much more comfortable as to be able to return to work.

**Dysentery.**—It is reported from Japan that Kitasato has discovered a bacillus which he claims to be the specific cause of dysentery, or at least of one form of the disease. It is said also that he has had excellent results from the therapeutic employment of a serum obtained by inoculation of this bacillus in animals.

**Burning of a Hospital.**—The Hospital of St. Vincent de Paul in Norfolk was destroyed by fire on September 21st. Three patients were killed and two firemen were injured. St. Vincent's Hospital was four stories high, exclusive of the basement, constructed of pressed brick with stone trimmings, and was one of the best equipped and most complete institutions of its kind in the South.

**The University of Vermont Medical School.**—There has been trouble in the medical department of the University of Vermont, Burlington, for over a year, and this has finally culminated in the resignation of the entire faculty. For some reason the dean of the faculty, who had held that office for several years, was not re-elected a year ago, and this action of his colleagues was resented by him. The students, it is said, sided with the deposed dean rather than with the rest of the faculty. A short while ago a request was made to him to resign his professorial chair and retire altogether from the faculty. Upon his refusal the faculty appealed to the university authorities, and the latter decided that the resignation of the entire faculty would be the best way out of the matter. The faculty thereupon resigned, leaving the trustees free to reorganize the department as they choose. The members of the faculty who resigned are: Drs. A. F. A. King, Washington, D. C.; A. P. Grinnell, Burlington; R. A. Witthaus, New York; J. H. Jackson, Barre; A. M. Phelps, New York; H. C. Tinkham, Burlington; and J. Q. Jenne, St. Albans.

**A Tuberculosis Sanatorium for New York City.**—At a meeting of the State board of health, held on September 22d, it was stated that the conditions in New York City with respect to the existence and treatment of tuberculosis, as shown by the various reports issued by the local board of health, are such as to show the urgent need of active steps being taken for the proper isolation and treatment of patients suffering from consumption who are dependent upon the municipal authorities for medical treatment. In view of this, the board adopted resolutions recommending that the municipal authorities take steps to establish a hospital for consumptives outside of the city limits, and asking the support and co-operation of physicians in an effort to secure action to that end. The authority to establish such a hospital is given, in an act passed by the last legislature, to any city of the first class whenever its board of health shall deem it necessary for the promotion of the health of its inhabitants. It is provided that the city board of health shall select the site, and submit it to the State board for approval. The same act provides that wards for the treatment of pulmonary tuberculosis shall be established in existing hospitals, with separate nurses, cooking-utensils, and washing-facilities and plumbing. Nothing has been done in the matter in this city, and the present action of the State board is probably by way of a hint to the city board.

**Smallpox Quarantine against Mexico.**—Smallpox is reported to prevail very extensively in various places in northern Mexico, and extraordinary precautions are being taken to prevent the spread of the disease over the border into the United States. Every railway station in Mexico on roads leading north is placarded to the effect that no one will be allowed to cross the frontier unless bearing a certificate of health from an officer of the Marine Hospital service in Mexico, or some consul, deputy consul, or consular agent in that country. Detention camps have been established at various points on the frontier.

**To Check Suicide in Chicago.**—It is stated that suicide has become so frequent among the Bohemians (real ones, not table-d'hôte frequenters) of Chicago that special measures are to be undertaken by the Bohemian Brotherhood of America to break up the fashion. This brotherhood, which is a secret organization, and represents a variety of religious beliefs, makes the statement that the prevalence of agnosticism among Bohemians has resulted in suicide in such numbers as almost to threaten the extermination of their race.

**The Manila Medical School.**—A newspaper of Manila states that General Otis has taken the San José College of Medicine in that city out of the hands of the Dominican friars and placed it under the control of the department of education. The Dominicans requested the students to sign a petition in favor of retaining them as professors, but the students refused to do so. Under Spanish rule the College of Medicine was managed in connection with the Santo Tomas University. It was neither established nor managed by the Dominicans, though the Spanish allowed the friars to teach in some of the branches. When the Americans came in, the Dominicans claimed that the medical school belonged to them, but this claim was disallowed by General Otis.

**Licensing Barbers in Michigan.**—The new law providing for the licensing of barbers in all towns in Michigan of over ten thousand inhabitants went into effect on September 22d. The law permits all barbers now in the business to obtain a license upon

making application for the same and paying a fee of $1. Hereafter, however, all persons who desire to engage in the business must pass a satisfactory examination before the State commission as to their proficiency in the use of the razor and shears, as well as of disinfectants so as to prevent the spread of parasitic diseases.

**The Plague** has reappeared in Alexandria, Egypt, two cases, one terminating fatally, having been reported during the past week. The report of cases in the capital of Paraguay has alarmed the South American governments, and the Colombian government has issued a decree closing all the ports of that country to ships with the bubonic plague on board or coming from infected ports. The disease continues at Oporto, but no alarm is now felt in the city, the inhabitants pursuing their usual avocations and complaining only of the injustice of a rigid quarantine. Four new cases were reported on Sunday, making a total of seventy-four cases with thirty deaths since the outbreak of the disease. Dr. Fairfax Irwin, surgeon of the United States Marine-Hospital service, recently visited Oporto in order to collect materials for a report to Surgeon-General Wyman. The members of the French medical mission which was sent to Portugal to investigate the bubonic plague announce that so far nobody inoculated with Yersin's anti-plague serum has died.

**A Gift to the Jefferson Medical College.**—Dr. J. Ackerman Coles, of Newark, N. J., has presented to the Jefferson Medical College of Philadelphia a bust of Harvey, together with the Sydenham Society edition of the works of Thomas Harvey, published in 1847, formerly the property of the late Dr. Abraham Coles, a graduate of Jefferson College in 1835. The bust of Harvey is of heroic size, of Carrara marble, made by Horatio Stern in Rome in 1869. Dr. J. A. Coles has also given a bronze medallion life-size portrait of Dr. Abraham Coles, made by Mr. C. Conrads, of Hartford, Conn., and a life-size bronze copy of the Roman antique statue of the boy extracting a thorn from the sole of his foot.

**A Crematory in New York City.**—A company of undertakers with the strictly modern name of the Automobile Burial Company has been forbidden by the board of health to carry out its plans of starting a crematory on Eighth Avenue in this city.

**Navy Department,** Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending September 23, 1899. September 15th.—Passed Assistant Surgeon George H. Barber detached from the *Monongahela*, on arrival at Newport, and ordered to duty at Naval Academy, September 30th. September 16th.—Passed Assistant Surgeon George Rothganger ordered to duty at the United States Naval Hospital, New York. Assistant Surgeon M. V. Stone detached from the *Brutus* and ordered to the Asiatic station. September 18th.—Surgeon L. B. Baldwin placed on the retired list. September 19th.—Assistant Surgeon R. S. Blakeman ordered to the naval hospital, Newport, R. I., on completion of preliminary examination for promotion. Assistant Surgeon J. J. Snyder detached from the naval hospital, Newport, R. I., and ordered home to be ready for further orders. September 20th.—Surgeon P. A. Lovering detached from the recruiting rendezvous, Buffalo, N. Y., and ordered to proceed home as directed in orders of 12th. Surgeon E. H. Marstcller detached from the recruiting rendezvous, Buffalo, N. Y., and ordered to duty on the *Richmond*. Surgeon G. P. Lumsden detached from the *Richmond* and ordered to the recruiting rendezvous, Buffalo, N. Y.

**Obituary Notes.**—Dr. Thomas George Cusack died at his home in Orange, N. J., on September 20th. He had been in poor health for sixteen months, and his death was due to a complication of diseases. He was born in Orange in 1855, and was graduated from the medical department of the University of New York in 1880. He was a member of the New Jersey Medical Society. He leaves a widow and five children.—Dr. Edward L. Reeves, one of the oldest physicians of Gloucester County, died suddenly at Paulsboro, N. J., on September 20th, in consequence of a second attack of cerebral hemorrhage, at the age of sixty-three years. He was a graduate of the Pennsylvania Medical College of Philadelphia in the class of 1859.—Dr. William Hembel Taggart, of Philadelphia, whose death at Wernersville, Pa., on September 20th, at the age of seventy years, was announced in these columns last week, was graduated from the medical department of the University of Pennsylvania in 1852, and subsequently became a resident physician in the Philadelphia Hospital. In 1857 he was elected to the chair of materia medica and therapeutics in the Philadelphia College of Medicine and in 1859 to the same chair in the Pennsylvania Medical College. At the outbreak of the Civil War he was appointed a surgeon, serving until compelled by ill health to resign. Later he was appointed an acting assistant surgeon in the navy. Dr. William G. A. Bonwill, a well-known dental surgeon, died of uræmia at Philadelphia, on September 24th, at the age of sixty-six years. He was a graduate of Jefferson Medical College, and was well known for his inventions in dental surgery, particularly an electric mallet and a dental engine and rotary saw. He was at one time lecturer on dental surgery in the University of Pennsylvania.—Dr. Francis B. Smith, who was for many years a well-known dentist of this city, died on Saturday, at Stowe, Vt., from apoplexy. On account of failing health he had not been active in his profession for several years, and had lived at Stowe, in which town he was born in 1823. Dr. Smith was graduated from the medical department of the New York University, in 1850, and for some time practised medicine in Stowe. He later came to this city and studied dentistry and engaged in the practice of that profession in this city.—Dr. George A. Hendricks, professor of anatomy in the University of Minnesota, died in Minneapolis on September 24th, of Bright's disease. Dr. Hendricks was a graduate in medicine of the University of Michigan in 1877, and was called from that university to the chair of anatomy in the University of Minnesota in 1889.

# Reviews and Notices.

TRANSACTIONS OF THE TWENTIETH ANNUAL MEETING OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION, held May, 1899. Edited by the Secretary. New York: D. Appleton & Co. 1899.

THE special feature of the present volume of this valuable series is that it contains an elaborate index of the contents of the entire series of volumes issued since the formation of the Association, thus rendering it a most valuable reference book. The present issue contains twenty-nine papers covering a wide range of topics. In addition there are various matters of interest to the members of the Association.

INTERNATIONAL CLINICS: A Quarterly of Clinical Lectures on Medicine, Neurology, Surgery, Gynæcology, Obstetrics, Ophthalmology, Laryngology, Pharyngology, Rhinology, Otology, and Dermatology, and Specially Prepared Articles on Treatment and Drugs, etc. Edited by JUDSON DALAND, M.D. Volume II. Ninth Series. Philadelphia: J. B. Lippincott Co. 1899.

AMONG the many entertaining lectures and dissertations in this volume we note that of Professor Hollander, of Berlin, on superheated air as a hæmostatic and cure for lupus and other affections. Another excellent lecture is that by Professor Grawitz on progressive pernicious anæmia in the adult. A feature of the "Clinics" which makes them valuable is the diversity of material. There are in this issue separate departments for drugs, treatment, medicine, surgery, neurology, gynæcology, ophthalmology, laryngology, and dermatology. The last is filled by one contributor, Lassar, who makes brief remarks upon a variety of topics, including prurigo, pityriasis rosea, localization of syphilis, etc. In all there are over three hundred pages and some illustrations.

TRAITEMENT CHIRURGICAL DU CANCER DU GROS INTESTIN. Par DR. HENRI LARDENNOIS, Chirurgien des Hôpitaux de Reims, etc. Paris: G. Steinheil. 1899.

THIS brochure is an interesting contribution to the subject of intestinal cancer. The author has reviewed the literature of his subject and has epitomized it in this work, with some experiences of his own added. The facts of most importance which are emphasized are that carcinoma of the colon is of slow growth, does not invade the lymphatics early, and can be cured by radical removal at an early stage. Attention is also called to certain errors in diagnosis, which are possible, and there is an interesting discussion of the causes of the cachexia which develops. Operation by one of several methods, with an early diagnosis, affords us the only chance for radical cure, the prospect of which is steadily increasing as we gain in experience. There is, however, nothing novel in these views; they are held by all experienced surgeons.

THE MECHANICS OF SURGERY, comprising Detailed Descriptions, Illustrations, and Lists of Instruments, etc. By CHARLES TRUAX. Chicago. 1899.

THIS is a large volume containing a descriptive compilation of the various forms of surgical instruments and appliances now in use. It is illustrated by nearly three thousand figures, and will doubtless serve a very useful purpose as a work of reference for the surgeon in hospital or private practice.

THE DISEASES OF THE NERVOUS SYSTEM. By PROF. LUDWIG HIRT. Translated by DRS. HOCH and F. R. SMITH. New York: D. Appleton & Co. 1899.

THIS volume is a translation of the second German edition published more than five years ago. It cannot, therefore, be considered strictly up to date. The want of suitable revision is most noticeable in the pages devoted to pathological anatomy and to therapy. The contents of the book are divided into three sections. Section I. includes diseases of the meninges, cranial nerves, and brain proper. Section II. is taken up with a consideration of diseases of the spinal meninges, the spinal nerves, and the substance of the spinal cord. In section III. the general nervous diseases, functional and organic, are described. The chapters on meningitis are unsatisfactory. The classification is not in accord with the modern conception of inflammation of the meninges, and the varieties of the disease are not clearly differentiated. The consideration of diseases of the substance of the brain is prefaced by an adequate presentation of the subject of localization, placed before the reader directly and understandingly. One of the most conspicuous additions to our knowledge of brain diseases during the past few years has been the recognition and interpretation of acute non-hemorrhagic encephalitis. Had the author had an opportunity of recasting the chapter on this subject he would undoubtedly have made many changes and emendations. The chapter on brain tumors is quite satisfactory until we come to the treatment. This is a subject that cannot be adequately disposed of in twenty lines. Hirt remarks that treatment is, in the vast majority of cases, of no avail. There is considerable discrepancy between this statement and the recent statistics of Ferrier, which set forth that surgical interference has given good results in about twenty-five per cent. of properly selected cases. Indeed the reviewer is constrained to say that the volume before us is not a very safe nor a very suggestive treatise for the general practitioner. The neurologist and the teacher will find enough that is new in the way of presentation of facts and recitation of personal experience to compensate him for the time devoted to its perusal and study, but there are a number of treatises in the English language of no greater size that can be more conscientiously recommended to students and practitioners.

LES TROUBLES MENTAUX DE L'ENFANCE. Précis de Psychiâtrie infantile, avec les applications pédagogiques et médico-légales. Par LE DR. MARCEL MANHEIMER, ancien interne des Asiles de la Seine et de la Clinique des Maladies mentales à la Faculté de Médecine des Bureaux de Bienfaisance de Paris. Préface de M. LE PROFESSEUR JOFFROY. Paris: Société d'Éditions Scientifiques. 1899.

THIS is an interesting though concise exposition of an important yet not much-discussed subject. The work is divided into five parts, etiology, symptomatology, nosography, medical jurisprudence, treatment and care. Statistical data are deficient as to the mental disturbances of childhood, but such evidence as is available points to their relative rarity. In young infants during the nursing period, eclampsia is probably the most common manifestation of nervous disturbance. Later, between the third and seventh year, failure in mental development becomes more conspicuous. As growth and development advance, true mental aberration increases in frequency. At puberty impulsive states, hysteria and the like, occur especially. At this period also girls probably suffer more commonly than boys, while earlier the predominance appears to be with the latter. Idiocy and imbecility are more frequent among poor than among rich children. The causes of mental disturbances in children are predisposing and exciting. The former consist essentially in hereditary influences; the latter may be physical or psychic, and others may be complex, as, for instance, educational, social, and the like. The symptomatology includes disturbances of the affections and of the emotions, such as excess in manifestation of pleasure or of sadness, apathy, over-sensitiveness, anger, fear, anxiety; impairment of intelligence, with alterations in attentiveness, in memory, in imagination, in judgment and reasoning, and delirium and hallucinations; modifications of psycho-motor activity—diminution, excess, perversion; and derangement of consciousness—obscuration, stupor, somnambulism, ecstasy. The mental affections of childhood are classified as pure psychoses, mental degenerations, neuroses, states of regression, and toxic delirium. The psychoses include mania, melancholia, and intermittent insanity; the degenerations such simple abnormities as phobias, manias, and sexual aberrations, as well as peculiarities of character, moral insanity, mental instability, hypochondriasis, and states of delirium; the neuroses neurasthenia, hysteria, chorea, and epilepsy; the regressive states the dementia of puberty and general paralysis; and toxic delirium infections, auto-intoxications, and alcoholism. Among medico-legal questions discussed are the responsibility of children, children-criminals, children-witnesses, and suicide among children. The treatment is prophylactic, medical, and psychological. The final section deals with the care of mentally abnormal children, and an appendix contains brief statistical data.

# Society Reports.

## AMERICAN ORTHOPEDIC ASSOCIATION.

*Thirteenth Annual Meeting, Held in New York, May 31 and June 1 and 2, 1899.*

W. R. Townsend, M.D., of New York, President.

(Special Report to the Medical Record.)

*First Day—Wednesday, May 31st.*

**President's Address.**—Dr. W. R. Townsend, in this address, sketched the early history of the orthopedic institutions in New York City, and the development of that special field of surgery.

**Forcible Correction of Lateral Curvature.**—Drs. E. H. Bradford and E. G. Brackett, of Boston, presented a paper on this subject. They stated that when the treatment was carried out with the aid of the Brackett frame or a similar device for making the pressure, it resulted in a diminution of deformity and increased flexibility of the vertebral column. It was specially applicable to cases in the growing stage without much bony change.

**The Class Method of Gymnastic Treatment in Lateral Curvature.**—Dr. Walter Truslow demonstrated this method at the Hospital for the Ruptured and Crippled, and in conjunction therewith read a paper on this subject, giving the results of his observations in this field in the past year and a half. There were, in all, one hundred and ninety-nine cases, of which a little less than half presented postural deformities. Nearly all the pupils who had faithfully followed the treatment had exhibited very decided improvement. The treatment, which was an adaptation of the Swedish movements, aimed so to train the muscles as to allow of their assuming approximately normal positions.

**Some Post-Paralytic Deformities and Their Treatment.**—Dr. Jacob Teschner, of New York, in this communication, stated that in a short time he had succeeded, by invoking the co-operation of other muscles, in securing in many instances very gratifying improvement. The fact that the helpless muscles would often give, with the galvanic current, the reaction of degeneration he interpreted as evidence only that the greater part of the muscle had undergone change—not that it was totally destroyed. The stimulation of these degenerated muscles had been accomplished by stimulation of the associated muscles that were less impaired. His results had demonstrated that when the nerve communications had not been completely destroyed, the function of the remaining muscular fibres could be restored.

Dr. Joel E. Goldthwait, of Boston, opened the discussion on these papers. He had found that the maximum improvement was obtained by the forcible method in a comparatively short time. After this stage had been reached, the chest expansion tended to diminish, and hence he was in favor of applying some form of apparatus which could be removed for exercises, and reapplied. The amount and kind of exercise to be used should be largely determined by the pulse rate. If properly adapted the pulse rate should be slower after than before the exercises.

Dr. John Ridlon, of Chicago, exhibited a modification of the Goldthwait frame which had served him a useful purpose in dispensary work.

Dr. H. Augustus Wilson, of Philadelphia, thought the apparatus usually employed in this forcible method was needlessly terrifying to the patients, and that equally good results could be readily obtained by discarding such machines and using the surgeon's knee as a fulcrum. In this way it was possible to apply the desired force more intelligently than by mechanical means alone. The patient should be seated on a chair with the back to the operator, the pelvis fixed and the hands elevated. The operator should then bend the patient laterally over his knee, and should also rotate the shoulders.

Dr. B. E. McKenzie, of Toronto, thought that the best results were obtained by a combination of individual and class instruction.

Dr. T. E. Satterthwaite, of New York, also spoke in favor of class work, because of the rivalry which it engendered, and preferred manual to machine force.

Dr. Reginald H. Sayre, of New York, said that in certain unusually obstinate cases he had succeeded in effecting an improvement by giving an anæsthetic and breaking up the adhesions by violent manipulation.

Dr. W. E. Wirt, of Cleveland, said that he was accustomed to reduce the deformity by suspension and posture; then to make a plaster-of-Paris mould, and on this model an over-corrected corset. If the gymnastic classes consisted of more than five pupils, the details of the treatment were apt to be neglected.

Dr. R. Tunstall Taylor, of Baltimore, remarked that the gymnastic exercises could be made more effective by having them carried out before a mirror.

**Congenital Deformities of the Spine.**—Dr. Augustus Thorndike, of Boston, presented a communication on this subject, which was profusely illustrated. In regard to spina bifida he stated that the present opinion was in favor of excision whenever rupture had occurred or was imminent. It was rarely successful as a means of relieving paralysis.

**The Diagnostic Value of Radiography in Orthopedic and General Surgery.**—Dr. Louis A. Weigel, of Rochester, discussed this subject by the aid of many lantern views. In a rather large experience with the *x*-rays he had not had one mishap, and this he attributed chiefly to the observance of the rule always to have the vacuum tube at least eight inches away from the subject. When *x*-ray burns occurred, the fault was with the operator and not with the particular form of apparatus employed. He had used both the coil and the static machine in this work.

**Biographical Notes on Subcutaneous Tenotomy.**—Dr. A. B. Judson, of New York, in a paper with this title, gave a brief historical account of some of the pioneers in this field.

**Report of the Committee on Recording Lateral Curvature.**—The conclusion reached by this committee, after careful inquiry and much deliberation, was that photography was at present the best-known method for recording lateral curvatures.

Dr. McKenzie opened the discussion by the statement that he had at last discarded all the other methods in favor of what he significantly termed "honest photography."

Drs. Shaffer, Lovett, and H. A. Wilson took the same ground, the last-named gentleman emphasizing his remarks by the statement that the reason that photography excelled all other methods was that it reduced the personal equation to a minimum, and its record allowed of ready interpretation.

Dr. Henry Ling Taylor, of New York, took issue with him on this, asserting that every practical photographer would bear him out in the statement that, without the slightest intention of deception, numerous inaccuracies and errors were prone to creep in.

After Drs. Truslow, Dane, and C. E. Young had described simple, every-day methods of recording lateral curvature cases, the association voted that it was inexpedient at present to indorse any one method.

**Pigeon-Toe.**—Dr. W. Burton Hopkins, of Philadelphia, described and demonstrated an ingenious mechanical device for use in cases of pigeon-toe. By

means of a curious combination of a swivel and spring embedded in the heel of the shoe, the foot was thrown out as the person wearing it walked along.

Dr. L. W. Hubbard, of New York, remarked that this device would be inapplicable to most of the cases of pigeon-toe that he had seen, as they had been in young children without high-heeled shoes.

Dr. Royal Whitman, of New York, was of the opinion that this condition was always indicative of weak feet.

Dr. C. C. Foster, of Cambridge, thought a cure could be most easily effected by a suitable military drill.

Dr. H. A. Wilson remarked that it had been demonstrated that this device actually produced rotation at the ankle-joint.

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*Second Day—Thursday, June 1st.*

**A Study of Pott's Paraplegia as Affected by Correction of the Spinal Deformity.**—Dr. Joel E. Goldthwait, of Boston, described in this paper his experience in eleven cases. Some of the cases narrated were of peculiar interest because of the rapid disappearance of the paralysis after the application of the jacket, and its equally speedy return when the support was removed or became inefficient.

Dr. V. P. Gibney, of New York, referred to a case of Pott's paraplegia that he had had under observation, in which relief had followed the operation of laminectomy and the removal of a granulomatous mass.

Dr. R. Lovett, of Boston, thought the very rapid improvement observed in some of Dr. Goldthwait's cases might be explained on the well-known hypothesis that the pressure symptoms were due to lymphatic œdema.

Dr. Goldthwait remarked that while his cases had been relieved, in not one had there been a permanent recession of the deformity.

**Osteoarthritis of the Spine in Spondylitis Deformans.**—Dr. J. E. Goldthwait also presented this paper. In it he treated systematically of the etiology, pathology, and treatment of this remarkable disease, which, he said, belonged to adult life. Complete recovery from the paralysis was unknown. The treatment should be stimulating.

Dr. Ridlon related the history of a case occurring in a woman of twenty-five years, in which, much to his surprise, he had given her great relief by violent manipulation under general anæsthesia.

**Operative Treatment of Congenital Luxation of the Hip.**—Dr. G. G. Davis, of Philadelphia, under this head described and exhibited the instruments used by him in making the new acetabulum. The essential feature of the method consisted in using a wood-carver's gouge and a "rose burr."

**A Case of Dorsal Dislocation of the Hip Occurring Spontaneously during the Course of an Acute Osteomyelitis of the Neck and Shaft of the Femur.**—Dr. W. J. Taylor, of Philadelphia, reported this case. An extensive osteomyelitis had followed an apparently insignificant injury received in a game of foot-ball, and this, in turn, had led to a spontaneous dislocation.

**Reduction of Congenital Dislocation of the Hip by the Lorenz Method.**—Dr. W. E. Wirt, of Cleveland, reported two cases so treated.

**Congenital Dislocation of the Hip.**—Dr. Harry M. Sherman, of San Francisco, read this paper. He stated that he had done the bloody operation on nine hips, and had operated on thirteen hips by the bloodless method. In three of the first group there had been a relapse after it had been supposed that good ankylosis had been secured; in the others the reduction had been permanent, but there had been ankylosis except in two or three cases. In seven of the cases treated by the bloodless method relapse had occurred. On account of these disappointing results, he purposed in the future to make digital exploration, and endeavor by punching out an acetabulum in an upward and inward direction to secure, with less risk, the desired depth.

**The Kyphotone.**—Dr. R. Tunstall Taylor exhibited this machine, which is intended to correct forcibly the deformity of Pott's disease. He claimed that the apparatus was simple and inexpensive, and by its aid jackets could be quickly and effectively applied.

**Celluloid Jackets.**—Dr. Augustus Thorndike opened a discussion on this topic by the statement that the process recommended by him last year had proved disappointing, as had most of the other methods that he had tried.

Dr. R. H. Sayre said that beautiful corsets could be made by applying to a suitable mould sheets of celluloid which had been softened by exposure for eight hours to the fumes of acetone. The trouble was that these corsets were so hot that even though they were freely perforated the patients would often refuse to wear them.

Dr. E. G. Brackett remarked that another drawback to their use was that if removed from the mould before the expiration of two or three weeks, they would be ruined by the curling up of the celluloid.

**Treatment of Congenital Dislocation of the Hip.**—Dr. Royal Whitman discussed this subject in connection with the exhibition of a considerable number of patients that he had treated. He had operated on twenty-one patients by the bloodless method, all more than two years ago. Fifteen of his cases of open operation had been treated during the present year. He had treated twenty-seven cases by the functional method of Lorenz, and seven by both methods. There had been three perfect cures by the bloodless method, and he had even succeeded in securing an excellent result by this method in a girl of seven years.

**Congenital Dislocation of the Hip.**—Dr. T. Halsted Myers, of New York, exhibited a child of three years upon whom he had successfully operated by the bloodless method four years ago. He had operated altogether on sixteen cases, five of which would probably yield a perfect result.

Dr. B. E. McKenzie said that he expected to get a good result in a child of nine years upon whom he had operated.

Drs. Ridlon and H. A. Wilson disputed Dr. Whitman's assertion regarding the great disability produced in adults by congenital dislocation of the hip, and Dr. Wilson added that, in view of the high rate of mortality and the liability of ankylosis following the open operation, it seemed well to enter a plea for greater conservatism in this class of cases.

Dr. Sherman complimented Dr. Whitman on the excellent showing that his cases had made, and added that they were greatly superior to any that had been shown him by Lorenz himself four years ago.

**Symmetrical Enlargement of Both Legs from Possible Lymphangitis.**—Dr. S. Ketch, of New York, exhibited this case, and Dr. W. R. Townsend showed a photograph of a similar case, except that the enlargement had been unilateral.

**Enlargement of Tibial Tubercles.**—Dr. Henry Ling Taylor, of New York, presented two cases in which this was present. One was in a boy of twelve and the other in a boy of sixteen years. In one of the cases only was there a history of trauma.

Several similar cases were reported in this connection, and the general opinion seemed to be that this enlargement was most likely to occur in athletes.

**Partial Luxation of the Humerus following Anterior Poliomyelitis.**—Dr. J. H. Waterman, of New York, exhibited a youth in whom irritation of the pectoralis major caused dislocation of the humerus.

**Spasmodic Torticollis.**—Dr. Charles E. Thomson, of Scranton, presented two cases of this kind. One had already been relieved by several sections of nerves.

**Tuberculosis and Purulent Joint Abscesses Treated with Carbolic Acid.**—Dr. A. M. Phelps, of New York, described the results that he had thus far obtained by an adaptation of Dr. Seneca D. Powell's method of treating abscess cavities by successively irrigating them with pure carbolic acid, alcohol, and water. He expressed himself as very much pleased with this new treatment, and called attention to the remarkable saving in time effected.

**Multiple Deformities of Extremities.**—Dr. George R. Elliott, of New York, reported a case of this kind, apparently the result of changes in the nervous system produced by traumatism during intrauterine life.

Drs. Edward D. Fisher and S. B. Onuf commented on the neurological aspects of this rare case.

**Pointers on the Leather Splint.**—Dr. A. J. Steele, of St. Louis, gave some useful hints as to the practical working of leather intended for use in corsets. He attached great importance to his method of binding the leather on to the model, and to the baking of the leather at a temperature of 180° to 190° F. for two or three days.

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*Third Day—Friday, June 2d.*

**An Unusual Case of Fracture of the Femur.**—Dr. C. L. Starr, of Toronto, reported the case of a child in whom he had at first quite confidently made a diagnosis of separation of the upper epiphysis of the femur. This child happening to die subsequently from diphtheria, an opportunity had been afforded him for a post-mortem examination. To his surprise he had learned that there had not been a separation of the epiphysis, but a fracture just beyond the junction of the head and neck. The case was interesting because this child of three years had a history of limping for only two weeks. When first seen by him there had been the typical limp of a congenital dislocation of the hip; there had been no complaint of pain, and there was no history of injury. After the autopsy he had ascertained that the child had fallen from a high chair six weeks prior to the time when the limp had been first noticed. It was probable that there had been first an impaction, and subsequently a dislodgment of the fragment.

**Position Symptoms in Joint Disease.**—Dr. Harry M. Sherman, of San Francisco, presented in this paper an exhaustive study of the phenomena observed in joint disease and of the various theories that had been propounded to explain them. He rejected the theories of Hilton and of Phelps, so far as they were based on one group of muscles, and laid great stress on the existence of a spot of bony weakness, the result of the tuberculous process, of which the organism was evidently cognizant.

**Some Salient Points in the Treatment of Hip Disease.**—Dr. B. E. McKenzie, of Toronto, read this paper. He recommended the brace of Mr. Thomas, or some of its modifications, taking care to secure sufficient bending at the knee. He no longer believed that the splint should also act as a crutch. By making traction on the side opposite to the one affected, muscular spasm was controlled and the tendency to adduction counteracted.

**The Conservative Surgical Treatment of Tuberculous Diseases of the Joints.**—Dr. C. L. Starr, in this paper, advised treating tuberculous cavities by incision, curetting, swabbing with carbolic acid or chloride of zinc, the injection of iodoform emulsion, and finally by packing with iodoform gauze.

**Additional Views of the Treatment of Hip Disease.**—Dr. A. B. Judson read a paper with this title (see page 569).

**Rheumatoid Arthritis.**—Drs. R. T. Taylor and S. H. McKim, of Baltimore, presented a joint paper on this subject, in which they described some of the clinical features of this malady. They stated that the disease was usually bilateral, and that a characteristic feature was the involvement of the cervical portion of the spinal cord. The glands chiefly enlarged were those in the vicinity of the affected joints. They showed no tendency to break down. The skin often assumed a peculiar waxy appearance. Treatment was of but little avail, neither curing nor controlling the disease.

**The Operative Treatment of Old Subcoracoid Dislocations.**—Dr. Griffith, of Kansas City, reported three cases of this kind in which he had been unable to reduce the dislocation after making a very long incision and resorting to violent manipulation. Finding the long head of the biceps an obstacle to reduction, he had severed it, and then with a blunt-pointed periosteotome had been able to throw the head of the bone into position. Having observed this effect of division of the long head of the biceps in the first case, he had had made a long, stout, and specially curved periosteal elevator. With this instrument it had been very easy to replace the bone after division of the muscle. He had not the slightest doubt that the deaths reported in connection with these cases had been the result of the violent manipulation and extension that had been practised after having opened into the joints. There had been no subsequent trouble from the divided head of the biceps.

Dr. G. G. Davis remarked that in operating on one of these cases he had been compelled to dissect away nearly three-fourths of the attachment of the pectoralis major, and even divide the attachments of the supra- and infraspinatus muscles as well as the capsule below the head of the humerus.

**Heat as a Therapeutic Measure.**—Dr. S. L. McCurdy, of Pittsburg, read a paper with this title, in which he gave the results of some observations that he had made regarding the effect on the temperature of the deeper structures. The object of this study was to determine whether or not the therapeutic application of heat exerted any influence on bacterial life. It was plainly shown that the temperature of the deeper structures was unaffected.

Dr. Wirt remarked that whatever therapeutic effect heat might have was to be ascribed, not to its influence on bacteria, but on the blood-vessels, lymphatics, and nerves of the part treated.

**Surgical Intervention in Cases of Spastic Paralysis.**—Dr. B. E. McKenzie, of Toronto, presented this paper. He stated that according to his observations in more than sixty per cent. of these cases there had been deficiency in intellect. They could be divided into three groups, viz.: (1) Those due to parental conditions, (2) those occurring after birth, and (3) those dependent upon trauma occurring subsequently. Until the time had arrived when a child could sit erect and show some disposition to balance the trunk on the extremities, nothing could be done in the way of surgical treatment. The spastic state of the abductors, the hamstrings, and the muscles controlling the feet offered an insuperable obstacle to walking. It had been his practice to cut the abductors and then abduct the limbs so as to place them at an angle of from 60° to 90°, and retain them in this position for several weeks. In no case had there been any return of the contrac-

tures. By such treatment patients that had no prospect of ever walking at all could be made to walk quite readily and nicely. Massage should be practised for years after operation.

Dr. S. Ketch said that he had arrived at about the same conclusions as the author of the paper. He preferred to divide these cases into: (1) Those in which there is absolutely no mentality; (2) those in which the mentality is impaired; (3) those in which the mentality is normal. He would base his prognosis and, to a certain extent, the treatment, on the mental state. He had tried the effect of tenotomy in quite a number of idiots, and had been pleased not only in the improved mental condition, but in the permanency of reposition after the operation in these cases of spastic paralysis. He believed that by proper education and environment alone the gait of these children could be improved. Until the time had arrived when the contracture of the tendon had become more or less permanent, and the irritation from the brain or cord had begun to lessen, it was not proper to resort to tenotomy. When this operation had been done in young children exhibiting evidence of spasm, the results had not been so good as in older children. The incubus of mechanical apparatus in these defective children was rather harmful than beneficial.

Dr. Ridlon said he believed all these children should be operated on when young, because the irritation would be relieved and the mental condition would often be benefited. If there was a certain amount of relapse, the operation should be repeated, if necessary more than once. The part most contractured should be cut first, and that was usually the tendo Achillis, and then there should be an interval of two months before doing another tenotomy. If this was done, it would often be found unnecessary to cut the hamstrings at all. Mechanical appliances had been disappointing to him in these cases. A rather curious fact, learned from personal experience, was that if plaster was kept on for from four to six weeks, braces would not be required afterward.

Dr. Sherman said that he cut the tendons freely, and separated the legs as widely as possible; if they relapsed, he repeated the operation.

Dr. Judson relied upon education as the chief element in the treatment, but employed in addition suitable mechanical treatment when the locomotion was interfered with by the existence of a talipes equinovarus.

Dr. Newton M. Shaffer, of New York, said that he had learned to defer treatment until the stage had been reached in which the spasticity diminished; he strongly objected to operating while the spasticity was very pronounced.

Dr. E. H. Bradford said that the cure was much more rapid and satisfactory when tenotomy was done at the proper time than when the case was left to itself and such surgical interference was withheld.

Dr. Weigel referred to two severe cases reported by him several years ago in which the good result had been permanent.

Dr. McKenzie, in closing, said that he had commonly found the adductors more at fault in these cases than the tendo Achillis.

**The State Care of Indigent Crippled Children.**—Dr. Arthur J. Gillette, of St. Paul, described under this title the efforts made in Minnesota to induce the legislature to establish a State institution for the care of these helpless ones. Persistent efforts during two sessions of the legislature had finally been crowned with success, and the hospital was now a reality.

**The Cause of Failure after Phelps' Operation for Club-Foot.**—Dr. Daniel La Ferte, of Detroit, read this paper. He expressed the belief that the division of the tendo Achillis should be the final instead of the initial step in the operation. When the equinus could not be corrected it was because the astragalus could not be pushed in between the malleoli; here he would advise the removal of the astragalus.

Dr. W. O. Plimpton explained that the object of cutting the tendo Achillis first was to afford better leverage when the operator desired to bring down the heel.

**Prothesis, a Branch of Orthopedic Practice.**—Dr. A. B. Judson presented in this brief paper an account of some of the more important mechanical devices which he used in his work, with the idea of giving greater prominence to this part of the work of the orthopedic surgeon.

**Preliminary Report of a Study of Shortening of the Tibia in Connection with Tuberculous Disease of the Hip.**—Dr. Russell A. Hibbs presented this report, based on a study of forty-one cases. He asserted that shortening of the tibia was to be expected in a large proportion of the cases of hip disease lasting more than one year.

## INTERNATIONAL CONGRESS OF GYNÆCOLOGY AND OBSTETRICS.

*Held in Amsterdam, August 8, 9, 10, 11, and 12, 1899.*

(Special Report to the Medical Record.)

### SECTION OF OBSTETRICS.

*Fifth Day—Saturday, August 12th.*

(Continued from page 464.)

**Antisepsis in Cæsarean Section and in Symphyseotomy.**—Dr. Treub, of Amsterdam, emphasized the resisting-power of the peritoneum against infection, due to its great absorbing-power and its tendency to produce adhesive inflammation. On the contrary, loose connective tissue was ill adapted to resist infection. He therefore concluded that, *cæteris paribus*, symphyseotomy was a more dangerous operation than Cæsarean section, because it exacted a greater degree of antisepsis.

**On the Definition of the Presentation and the Position of the Fœtus.**—Dr. La Torre, of Rome, read this paper. This was a refutation of the definition proposed by Runge in his "Treatise on Obstetrics," and a support of the generally accepted definition, originally proposed by Madame Lachapelle.

**Researches in Regard to the Elimination of Methylene Blue in Normal and Pathological Pregnancy.**—Dr. H. van de Velde, of Amsterdam, having made numerous injections of methylene blue during pregnancy and after delivery, had seen that Achard Castaigne's experiment might be of real value in estimating the importance of an albuminuria of pregnancy. In cases of eclampsia this method gave many useful indications for the diagnosis of complications, for therapeutical proceedings, but specially for the prognosis. In several of these cases the author watched the passing of the injected blue into the contents of the uterus; in the amniotic liquid he had never found the blue itself, but only chromogen, a derivative of the blue; the urine of the fœtus, however, was colored blue several times. These facts, together with other observations, made him conclude that the mother played a greater part in the production of amniotic liquid, even in the last days of pregnancy, than the child did. At the end of his communication he related a case of hydrorrhœa uteri, in which the hydrorrhœic liquid (probably the maternal part of the amniotic liquid, now produced in excess and no more passing

through the amnion) contained chromogen, while in the amniotic liquid no trace of this substance or of methylene blue was to be found.

**Anaplastic Amputation of the Cervix in Regard to Subsequent Pregnancy.**—Dr. Chaleix-Vivie, of Bordeaux, read this paper. He presented personal statistics of 17 cases of this operation. These 17 women had, subsequent to operation, 23 pregnancies, of which 19 were labors at term and 4 miscarriages (all from causes other than the operation). Labor was in nearly all instances normal. His conclusion was that the operation had no evil influence on the duration of pregnancy, the progress of dilatation, the rupture of the bag of waters, or the nature of the presentation. Schroeder's operation was to be preferred, because it allowed ablation of the intra-cervical mucosa.

**Insufflation of Air into the Uterine Cavity as a Means of Preventing Asphyxia of the Fœtus during Labor.**—Dr. Rapin, of Lausanne, contributed this paper. The author related three cases in which he had used the means indicated. The idea was his own. Without being able to draw definite conclusions, he remarked that the infants, under very unfavorable conditions, had been all born alive; that in no case had the procedure interfered with the progress of labor nor with the pains; and in especial, that in no case was the fœtal respiratory tract obstructed by mucus and amniotic fluid, a point very favorable to resuscitation when necessary. The theoretical dangers of infection, of over-distention, of air-embolism, and of technical difficulties did not practically exist. He would recommend the procedure: (1) in all cases of procidentia of the cord; (2) in breech presentations, when labor is retarded; (3) in shoulder presentations, at the beginning of version, or after the knees had been brought to the vulva. Counter-indications were: death of the fœtus, septic phenomena during labor, and possibly placenta prævia (?).

**Indications for Cæsarean Section as Compared with Those for Symphyseotomy, Craniotomy, and Premature Induction of Labor.**—Dr. Fancourt Barnes, of London, opened the discussion on this subject. There was no doubt, he said, that the practice of obstetricians of repute in the present day was to widen the limits previously enforced for the performance of the Cæsarean operation. The enormous mortality which attended the operation twenty-six years ago, and which was computed in 1880 from a series of one hundred and thirty-eight cases, by Harris, at 81.2 per cent., had been so far reduced that in experienced hands it was little higher than that of ovariotomy. Thus Leopold, of Dresden, had reported fifty cases with a maternal mortality of eight per cent., and Olshausen last year a series of twenty-nine with a maternal mortality of only 6.8 per cent. This result was due entirely to the improvements introduced during this period in the technique of abdominal surgery, and especially in the method of suturing the uterine wound. The question therefore now arose whether the Cæsarean operation should not be performed in order to save the child, in circumstances previously regarded as necessitating craniotomy. Another recent tendency which was becoming more and more manifest was to regard operations involving the destruction of a living child in utero as unworthy of the present high efficiency of the obstetric art. If we set aside, then, craniotomy on the living child, there were three alternative procedures, viz., induction of premature labor, symphyseotomy, and the Cæsarean section. Induction of premature labor was of course limited in its applicability to cases in which the patient came under observation during pregnancy, and a prognosis of difficult labor could be established. The limits of pelvic space requisite for the passage of a viable child were well recognized and required no comment. The methods of starting labor had received no notable additions in recent years. The maternal mortality of the operation in competent hands was probably not more than one to two per cent., but the fœtal mortality was unfortunately high, being placed by the most successful operators at thirty-three per cent. No amount of technical skill could diminish this high rate of fœtal mortality, for it depended upon conditions over which the operator had no control, viz.: (1) The delicacy of the premature infant, and its consequent liability to suffer from the effects of labor; (2) the frequent necessity for interference during labor owing to malpresentations, and deficient uterine action; (3) the liability of the child to perish from malnutrition within the first few weeks of extra-uterine life. The other two alternatives, symphyseotomy and the Cæsarean section, being operations performed at term, naturally offered more favorable chances for the child. Under conditions which prevented the delivery of a living child *per vias naturales*, these two operations offered the only practical alternatives. Symphyseotomy must of necessity be very strictly limited in its application by the amount of pelvic space available. The object of the operation was to obtain a temporary increase in the size of the pelvis sufficient to allow the delivery of a live child by forceps, as an alternative to craniotomy. The amount of increase in the conjugate which could be safely obtained in this manner without injury to the sacro-iliac synchondrosis was only half an inch; the operation was therefore applicable to only a small number of cases, viz., those which lie just outside the limits within which delivery by forceps or turning can be effected. The mortality of the operation had always been and still remained a large one, for a surgical procedure apparently so simple; even in the hands of Pinard the mortality from 1892 to 1896 was 10.84 per cent. for the mothers, and 14.5 per cent. for the children. It will be observed that these figures compare unfavorably with those of Cæsarean section already mentioned, the mortality of symphyseotomy being actually more than double that of Cæsarean section. Comparison of Cæsarean section with symphyseotomy, in the light of modern results, seemed entirely in favor of the former. There were no limits to the application of the Cæsarean operation; it could be performed in the worst cases of pelvic contraction; in obstruction by uterine or extra-uterine tumors it offered not only a means of delivery, but also could be combined with complete removal of the cause of the obstruction; when the obstructing cause was irremovable, the patient could at the same time be sterilized and thus saved from the recurring risk of future pregnancy; it was undoubtedly the most rapid means we possessed of emptying the uterus, and might therefore find application in conditions of urgency, apart from obstructed labor; and lastly the mortality attending it, both for the mother and the child, was less than that of symphyseotomy, and was steadily diminishing. The following table compared the most recent statistics of the two operations:

| | Maternal Mortality. | Fœtal Mortality. |
|---|---|---|
| Symphyseotomy..... | 10.8 per cent. | 14.5 per cent. |
| Cæsarean section..... | 7.6 " | 7.6 " |

If we now referred to the operations done during the last ten years in the Royal Maternity Charity of London we were met on the threshold of our inquiry by the complete absence of the Cæsarean section. During those years no less than forty thousand women were delivered, and among these deliveries no indication for Cæsarean section had presented itself. The explanation of this remarkable fact was a simple one. It was explained by the absence of pelvic deformity

in the city of London. This absence was undoubtedly due to the improved and still improving hygienic conditions under which the poor of London exist. Craniotomy was required in only fourteen cases out of the forty thousand, which sufficiently proved the rarity of pelvic deformity. The conclusions at which he arrived were: (1) As regards symphyseotomy he considered that the operation had not justified its existence, and he could not help thinking that in a few years the eminent obstetricians who had been advocating it would abandon its use. (2) Induction of premature labor, within certain limits, would always hold a recognized and useful position among obstetric operations. (3) And lastly we were forced to the conclusion, after a careful study of the latest figures which have been published on Cæsarean section, that it was a scientific and justifiable operation, and that it would be more widely resorted to in the future, as the science of obstetrics advanced, than it had been in the past.

Dr. Leopold, of Dresden, made a very exact classification of the various degrees of pelvic deformity and distinguished between the cases of primiparous and those of multiparous women. Three degrees of contraction ought to be distinguished: (1) The conjugata vera was more than 7 cm. in the contracted non-rachitic or rachitic pelvis, more than 7.5 cm. in the justo-minor pelvis; (2) the conjugata vera was less than 7–7.5 cm., but more than 6 cm.; (3) the conjugata vera was less than 6 cm. In the first group primiparæ generally had a tolerably good labor. When the head did not enter the pelvic brim—perhaps on account of a bad presentation (the case approached the second group)—a distinction was to be made between cases treated in hospital and in private practice. In the hospital Professor Leopold did not hesitate to perform the Cæsarean section when all other means had proved useless and when mother and child were in good condition. When the child was in danger he preferred craniotomy, certainly the only legitimate operation when the child was dead. In private practice craniotomy was the only indicated operation when the head was retained by a pelvis too narrow to allow the passage of a living child. Though Pinard had given as his opinion that "craniotomy of the living child ought never to be performed," and that "embryotomy of the living child is condemned," Professor Leopold, appreciating the ideal view taken by the celebrated French obstetrician, agreed with Dr. Charles of Liège, "that it is not easy to act up to these rules." Doubtless craniotomy of the living child ought to be avoided as much as possible, and an operation inoffensive for the child ought to take its place, but in difficult cases in private practice, craniotomy, which saved the mother, was preferable to Cæsarean section or to symphyseotomy, which gave a considerable maternal mortality. In the third group Cæsarean section alone was indicated, forceps and version being impossible, and the extraction of the child after perforation, even after symphyseotomy, being very difficult, if not counterindicated. With multiparæ the difficulties of labor were greater because of the greater weight of the fœtus and the lesser intensity of the contractions of the uterus and the abdominal walls. In private practice the premature induction of labor, either by the bougie or by the intra-uterine bag, was and would be the choice operation in the pelves of the first group, notwithstanding the brilliant results of Cæsarean section and of symphyseotomy. The results of premature labor were very satisfactory. Many obstetricians had noted from sixty to eighty per cent. living children when the patient left the hospital the eleventh day post partum. In the pelves of the second group craniotomy should be performed when the child was dead. Professor Leopold preferred also craniotomy to the other operations when the child was in danger or the mother exhausted or ill. When the child was in good condition, Cæsarean section or symphyseotomy could be done in hospital practice (personally Leopold preferred the former operation). In private practice these two operations might be now and then preferred to craniotomy, when the obstetrician was very skilful, had sufficient assistance, and when the woman was in very good condition. In the third class of pelvis, Cæsarean section was the only operation indicated, alike for primi- or multiparæ, symphyseotomy being forbidden by the excessive contraction of the pelvis.

Dr. Pinard, of Paris, read a paper which, besides being a reiteration of his well-known views, contained elaborate statistics of one hundred symphyseotomies done in the Clinique Baudelocque, and of all the cases of contracted pelvis during the year 1898 at the same clinique. He began by defining, according to his ideas, the intrinsic value of each of the four operations under discussion:

Cæsarean operation: Theoretically, this operation was ideal. Both mother and child were in good condition; and the child underwent no traumatism. Practically, statistics bore this out to a certain extent. A *résumé* of Leopold's, Olshausen's, and Zweifel's statistics gave the following: The conservative operation, 5.8 per cent. mortality; the Porro operation, 3.7 per cent. mortality. Such were the results, but by the best operators and in the best conditions.

Symphyseotomy: This was an easy operation. He presented detailed statistics bearing upon 100 cases during the past seven years at the Clinique Baudelocque. The maternal mortality, he could claim, was five per cent., excluding 7 deaths due to outside causes. The infantile mortality was six per cent., excluding 7 cases in which, (1) forceps had been applied at the brim before the operation; (2) lesions of the cranium were caused by an incomplete symphyseotomy; (3) induced labor; (4) accidental broncho-pneumonia. He would remark in addition that 22 of the women operated upon had had ulterior pregnancies; that of these 6 were operated upon successfully for the second and third time, while 16 had spontaneous labors.

Craniotomy: Here maternal mortality should be *nil*; yet in 81 cases in the Baudelocque Clinic there was a maternal mortality of 11.5 per cent. This was evidently mainly due to sepsis.

Induction of premature labor: He acknowledged the innocuousness for the mother, but ascribed to it an infantile mortality of thirty-three per cent.—a mortality which could never be much reduced.

Continuing, Dr. Pinard laid down the principle that the physician should never destroy life; he had absolutely not the right. Neither had he the right to discuss intervention on the basis of the comparative moral or social value of the life of mother and child. For these reasons he rejected absolutely both embryotomy on the living child because it destroyed life deliberately, and also induced labor because it was attended with so much greater an infantile mortality than the other operations. He would admit to discussion only symphyseotomy and Cæsarean section. The advantages in favor of the latter were the following: It was an easy operation, which could be done at the beginning of labor before either infection of the mother or injury of the child, and extraction was without danger for the child. The danger was the opening of the peritoneum. Symphyseotomy could not be done at the beginning of labor; it was only a preparatory operation which had to be followed by extraction through soft parts which were usually not dilated. He recognized all this, but the immense advantage of not opening the peritoneal cavity made him prefer without hesitation symphyseotomy in all cases in which it was practicable. And he was absolutely con-

vinced that, in non-infected women, it was less dangerous than Cæsarean section.

Dr. Pestalozza, of Florence, concluded that induced labor was justifiable in certain cases. It was altogether innocent for the mother, with aseptic precautions. Certainly the fœtal mortality was great; but he believed that errors were much more frequently made in inducing it too early than too late, and this would partially account for the high mortality. Symphyseotomy he had done seven times with one death from hemorrhage (rupture of the vagina), and without infant mortality. Cæsarean operation was absolutely indicated with a true conjugate below 7 cm.; above this it was relatively indicated. The conservative operation was to be preferred. As between embryotomy and Cæsarean section, in a hospital, the latter was always to be preferred.

**Total Abdominal Hysterectomy for Uterine Cancer.**—Dr. Faure, of Paris, contributed this paper. He would advise vaginal hysterectomy only in very early cases of cervical disease. In all others he would use the abdominal route. He preferred his own operation (by median section and dissection from below upward of each half). To avoid oozing during operation he would recommend placing a temporary ligature on the hypogastrics. He had done five abdominal hysterectomies for cancer, with two deaths, one rapid recurrence; the two others (the last one done eleven months ago) were still without recurrence.

**Operative Treatment of Salpingitis.**—Dr. Hartmann, of Paris, contributed this paper. He recalled his paper of 1896 at Geneva, in which he had upheld the abdominal route as against the vaginal in removing suppurating adnexa. Since then, having carefully followed his old cases, he had found that only fifty-five per cent. of them had been complete cures. The other patients complained of pelvic symptoms, although certainly these were usually not severe. On examination he had found either a persisting metritis or indurated nodules at the site of the pedicles. He had therefore since then removed the uterus in all cases in which it was useless, *i.e.*, when the necessity of removing the adnexa on both sides was definite. At the same time he always endeavored to save an ovary. He had also suppressed the pedicles by doing isolated ligature of the vessels and by re-covering the pelvic floor with peritoneum. By these methods he could claim perfect ultimate results. He had done 72 operations for salpingitis since 1896; 40 total abdominal castrations, of which 26 were for suppurative lesions; 22 conservative abdominal operations (9 suppurative); 10 posterior colpotomies for suppurative salpingitis. In these cases he had had one death, *i.e.*, 1.38 per cent. mortality. In conclusion, he would absolutely reject the vaginal route for inflammations of the adnexa, save that posterior colpotomy was still indicated for large and easily accessible collections; this, moreover, in many cases would have to be followed by a complete abdominal operation.

**Of Periodical Intermenstrual Pains.**—Dr. Brodier, of Paris, laid down as a distinct clinical entity a class of cases presenting the following symptomatology: Pains, usually in the suprapubic region, not severe, commencing usually about the fifteenth day after the beginning of the last menstruation, lasting four to six days; affecting mostly women from twenty-five to thirty-five years of age; altogether afebrile; unaccompanied by any discoverable ovarian or uterine lesion, save occasionally a slight cervical catarrh; not benefited by curetting or electricity; disappearing during pregnancy; accompanied in many by vesical tenesmus. He had watched one case very carefully, and had concluded the pains were due to pressure of the uterus on the bladder.

**Rational Surgical Treatment of Cancer of the Breast.**—Dr. Schmeltz, of Nice, read this paper. He began by declaring himself a partisan of the parasitic theory. He thought infection was caused as in rhinoscleroma and actinomycosis. Considering the frequency of recurrence after cutting operations, he was led to try the following method: He did not close the wound, but applied to the raw surface after operation a caustic paste. He had done this in over two hundred cases in the last ten years, and had had only five or six recurrences.

Dr. Schmeltz also presented a new thermo-insufflator of his own device for the treatment of various gynæcological conditions. He was strongly in favor of thermo-insufflation.

Dr. Jayle, of Paris, remarked that in his hands the results in metritis of the cervix had not been encouraging. He had devised a similar instrument some two years ago.

**Treatment of Vaginal Cystocele by a Special Procedure of Abdominal Cysto-Hysteropexy.**—Dr. Laroyenne, of Lyons, presented a communication on this subject. He performed laparotomy, fixed the postero-superior part of the bladder (constituting the cystocele) to the anterior surface of the uterus, and fixed its anterior surface to the anterior abdominal wall. He finally fastened the uterus to the anterior abdominal wall. The new point in the operation which he would recommend was the introduction of the index finger into the bladder in order to facilitate the application of the sutures fixing the bladder, and to estimate definitely the correct depth these sutures should take in the bladder wall. Incontinence never lasted over a day or two, and if cystitis occurred, "a couple of silver-nitrate injections would dispose of that."

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## Surgical Suggestions.

**Shock.** — No operation should be performed on a patient in the condition of shock, unless there be actual bleeding endangering life, and even then chloroform should not be administered. I cannot accept the dictum that complete anæsthesia protects against shock. —Cheyne.

**Plastic Operations and Kidney Disease.**—A plastic operation is unjustifiable in a subject of kidney disease. The operation wound is liable to break down, to suppurate, and be the seat of secondary hemorrhage, of erysipelas, of cellulitis, and even of gangrene. When pyæmia is common in hospital wards, the subject of kidney disease becomes its readiest victim. Surgeons have learned how to ward off pyæmia, but they have yet to learn how to meet the complications of Bright's disease.—Frederick Treves.

**Influence of Tuberculosis upon Injuries.**—On the questions of operations upon the subjects of actual and active phthisis Sir James Paget writes as follows: "The fever and other accidents which may follow an operation may do special harm to a tuberculous patient. . . . The fear of such a calamity should dissuade you from all operations of mere convenience, and from all measures of what may be called decorative surgery in phthisical people; but it should not always dissuade you from operations that will cure diseases from which they suffer much, and by which their lives are wasted, as they are by fistula and diseases of the bones and joints. In these and the like cases the main question is whether the local disease—say, a diseased joint—is weighing on the patient so heavily or aggravating his phthisis and shortening his life so much as to justify an operation attended

with more than the ordinary risk of life and health. In all cases of acute or progressive phthisis great risk is incurred by almost every operation. . . . The case is very different with chronic or suspended phthisis. In these it is often advisable to incur the somewhat increased risk of even a large operation, in order to free the patient from the distress and wasting of a considerable local disease, such as that of a joint; and I should be disposed to say that it is always advisable to cure, if you can, a small disease such as fistula. I say if you can, for you will often be disappointed."

**Injection in Hemorrhoids.**—Internal piles suitable for the injection method may be injected with:

℞ Acid. carbolic..... ʒ iss.
Acid. salicylic..... ʒ ss.
Sodæ biboratis..... ʒ i.
Glycerini (steril.).....q.s. ad ʒ i.
M. ft. solutio.

Two to four minims to be injected into the base of the hemorrhoid. If other injections are required, they are made in from three to five days.—Tuttle.

**Burns.**—Picric dressing should not be considered as a wet dressing, for in cases of burns wet dressings should be absolutely excluded. Immersion of the parts in a bath of picric acid, followed by a light cotton-wadding dressing, is the best method when it can be applied. The application of any greasy substances to burns should be avoided on all occasions.—Théry.

**Internal Urethrotomy.**—If you cut at all, cut all.—Sir Henry Thompson.

I regard internal urethrotomy, when properly performed, as one of the most useful and successful operations in surgery.—P. J. Freyer.

My firm conviction is that the operation of internal urethrotomy will gradually become less frequent until it finally disappears from the list of recognized surgical procedures.—Myles, quoted in *The Medical Press and Circular*, December 21, 1898.

**Dressing for Fracture of the Os Calcis.**—Having looked in vain for specific directions in the treatment of a fracture of the "heel," or os calcis, the following is submitted: A roller bandage three inches wide and five yards long is all that is necessary. Starting with two turns above the toes, the roller is carried diagonally over the instep, covering the external malleolus, behind and below the internal malleolus to the sole of the foot, pulling the fragment down; then passing over the outer side of the foot diagonally across the instep, covering the internal malleolus, behind and below the external malleolus to the sole of the foot again, dragging the fragment down, but in the opposite direction from the first turn. A repetition of these turns as may be necessary is all that is required to keep the parts immobile until union takes place.—A. M. Whiton, *South Byron, N. Y.*

**Surgical Treatment of Goitre.**—Dr. Jules Boeckel (*Gaz. Méd. de Strasbourg*, February 1st) concludes that thyroidectomy is a benign operation; the mortality being scarcely four per cent. The most formidable accidents are hemorrhage and collapse of the trachea—both are followed by death. These two factors are the only ones that cast doubt on the prognosis, for in our day phlebitis of the neck, mediastinal fistula, etc., ought not to enter into consideration. Out of seventy-four thyroidectomies, twenty-five partial, two total, and forty-seven enucleations, there were six deaths, one of which was due to the falling of a piece of laryngeal polyp into the bronchi; three deaths were caused by hemorrhage, and two by collapse of the trachea. The sequelæ of the operation are in general benign. Out of sixty-eight cases cured, forty-five healed by first intention in from five to nine days; five similar cures with the formation of a fistula after cicatrization with entire cure in from two to six weeks; twelve cases with fistula and slight suppuration; two cases of suppuration in cases of suppurating thyroiditis; one case of cure by grafting in a thyroidectomy preceded by tracheotomy. The secondary accidents were three cases of hemorrhage that could be easily controlled, and two cases of tetanus that were cured within a reasonable length of time. Intracapsular enucleation is preferable to partial extirpation. In cysts this is an operation of choice, but in parenchymatous goitres it ought always to be practised when possible.

**Actinomycosis of the Lungs.**—The medicinal treatment of actinomycosis of the lungs is symptomatic only. Large doses of iodide of potassium (gr. xx.-xl. three times a day) are recommended, but it is doubtful if it does any real good. Surgical measures are the only means that may avail against the inevitably fatal results, and on this account much greater risk may be assumed than is justifiable in other pulmonary diseases. We must bear in mind the great danger of hemorrhage during operation, and also the possibility that the disease has extended to places and tissues where surgical intervention cannot follow.—John M. Patton.

**Whitehead's Operation for Hemorrhoids.**—Dr. S. G. Gant (*Kansas City Medical Index-Lancet*, May) criticises this operation as follows: (1) It is not suited for ordinary or bad cases of piles. (2) It is difficult and bloody. (3) Patients are detained in bed from six to fifteen days longer than after the clamp-and-cautery or ligature operation. (4) Owing to tension, the post-operative pains are severe and may continue for several days. (5) Infection is frequent and terminates in a stitch or deep abscess and fistula. (6) Because non-union, ulceration, stricture, and pruritus are common sequelæ. (7) The portion of the bowel between the anus and the end of the retracted intestine loses its sensitiveness, and there is also an absence of the normal secretions. (8) The nervous and mental state of these sufferers is pitiable to behold, and many contract the morphine habit, while others turn up as chronic invalids in some sanatorium or asylum.

**Rectal Don'ts.**—(1) Don't venture a diagnosis until after a careful examination. (2) Don't turn a speculum while it is in the rectum, and you will avoid much pain. (3) Don't force the finger or speculum into the bowel; wait until the sphincter becomes accustomed to it by gradual pressure, and it will slip in. (4) Don't go into details when explaining the technique of an operation to a patient. (5) Don't fail to operate at the earliest opportunity; your patient may change his mind. (6) Don't omit to prepare your patient for operation, and opium will not be required to tie up the bowel. (7) Don't use suppositories for post-operative pain; relieve it promptly by hypodermic injection. (8) Don't fail to move the bowel on the third or fourth day, or impaction and severe pain will follow. (9) Don't give solid food for the first few days. (10) Don't mistake hemorrhoids, polypi, and prolapsus, the one for the other. (11) Don't use mechanical dilators; the fingers are better and less dangerous. (12) Don't sever the sphincter obliquely, but at a right angle. (13) Don't agree to cure pruritus ani or a cicatricial-tissue stricture within a specified time, and embarrassment will be prevented. (14) Don't divide the sphincter but once in multiple fistula; make the branch sinuses communicate externally with each other and with the rectum by the main tract. (15)

Don't pack the wound following an operation for fistula too tightly, or granulation will be arrested. (16) Don't forget to inform your patient that incontinence is a possibility under the most favorable circumstances. (17) Don't operate for fistula on patients suffering with acute phthisis or acute Bright's disease. (18) Don't keep patients suffering from tuberculous fistula in the house, but give them the benefit of sunshine. (19) Don't fail to divide all branch sinuses, otherwise a second operation will be required. (20) Ligate or twist all bleeding vessels.—S. G. Gant, in *The Medical Fortnightly*, May 15th.

**Rachitic Deformities.**—In cases of knock-knee and bow-legs, when the deformity has been corrected either by manipulation or osteotomy, it is often advisable for the child to wear a slight supporting brace, for the purpose of preventing return of the deformity, and to this end I think that instruments with joints are as useful as I have found them useless in the correction of deformity.—Reginald H. Sayre.

**Venereal Arthropathies.**—Many of the cases of acute synovitis of adults are gonorrhœal and should be subjected to aspiration, irrigation, and iodoform or arthrotomy. Many of the cases of epiphysitis of adults are associated with secondary syphilis, and should receive mercurous iodide; when associated with tertiary syphilis, they should receive potassium iodide; in neither condition should the knife be used. In many cases of hip-joint and Pott's disease, and other bone-diseases of children, the patients are suffering from hereditary syphilis, and should be given iodides. In all cases of so-called bone disease and joint disease potassium iodide should be administered, whether a specific history can be obtained or not.—McCurdy.

## Correspondence.

### OUR LONDON LETTER.

(From our Special Correspondent.)

EMPTY LONDON — SECRET COMMISSIONS, RENEWED ACCUSATION — PHARMACOLOGY — HEAT WAVES AND STORMS — NEWCASTLE INFIRMARY — TYPHOID AT FALMOUTH—DR. FARQUHARSON, M.P.—LONDON HOSPITAL.

London, September 8, 1899.

The emptiness of London is a common expression just now, and in some circles there is a kind of excuse for it. So large a number of our consultants and teachers are away that now and then it is not an easy matter to secure a second opinion. The other day a surgeon spent two hours looking for a physician—and this in the Cavendish district which is so much frequented by doctors. Many he went for were away, but, of course, there were some remaining. Eventually he found one at home, but not one of his acquaintance. This dearth of doctors does not extend to general practitioners. Though a proportion of these are also taking a holiday, they mostly provide a *locum tenens* to take care of their patients during their absence, and even when they do not there is never any difficulty in finding a disengaged G. P., for the overcrowding of the profession increases continually.

*The Times* has provided us with a sensation this week by publishing a letter from Sir Edward Fry, reiterating the charge against the medical profession of taking secret commissions. This charge was made first by the Chamber of Commerce, and you may remember that Sir Edward Fry wrote to *The Times*, in 1896, a letter in which he descended to depicting a young doctor computing at the bedside the comparative advantage to himself of the patient living to pay future fees, or dying and thereby giving him a commission from the undertaker. Indignation was naturally expressed and evidence called for. The British Medical Association made an application for such evidence. But nothing has been produced, save the assertions of two anonymous persons—a chemist and an optician—and their anonymity is carefully preserved by the Chamber of Commerce, as the statements were made under a promise of secrecy. The council of the association made its own inquiry, and reported to the Portsmouth meeting that there was not ground for such an accusation, and asked the Chamber of Commerce to substantiate. A resolution to this effect was adopted, and now Sir E. Fry returns to the charge and accuses the council of trying "to hamper the chamber in its effort after honesty."

Well has the president of the council said that this is a gross travesty of the facts. Sir Edward Fry wants to know who made the inquiries of the council, who and how many were they, and goes on to repeat his disgraceful accusations. Perhaps the most disgraceful thing about this matter is his own assertion on the strength of his "secret dossier," for Sir Edward Fry has been a judge. On his retirement he seems to have left behind him all sense of the judicial attitude and taken up the position of an advocate. It is possible, no doubt, that here and there among the thirty thousand doctors some one may prove himself unworthy of the profession. In fact, the medical council has had to expel some. But that is no worse than Sir Edward Fry's own profession, in which only last week one was condemned to penal servitude. How would Sir Edward like a charge to be made thereupon that the legal profession is generally dishonest?

Professor Bradbury did well to draw attention at Portsmouth to the unsatisfactory position of pharmacology in the curriculum. He would place it beside pathology. No one can doubt that the coming generation of practitioners will be badly equipped in regard to this subject, and I often meet with younger men who are scarcely able to write a good prescription. The pharmacist is ready enough to help, and the manufacturers are continually thrusting upon us their wares of pills, tablets, and other preparations. By these men are saved the trouble of dispensing or considering dosage. But what a reversal of the position of physician and apothecary! The modern chemist affects to supply the doctor's deficient information! Are we likely to have a reaction against ready-made pharmacy? The old days of apprenticeship secured a better knowledge of drugs and the mode of administering them than is common to the newly fledged graduate of to-day. In this respect those who advocate that part of the fifth year might well be spent with a senior practitioner have reason on their side, but, alas, too many of such practitioners have already fallen into the idle plan of trusting in ready-made remedies.

The heat wave returned at the beginning of the week, and the thermometer rose to 90° F. again, causing considerable discomfort and a further increase of infantile diarrhœa and other diseases. These sudden changes almost always affect the mortality, but have a still greater influence on non-fatal cases, which are very prevalent just now.

On Wednesday a violent thunderstorm came on with an extraordinary downpour, flooding the streets and not a few buildings. Although the rainfall lasted only about half an hour it amounted to as much as one inch as measured at the meteorological office. The thermometer fell during the storm about ten degrees. Havoc was wrought by the impossibility of the sewers' carrying away the water fast enough. They can cope with an inch of rain in a day—but in an hour! The

demand was unprecedented. Storms have also been prevalent in the provinces, and to the tale of deaths from heat-stroke must be added those from lightning.

Newcastle is to have a new hospital to replace the Royal Infirmary. Mr. R. Lord was the mayor in 1897, the year of the Queen's Jubilee, and proposed to raise £60,000, being £1,000 for each year of the Queen's reign, to rebuild the infirmary. The response was so generous that no less than £100,000 was promptly promised. Recently another £100,000 bequeathed by Mr. Hall, J., has become available, and it is expected that the foundation stone of the new building will be laid in a few months' time.

Falmouth has suffered for some time from typhoid, which is now epidemic. Nearly one hundred cases have occurred during the summer. The disease has recurred from year to year, and it looks as if the sanitary authorities are not so active as they might be. In the month of August there were forty fresh cases. The neighboring borough of Penrhyn has appealed to the local government board to decide how it can deal with the water company which supplies both boroughs. One of the reservoirs has been condemned by the district council.

Dr. Farquharson, M.P., has met with an accident which might have been serious. While distributing the prizes at a horticultural show on Wednesday, the platform suddenly collapsed. Several persons were bruised and shaken. The doctor escaped with a slight injury to his knee.

The London Hospital comes in for £10,000 from Mr. Raphael toward endowing a new ward, and £60,000 from the late Baroness de Stern toward a convalescent home.

## LA SOUDANITE.

To the Editor of the Medical Record.

Sir: The shocking news of the murder of Lieutenant-Colonel Klobb, Lieutenant Meynier, and eight soldiers by Captains Chanoine and Voulet of the French army, brings before our attention a peculiar species of mental aberration known to African explorers and military men.

"La Soudanite" is the name given to a form of insanity supposed to be caused by the tropical heat. The French describe it as setting in with ennui and mild fever, marked with anæmia. A moral and mental fever (*fièvre morale*) soon follows, assuming different phases in different individuals. A camp may be disturbed before dawn by repeated pistol-shots, and an investigation will find one of the party amusing himself by repeatedly firing at small objects—la Soudanite. Or, one may insist on going clothed in dark and heavy stuffs in spite of the heat, because others "let in the light"—la Soudanite. An entire company may find itself given over to senseless disputation, at which hours are wasted—la Soudanite, etc. Contrariness is perhaps its distinguishing characteristic, associated with a marked spirit of intolerance.

The disease is known in Africa only, and recalling the peculiar phases malarial diseases assume in the tropics, we are inclined to believe that this is probably a malarial manifestation. French military men who have experienced the disease claim that it is modified by quinine and practically entirely overcome by work—constant work. Since it is the custom for military and exploring parties to use quinine constantly in those climates, it may be that there is brought about a sufficient amount of cerebral irritation by the drug to account for the manifestations.

It seems clear that the unfortunate Captains Chanoine and Voulet, and the men under them, were victims of the *fièvre morale*, which led them not only to acts of insubordination but to actual murder. It is to be hoped that fuller particulars will be given, so that the real cause and nature of the curious malady may become known.

W. J. Greanellé, M.D.

University Heights, New York City

## CANCER STATISTICS.

To the Editor of the Medical Record.

Sir: I recently wrote to the London *Lancet* to protest against the attempt, both here and in England, to create a "cancer scare." I showed, beyond doubt, that some of the figures given in the "cancer number" of *The Practitioner* by a distinguished American surgeon were wrong, and that his conclusions were unsupported by reliable evidence. *The Lancet* did not publish my letter because "it is against our rule to publish letters on strictly medical subjects from non-medical writers"; but on August 26th it printed what is, in reality, a criticism of my communication. In the circumstances, I am anxious to draw the attention of the medical profession in this country to a recent investigation of cancer statistics which cannot, on account of its length, be reproduced here. I refer to a paper by Mr. King, of London (a prominent actuary), and Dr. Newsholme, published in the Proceedings of the Royal Society, vol. liv., p. 209. The paper is entitled "On the Alleged Increase of Cancer." I would also draw attention to Dr. Newsholme's new book[1] on "Vital Statistics" (Macmillan, New York, 1899), in which he gives his reasons for asserting that the increase in cancer is "only apparent."

American statistics do not date far enough back to give any very valuable information; and when the English figures from 1858 to 1897 are used with the necessary explanations and with proper discretion, they do not prove any remarkable increase in the cancer death rate.

The articles in *The Lancet* of April 22d and May 20th, of this year, received careful consideration from me at the time of their publication; but the writer of them had evidently not read Dr. Newsholme's paper, already referred to, which effectually disposes of *The Lancet's* statements.

Althought *The Lancet* did not print my letter, because I am a layman, it nevertheless inserted a communication upon the position of the antivaccinators, from a gentleman who does not belong to the medical profession, in the identical issue (August 26th) in which its reasons for the non-insertion of my epistle were contained! Presumably, therefore, statistics are "strictly medical subjects," but antivaccination is not a purely medical question. However this may be, I protest against a criticism of my assertions when my letter is not published, and when it is made evident that any reply which I may make will not appear in print.

Upon the few occasions on which I have requested medical journals to publish letters from me, the subject matter has invariably been either statistics or heredity, neither of which is the exclusive province of the medical profession. Indeed, the average physician is deplorably ignorant of the latter and takes little interest in the former.

Lawrence Irwell, M.A., B.C.L.

Buffalo, N. Y.

**Appendicitis.**—Personally I would allow my junior assistant on the hospital staff to operate upon me for appendicitis, rather than try the best medical treatment for one day.—Robert T. Morris.

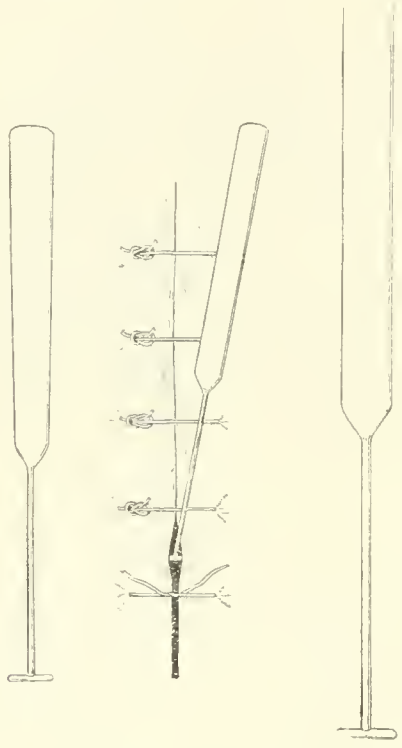
[1] Page 245.

## New Instruments.

### AN ADJUSTER FOR USE IN THE CLOSING OF WOUNDS.

By CEPHAS L. BARD, M.D.,
VENTURA, CAL.

Aseptic and cosmetic considerations demand a perfect coaptation of the edges of a wound. That its accomplishment, especially in certain regions where lax tissue exists, is not always easy is well known, particularly to the occasional operator. Both in the interrupted and continuous suture, there is usually noticed a tendency of one edge to overlap the other. To obviate it the unassisted surgeon, after placing his sutures, inserts the handle of his scalpel, or some other suitable instrument, into the line of incision, with the result generally of elevating one and depressing the



other edge. When he is provided with an assistant, the edges are nicely held together by the grasp of two tissue forceps, but the practice, while meeting the requirements, is objectionable, as the tissues are injured by the bite of the instruments, and their vitality is diminished.

A better way will be found in the use of the simple adjuster shown in the illustration, which on account of its utility, compactness, and cheapness merits a place in the instrument case of every surgeon. It is made of a single piece of nickel-plated steel, and consists of a T-shaped shank continuous with a flat handle, which latter serves also as a dry dissector. It is inserted with the bar parallel with the wound, and a quarter turn on its axis places it in position, the bar at the extremity of the shank being at right angles with the incision. Traction on it prevents any inversion or eversion of the edges of the wound and brings them into perfect apposition. Its removal is effected by a quarter turn reverse to that of its introduction. The position of the handle indicates that of the bar beneath the integument. When interrupted stitches are used, it can be applied either in advance or in the rear of the suture which is being placed. In the continuous suture, it should be used in front of the insertion of the stitches.

## Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending September 23, 1899:

| | Cases. | Deaths. |
|---|---|---|
| Tuberculosis | 106 | 128 |
| Typhoid fever | 85 | 19 |
| Scarlet fever | 80 | 4 |
| Measles | 55 | 7 |
| Diphtheria | 145 | 26 |
| Laryngeal diphtheria (croup) | 5 | 6 |
| Cerebro-spinal meningitis | 0 | 9 |
| Chicken-pox | 4 | 0 |

**Dentistry for School Children.**—At the British Sanitary Congress, recently held at Southampton, Mr. S. Spokes read a paper on the treatment of the teeth during school life, and submitted the following suggestions: (1) That in all poor-law schools dental treatment should be compulsory; (2) that in board schools it should be at first optional and later on obligatory; (3) that in boarding-schools there should be compulsory inspection on arrival, with reports to parents when necessary. Treatment would, of course, be optional, but parents should be requested to arrange for periodical inspection and a visit to the home dentist in sufficient time before the end of the vacation to allow for any treatment necessary. (4) That for all scholars the use of the tooth-brush after the last meal of the day should be enforced.—*Sanitary Record.*

**The Value of General Symptoms.**—"I well remember my first case of pneumonia when I started practice, and how I hurried home to tell my father with a certain amount of pride what I considered a more or less definite piece of physical diagnosis. My father paid little attention to my recounting the extent of dulness and the characters of the respiratory sounds, and more or less abruptly broke in with the simple question, 'What are his general symptoms?' and then started a cross-examination as to his general expression, color of skin, clearness of mind, amount of sleep and length of uninterrupted sleep, how he had taken his nourishment, the amount of urine he had passed and its condition, and on hearing my answers gave me a prognosis diametrically opposite to the one which my physical diagnosis had led me to believe. And he was right. He taught me a lesson which has stood me in good stead."—Dr. L. A. Weatherly.

**Domestic Animals and Preventive Medicine.**—In preventive medicine and hygiene the domestic animals have served as the basis for study and investigation. At the close of the last century Jenner's application of cowpox as a protection against smallpox led to the almost complete expulsion of that once-dreaded scourge from civilized lands. Pasteur in 1866 pointed out the need of cleanliness, fresh air, and good food for the avoidance of degeneration and disease in the silkworms; and are not these the foundation stones of hygiene for all animal forms? In silkworms Pasteur also found causes for disease in the microscopic organisms which infested their bodies; and in some cases this cause appeared to pass from one generation to the next through the eggs. What this study of Pasteur upon diseases of silkworms, upon anthrax in the domestic mammals, and upon fermentation did for surgery is thus expressed by Lister, the recognized fa-

ther of antiseptic surgery, at the jubilee celebration of Pasteur: "Truly, there does not exist in the entire world any individual to whom medical science owes more than to you. Your researches on fermentation have thrown a powerful beam which has lighted the baleful darkness of surgery and has transformed the treatment of wounds from a matter of uncertain and too often disastrous empiricism into a scientific art of sure beneficence. Thanks to you, surgery has undergone a complete revolution which has deprived it of its terrors and has extended almost without limit its efficacious power."—*Scientific American Supplement.*

**"Getting into Condition."**—The systematic practice of athletics, especially that involved in the process of what is termed "getting into condition," develops a necessity for muscular labor that is somewhat disastrous. I find that I am the lucky possessor of a uric-acid diathesis, which at times gives considerable annoyance and which I would gladly avoid as a matter of economy of time. I find that I have acquired a demand for a large amount of nitrogenized food, but so soon as I cease systematic exercise the capacity for assimilation of proteids is so seriously impaired that one of my occasional crises of lithæmia is at once precipitated. I can assure any one who contemplates entering active training that he will in time acquire thereby a physiological habit that may be a little embarrassing later in life, and I would seriously advise all would-be athletes against getting into so-called perfect condition.—Dr. Frank Lydston, *Medical Mirror*, September.

**Prevention of Lead Poisoning.**—The final report of the departmental committee appointed to inquire into and report upon certain miscellaneous dangerous trades in Great Britain has just been issued. In reference to peril to life and health attending the use of lead the report says that the use of lead in various forms in print and dye necessitated an exhaustive inquiry in regard to yarn dyeing and calico printing. Into some of the processes lead enters to a considerable degree, although in certain factories the committee noted that manufacturers were adopting aniline or vegetable dyes, by which practically the same colors were produced. The existing special rules are limited to works in which yellow chromate of lead is either made or manipulated, and have no application to departments where either green or lemon colors are prepared or handled. For those now in use the committee recommended the substitution of the following rules, which they say apply to all the processes mentioned in the existing rules as regards the yellow and orange colors: (1) No young person should be employed. (2) The occupier should supply overalls and head covering, and should have them thoroughly washed not less than once a week. (3) No food should be eaten by any one in a room in which yarn colored with yellow or orange chromate of lead is bundled or noddled, reeled, wound, woven, or otherwise treated. (4) The occupier should provide and maintain a sufficient and suitable supply of washing conveniences fitted with basins, in the proportion of one to every five or fraction of five persons employed. (5) The occupier should set apart and enter in the notice a period of at least five minutes in addition to the regular meal-times for washing immediately before each meal-time, and also before the end of each day's work, and he should see that it is observed. (6) The occupier should take measures to secure that each person engaged in any of these processes washes his or her hands and face before meals and before leaving the works. (7) Hoods or cowls should be provided opposite or close to the bar upon which the yarn is noddled, and should be so constructed that the draught from a fan shall draw the dust away from the face of the worker. (8) The occupier should see that no person be employed or re-employed after absence through illness, without a certificate from the certifying surgeon. (9) All persons employed in these processes should be examined once a month by the certifying surgeon, who shall enter the result of each examination, and any recommendations, in the prescribed register. He shall have power to order temporary or total suspension. (10) The occupier should provide a sufficient supply of sanitary drink and should cause the work-people to take it.

**Russian Weights and Measures** are the subject of a new regulation recently officially published. The Russian pound is fixed as the standard of weight and declared to be equal to 409.512 gm.; a pail or vedro is to hold thirty pounds of distilled water at $16\frac{2}{3}^{\circ}$ (Celsius), and a garnietz eight pounds of water. The unit of length is the arshin, equal to 71.12 cm. The metric system is to be optional, and may be used on a par with the Russian in commerce in dealing with contracts, accounts, etc., and after mutual agreement by state and municipal authorities. Private persons, however, are to be under no compulsion to use the metric system when dealing with the above-named authorities.

**Intemperance a Factor in the Causation of Crime.**—An important factor in the causation of crime is intemperance. Fully fifty per cent. of the criminals arrested in Chicago are inebriates, and the police reports of New York show about the same proportion. As Macdonald has well expressed it, "The saloon is the place where criminals find their accomplices. It is the abode where they not only meditate their crimes, but where they spend the money obtained by crime. The saloon is the true home of the criminal, and sometimes the keeper plays as backer." Ferri has shown beyond question that in France crime increases and decreases with the more or less abundant vintage, and we may safely attribute at least some of the increase of criminality and pauperism in the United States to the increase of intemperance; and we may estimate that alcoholics are the direct or indirect cause of probably seventy-five per cent. of the crimes committed.—Dr. Daniel R. Brewer.

**Danger in Licking Postage Stamps.**—The English *Pharmaceutical Journal* says: "The danger of licking postage stamps was the subject of much comment in the English daily press some time ago, and the adhesive matter upon the stamps was blamed for causing serious trouble at times. But while it is undoubtedly better not to lick postage stamps with the tongue, the gum upon them has now been vindicated against the charges made against it. It has been submitted to the government laboratory for analysis, and, as *The Daily News* expresses the result, it has left that institution without a stain upon its character other than the chemicals employed in testing." It had been alleged that the gum had occasioned septicæmia in a particular case, but Dr. Thorpe, the principal government chemist, reports that "bacteriological cultivations were made both from the stamp paper and the gum employed as the adhesive material, but no pathogenic organism could be detected in either case." At the same time, as the *Daily News* suggests, one cannot employ similar tests to everything with which the stamp paper may come in contact. One cannot make bacteriological cultivations from the drawers of old post-offices or from the fingers of the counter clerks.

**Typhoid Fever in the British Indian Army.** In 1897 this disease caused 2,050 admissions, 556 deaths, and a constant sickness of 296.85, being in the ratio of 31.8, 8.62, and 4.60 per 1,000 respectively. The

significance of these figures can be gauged only by comparison. The *Sanitary Record* says that the total number of deaths among the British troops in India in 1897 was between 1,200 and 1,300, and of these 556 were due to enteric fever. No other specific disease caused as many as 100 deaths, though 116 are recorded as due to diseases of the digestive organs. In several stations in India typhoid fever is now admitted to be endemic. The seasons when it is ordinarily most prevalent are in April and May and in November and December. The consensus of medical opinion points to the probability that the troops contract typhoid fever not in barracks, where they live under the most careful sanitary supervision and surroundings, but in the native drink-shops and other objectionable institutions. As regards the influence of age and service in India upon the incidence of the disease, by far the greater number both of admissions and deaths occur among men from twenty to twenty-five years of age and upward, who have been less than one year in the country. Only four admissions and two deaths occurred among some eighteen hundred men aged between thirty-five and forty years, and only three admissions and one death among nearly two thousand men who had been in India upward of ten years.

**Grant in Great Britain for a National Physical Laboratory.**—The British Parliament has sanctioned a grant of $60,000 for a national physical laboratory, with an annual appropriation of $20,000, and Mr. R. F. Glazebrook, now principal of University College, Liverpool, has been appointed director. The establishment of the laboratory is due to action on the part of the British Association.—*Science.*

**What is Good Meat?**—Poisoning by alimentary substances is so frequent, and the grave symptoms following the ingestion of tainted food are often so transitory, that their causes elude detection. Recently it has been proposed to make use of the clumping reactions made familiar by the Widal test, to determine the bacillæmic qualities of meat, and it would seem that the method promises much. It may be wise to recall a few of the characteristics of sound meat. Good, wholesome meat is neither of a pale pinkish nor of a deep purple tint. It has a marbled appearance, from the ramification of little veins or intercellular fat; the fat of the internal organs especially is firm, hard, and suety, and is never wet; whereas that of diseased animals is often soft and watery. Good meat has but little odor, whereas diseased meat smells faint and cadaverous. Good meat bears cooking without much shrinking or losing much of its weight, but bad meat shrivels up and boils to pieces—this being due to the larger proportion of watery and gelatinous material and the absence of true muscular substance. Under the microscope the fibre should be clear and well defined and free from infusorial animalculæ, while that of diseased meat is sodden as if it had been soaked in water; the transverse streaks are indistinct and wide apart, and animalculæ abound in it.—*Sanitary Record.*

**The Discovery of Trichina.**—In 1833 James Paget, interne in a London hospital, while dissecting the muscular tissues of a human subject, found little specks of extraneous matter which when taken to the professor of comparative anatomy, Richard Owen, were ascertained with the aid of a microscope to be the cocoon of a minute and hitherto unknown insect. Owen named the insect "Trichina spiralis." After the discovery was published it transpired that similar specks had been observed by several earlier investigators, but no one had previously suspected, or at any rate demonstrated, their nature. Nor was the full story of the trichina made out for a long time after Owen's discovery. It was not until 1847 that the American anatomist, Dr. Joseph Leidy, found the cysts of trichinæ in the tissues of pork; and another decade or so elapsed after that before German workers, chief among whom were Leuckart, Virchow, and Zenker, proved that the parasite gets into the human system through ingestion of infected pork, and that it causes a definite set of symptoms of disease which hitherto had been mistaken for rheumatism, typhoid fever, and other maladies. Then the medical world was agog for a time over the subject of trichinæ; government inspection of pork was established in some parts of Germany; American pork was excluded altogether from France; and the whole subject thus came prominently to public attention. But important as the trichina parasite proved on its own account, in the end its greatest importance, after all, was in the share it played in directing attention at the time of its discovery, in 1833, to the subject of microscopic parasites in general.—*Harpers' Magazine.*

**Paris Water Supply.**—The Paris water authorities issue a note of warning to consumers. They point out that, in spite of the excessive heat which has been experienced, they have had no difficulty in maintaining the supply of drinking-water at its usual quantity. But during the last few weeks the consumption has been increasing in a larger degree than can be accounted for by the increased thirst of the Parisian population, and consumers are therefore asked not to use the drinking-water for ordinary watering, but to restrict its use to domestic purposes. The request seems reasonable. A London water company would cut down the supply and make sure of it. It is to be hoped that the Parisian authorities will not be driven to the extreme measure of turning on the Seine water. —*Pharmaceutical Journal.*

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended September 23, 1899:

| | | Cases. | Deaths. |
|---|---|---|---|
| **Yellow Fever—United States.** | | | |
| Florida, Key West | September 13th to 19th | 164 | 7 |
| Louisiana, New Orleans | September 2d to 15th | 15 | 2 |
| **Smallpox—United States.** | | | |
| Massachusetts, Fall River | September 2d to 9th | 1 | |
| Michigan, Battle Creek | September 8th to 16th | Present. | |
| Maple Grove | September 8th to 16th | Present. | |
| Ohio, Cincinnati | September 2d to 9th | 5 | |
| Pennsylvania, Allegheny | August 29th to September 2d | 2 | |
| **Yellow Fever Foreign.** | | | |
| Brazil, Bahia | August 20th to September 2d | 10 | 8 |
| Colombia, Barranquilla | August 12th to 27th | 1 | 1 |
| Colon | August 20th to September 3d | 1 | 1 |
| Panama | September 5th to 12th | 8 | 3 |
| Port Limon | August 20th | 1 | |
| Cuba, Havana | September 3d to 10th | 24 | 3 |
| Nuevitas | September 2d | 1 | |
| Santiago | August 29th to September 5th | 3 | |
| Mexico, Tampico | September 8th to 11th | 2 | 1 |
| Tuxpan | August 26th to September 4th | .. | 2 |
| Vera Cruz | September 1st to 14th | .. | 21 |
| **Smallpox—Foreign.** | | | |
| Belgium, Antwerp | August 19th to 26th | 3 | |
| Brazil, Rio de Janeiro | July 21st to 28th | 54 | 24 |
| Cuba, Manzanillo | September 4th | Several cases. | |
| Egypt, Cairo | August 11th to 19th | 4 | |
| Greece, Athens | August 22d to September 2d | 14 | 3 |
| India, Bombay | August 8th to 15th | 11 | |
| Mexico, Chihuahua | August 28th to September 9th | .. | 11 |
| Mexico | August 13th to 27th | 9 | 6 |
| Russia, Moscow | August 12th to 26th | 4 | 1 |
| Odessa | August 19th to 26th | 1 | 1 |
| St. Petersburg | August 19th to September 2d | 11 | 4 |
| Warsaw | August 12th to 26th | .. | 3 |
| Straits Settlements, Singapore | July 29th to August 5th | .. | 1 |
| **Cholera.** | | | |
| India, Bombay | August 8th to 15th | .. | 1 |
| Calcutta | July 30th to August 5th | .. | 57 |
| **Plague.** | | | |
| China, Hongkong | July 29th to August 5th | 29 | 29 |
| Egypt, Alexandria | August 15th to 25th | 5 | 3 |
| India, Bombay | August 8th to 15th | .. | 71 |
| Calcutta | July 30th to August 5th | .. | 52 |

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 56, No. 15.
Whole No. 1509.

NEW YORK, OCTOBER 7, 1899.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### ON SOME IMPORTANT POINTS REGARDING PERFECTION OF ASEPSIS.[1]

BY CARL BECK, M.D.,

NEW YORK.

THE best proof that the treatment of a given disease is imperfect is furnished by the large number of different drugs recommended in that treatment. The prevention of sepsis is by no means an exception to the rule.

The number of powerful drugs advertised as reliable germ-killers is legion. The description of different protective methods, all more or less ingeniously devised, would fill a small library. Some of these devices furnish most brilliant testimony to the unselfish, even the martyr mood of their inventors, and are indeed so radical that, if they were carried out to their final consequences, not only the bacteria adhering to the surgeon would be entirely destroyed, but of the surgeon himself hardly anything more than the bones would be left.

The factors which may interfere with asepsis are the instruments, the dressing and suture material on the one hand, and on the other the atmosphere and the skin of the patient and of the surgeon's hands. In reference to the first factors it can safely be maintained that ideal asepsis is now an established fact. All objects which stand boiling well can indisputably be made sterile. This also applies to the much-disputed question of catgut, since Hofmeister has shown us by the former line of treatment how to boil this material without impairing its tensile strength.

It is, of course, to be presumed that the sterilization of the material in question is supervised by the surgeon himself. The process of sterilization must, in other words, go on in the operating-room, where the sterilizers must be kept. There the towels, dressings, the suture material, etc., must be taken from the sterilizer and put directly upon the instrument-table or the body of the patient. This naturally causes trouble for the surgeon, but it is an absolute necessity, in view of that fatal human characteristic—forgetfulness.

The second factor, the atmospheric, seemed to have been settled by the classical experiments of Schimmelbusch, Petri, and Cleves-Symmer. But in consequence of Fluegge's investigations[2] this question has been revived recently, and it seems to have disturbed the surgical mind unnecessarily. Theoretically the possibility of atmospheric infection cannot be disputed. But it hardly is attainable in practice. The atmosphere, it is true, contains an enormous number of bacteria, but these being innocent mould, yeast, and fission fungi, they are fortunately non-pathogenic for the human race. Bacteria which are pathogenic for man are present in the atmosphere only under abnormal conditions, as, for example, when they are stirred up from their natural habitat, the earth's surface or the dust of the walls, the floor, the tables, etc. The properties of the atmosphere are, in fact, injurious to pathogenic bacteria in every respect. The atmosphere, if exceptionally visited by a vagabond pathogenic bacterium, can be only a temporary and most uncongenial halting-place for it, in which it will soon be destroyed. It is a most fortunate feature of the pathogenic bacteria, especially the pus-producing variety, that they have a marked tendency to settle. Wherever they settle they use to adhere and if they are not provoked, so to say, by being stirred up, they cannot come into contact with a wound.

According to Stern's experiments heavy bacteria settle to the ground within the course of an hour and a half, while the lighter ones require about an hour longer.

From these facts we learn that the bacteria-containing dust in a room should not be stirred up by cleaning and sweeping a few hours before an operation is to take place there. As moisture precipitates dust, it is advisable to saturate the air in the operating-room at least during two hours before the operation. This can be done by filling the air with spray or with steam from a kettle. The windows should also be kept closed, especially if there is a current of wind directed toward the windows.

But another possible source of infection propagated by the atmosphere deserves attention. The air expired by the healthy, according to Tyndall, does not contain bacteria, although the cavity of the mouth is a well-known gathering-place for all kinds of pathogenic as well as non-pathogenic bacteria. Staphylococcus and streptococcus are nearly always found. It has, however, been proven by bacteriological test that in healthy persons the virulence of these bacteria is very slight. Clinical observation is in accord with this. But if the surgeon suffers from tonsillitis or even from a rhinitis, the number as well as the virulence of his intra-oral bacteria is remarkably increased. If the sick surgeon talks and coughs a great deal while bent over the wound, there is a possibility of carrying some of these bacteria into it, especially in an operation of long duration. The remedy is simple and proves the wisdom of the old saying, "Speech is silver and silence is gold."

The assistants in the operating-room must be so well drilled that they understand a twinkle. Most manipulations can be carried out as by an automatic apparatus, without the need of saying one word. Still, if the surgeon is very scrupulous, he would best stop performing important operations until his recovery from the ailments I have mentioned.

Easy as the maintenance of asepsis is in regard to the atmosphere and to all objects which stand boiling, so is it difficult in regard to the skin of the patient and the hands of the surgeon. Skin-bacteria are the stumbling-block in the way of perfect asepsis. The undeniable fact remains, that their total destruction or removal is practically impossible.

The surface of the human body is impregnated with many different bacterial species. Some of them adhere to the skin-surface, some are embedded in the dried cells of the epidermis. They are all accessible to sterilization. They do not necessarily need destruction, but removal. This can be done by simple me-

[1] Read at the meeting of the Medical Society of the County of New York, September 25, 1899.

[2] Fluegge: Zeitschrift für Hygiene, 1897, Bd. 25.

chanical means, viz., scrubbing with soap and water. It is made so much the easier by preliminary procedures—viz., whenever possible the patient is given a warm bath twenty-four hours before operation, the field of operation being scrubbed with green soap and shaved while the patient is in the bath. Then a poultice of ordinary green soap is applied to the skin until shortly before the operation. Thus thorough permeation of the epidermis, the dried cells of which are, in fact, macerated by this procedure, is obtained. Areas like the perineum, the scrotal and inguinal region, which are particularly rich in glands, must be scrubbed with especial care. Before the operation the skin is scrubbed energetically with linen compresses, which are dipped into hard fluid soap. This hard soap consists of green soap mixed with soft sand (Stuttgart sand). The scrubbing-process consumes about two minutes' time, and goes on while a stream of very warm water constantly flows over the surface to be sterilized. Then thin green soap is used in the same manner and for the same length of time. Particular attention is given to the folds and creases of the skin. Now the skin is dried with an aseptic towel and rubbed for one minute with a gauze compress which is saturated with fifty-per-cent. alcohol. The alcohol is not regarded as a disinfectant in the proper sense, but it is mainly used for the purpose of dissolving the fat of the skin, which is a most congenial resting-place for bacteria. By dissolving their shelter the bacteria are naturally removed.

It is self-understood that the means with which asepsis should be attained must be aseptic. This refers particularly to the water used for washing and the soap, which must have been prepared by the boiling-process. If brushes are used, special care has to be taken, as they can only with difficulty be rendered aseptic, thorough cleaning impairing their usefulness.

Whether after these procedures washing with bichloride of mercury or lysol or similar disinfectants is still needed is open to discussion. It will certainly do no harm.

There are other similar methods of rendering the surface of the skin sterile. If they are thoroughly mastered and carried out minutely they may be employed just as well. But the trouble is that underneath the skin surface a number of bacteria are sheltered by the glands of the skin, the secretions of which offer a favorable soil for their development; and these are not accessible to any disinfection or removal. Hence other means have to be chosen, to prevent their faculty of infection. And in fact they will do little harm if cared for properly.

It is evident that in incising the skin the knife dissects a number of glands and thereby exposes the bacteria contained by these glands. This undeniable fact fully explains not only the so-called suppuration of the stitch-canals, many cases of so-called late infection, and the bad reputation of the catgut, but also most of the numerous "incomprehensible" infections which develop under the supervision of the "extremely careful aseptic surgeon." Here is also the explanation of the suppuration occurring "in spite of the most minute aseptic precautions," which not only astonished many an experimenter in his laboratory, but also made him set up new surgical doctrines.

I may take this opportunity to state that bacteriological tests of aseptic methods, gained on artificial soil, cannot be applied to biological processes, the living cell reacting against bacteria differently from gelatin, agar, or serum.

That the bacteria thus set free by the skin incision find the most liberal opportunities to come into contact with the deeper regions of the wound need not be emphasized. Still, so far as my knowledge goes, there are no systematic precautions taken or advised in this direction. If a general cannot fight the enemy successfully in the open battle-field, he tries to starve him out, or he may eventually overreach or circumvent him. And the deep-skin bacteria can also be circumvented.

It seems to me that in the fierce efforts to destroy bacteria, this very simple point has been overlooked. Everywhere the old Catonic memento, "Ceterum censeo," is perceived. It may be said that the appeal in reference to bacteria, "Non ante vereri desinam, quam excisa esse sognovero," resounds from all surgical clinics. But it is invariably the "excidere" or "delere," where the searchers for improved aseptic methods get stuck fast.

Let us consider now that the dissecting-knife coming into intimate contact with these deep-skin bacteria, generally represented by the staphylococcus species, must necessarily be regarded as infected. The hands of the surgeon fall under the same considerations. This indicates two necessities: in the first place the change of the infected knife, and secondly the redisinfection of the surgeon's hands. The latter procedure may become unnecessary if gloves are worn by the surgeon while the skin is being incised.

One possibility, inoculation of the subcutaneous strata with the knife, however, remains. It cannot be obviated entirely, but can be reduced to a minimum by slowly and carefully incising the integuments alone as far as possible.

How simple it is, to set the exposed skin bacteria, which cannot be destroyed or removed, *hors de combat* by simple protection! Sterile napkins are fastened to the subcutaneous tissues with miniature forceps, such as devised by me, so that the skin-margins are so well covered by them that they do not come into view during all the subsequent manipulations, which are done then on an absolutely sterile field.

After the operation is completed the margins should be united by the subcutaneous method. If there is an absolute necessity for relaxation sutures they should be applied through the skin, but about three-quarters of an inch distant from the wound-margin, so that there is no direct contact with the wound-line. The same principle of protection should under proper modifications be employed in the opening of deep-seated abscesses. This principle was emphasized by me before in connection with the operation for pyothorax, in a paper in 1887 read before the German Medical Society of this city. Then I had tried to protect the fresh wound-margins with iodoform-ether or collodion, before I had opened the pleural cavity, in order to prevent infection from the outflowing pus. Very little attention is paid to this point, as is evident from the custom of incising abscesses, particularly appendical pus-accumulations, without regarding the incision surface at all. And what holds good for the integument applies even more to the mucous membrane. One need only consider the still existing danger of infection in intra-urethral operations. No wonder, because it is simply impossible to sterilize the urethra. It is true, sterilization of the urethra is spoken of a great deal, but practically nothing more than the desire for disinfection has been reached.

Once in a while also the so-called disposition to infection is spoken of. There is something in the theory, but only in a modified way. What favorable conditions are, for instance, offered by the skin of a working-man! And still under the most aggravating circumstances infection is but seldom found among this class in general, while among the so-called better classes the most virulent forms of infection are observed sometimes after a slight abrasion of the skin. This undeniable fact cannot be explained simply by the

difference of bacterial species or the degree of virulence. The explanation must be founded on biological grounds. The plebeian cell in the strongly developed fist of a laborer resists by virtue of its greater vitality the fiercest enemy of mankind more energetically than the aristocratic one in the little-exercised hand of a man of leisure. On the other hand there are a few members of the laboring class who show a most striking tendency for virulent infections, a fact which can be explained by the peculiar action of chemical influences. It certainly makes some difference whether bacteria are introduced into the cell in a pure state or whether they are suspended in a greasy vehicle. The cell which is able to defend itself against the naked bacterium, so to say, may be powerless against one suspended in dirty machine oil.

The principles of sterilization of the surgeon's hands are practically the same as those governing sterilization of the skin of the patient. The only essential difference is, that the surgeon's hands do not need to be incised, wherefore the deep bacteria of the skin of his hand are not exposed, provided that there are no forcible efforts made to dislodge them and squeeze them out, so to say. This would indeed be provoked only by brutal manipulations on the part of the surgeon.

I have repeatedly seen surgeons who had taken minute care in their aseptic preparations wallow around the intestine on the abdominal skin and its wound margins in the roughest manner, while manipulating it after it was taken from the abdomen for inspection. It speaks highly for the natural powers of defence of the human body, that in spite of such manipulations infection does not take place in every such instance.

So the same modus operandi holds good for the sterilization of the surgeon's hands, minus the preliminary preparations. The length of time necessary for the scrubbing of the surgeon's hands may vary according to whether the surgeon had come in contact with septic cases shortly before sterilization or whether he was positive that he had remained clean for at least the last twenty-four hours.

Furthermore the most particular care must be given to the subungual space. Wicked tongues remark of certain physicians that they carry graveyards underneath their finger nails. To clean the subungual space a Braatz's nail-cleaner is advisable. The nails must be cut short and even with scissors, not with a file. The space is then scrubbed with the rough soap first and then with the alcohol-water.

It hardly needs mentioning that the surgeon should wash himself frequently like other decent people, whether he do an operation just at the time or not. In order to protect himself as much as possible he should wear rubber gloves when coming in contact with notorious bacterial shelters like the rectum, or when examining septic cases. He should also wash with especial care after an operation.

All these principles also hold good in the question of infection in internal diseases. The clothing and body surface of a man who is surgically clean will offer a poor soil for the development of any carrier of infection. How much simple cleanliness alone can do is shown by the marvellous results of Lawson Tait.

To reduce the possibility, however, of infection communicated from deep-skin bacteria, gloves are advisable. Their use was highly recommended by me as early as in March, 1895, in my manual on "The Theory and Technique of Surgical Asepsis" (Saunders, Philadelphia), page 94. It is true that the gloves sometimes interfere with the technique of a delicate operation; sometimes, however, they permit of easier handling, as for instance in intestinal work. Cotton gloves offer no insurance against the action of bacteria, but they act as a kind of filter bag, or as a bacteria trap, in which bacteria are not killed, but arrested. When they are left off it must be remembered that the hands of the surgeon should come into contact with the wounded area as little as possible. Most manipulations can and must be done with instruments, which are always indisputably sterile after being boiled. So, for instance, a needle holder should be used while sewing, instead of taking the needle in the hand; thumb-forceps should be used for holding tissues instead of securing them with the fingers.

Erratic bacteria, which are not pressed into the wound, may perish, while in the midst of heaps of crushed cells they may develop in number and virulence. Thus may be explained why some surgeons, who perform the dreaded operation of wiring patellar fracture without touching the wound surfaces with anything but instruments, show splendid results, while the experience of others has been so sad that they have given up the operation on account of the "exceptionally great danger of infection."

These considerations bring us near another most delicate question, namely, the surgeon's manual dexterity. Since the advent of the aseptic era it seems to be supposed by many that this has become an unnecessary accomplishment. Under the auspices of asepsis countless technical sins are committed with a light animus. Some are under the impression, for instance, that if they only stick to the letter of aseptic rules they do not need to care for a minute approximation, as, for instance, of the gut after resection. But in the event of the slightest diastasis the most thorough aseptic precautions prove to be valueless in such a case, and on the other hand the invasion of a few bacteria might have done little harm, if the approximation was done with great technical skill. How else could the miraculous results of some surgeons of the pre-antiseptic times be explained? I need only refer to my distinguished teacher Bernhard von Langenbeck, the results of whose plastic operations astonished the world. And his classic rules for plastic operations were outlined long before the days of antisepsis.

Whoever saw von Langenbeck operate must have had the impression that he was an aristocrat in the best sense of the word. He had a most pronounced sense for natural cleanliness. It was not customary at his clinic to wear sterile gowns before the introduction of antiseptic rules, but the students always wondered why the master always wore a long, peculiarly made Prince Albert coat, which fitted highly over the neck, while operating. This coat was always cleaned very thoroughly, sometimes to the disappointment of the operating nurse. There was a great contrast to the non-æsthetic customs at other clinics of the same period. The hands were frequently washed and the instruments, sponges, and the ligature material were kept extremely clean. Von Langenbeck's technique was that of an artist. His work was as delicate as a watchmaker's. His anatomical knowledge enabled him to make his skin incision in conformity with the deep seat of the lesion which indicated the operation. Naturally he could also carry out his steps rapidly. Thus by the short duration of his operation he exposed his patient to a smaller risk of infection. His gentle handling of the tissues in general, his aversion against blunt operating, his predilection for sharp and clean instruments, were all points which counterbalanced to a certain degree the pre-antiseptic shortcomings. Such accomplishments should by no means be regarded as unimportant in this modern era. The surgeons should strive zealously to come as near to such perfection as possible.

Thus we can see that the success of aseptic surgery does not depend upon a few principles, but that it is

the happy combination of scientific knowledge, conscience, and manual skill, which makes the surgical master, who must thoroughly understand and regulate the thousandfold different wheels of that wonderful organic clockwork—man.

If we translate our considerations now into practice, the following maxims will result: (1) The superficial surface of the skin of the patient and of the surgeon's hands is sterilized after the principles set forth above. The atmosphere being innocuous, all inorganic material being made aseptic by boiling, the skin surface being asepticized, and the skin glands which contain bacteria being *hors de combat*, it becomes evident that the only possible source of infection remaining would be the rough manipulations on the part of the surgeon or his assistants.

(2) Aseptic gloves are worn by the operating surgeon at least during the skin incision. The assistant who passes the instruments and the one who attends to the wound itself wear gloves throughout the whole operation.

(3) After incision the wound margins of the skin are covered with sterile napkins, which are fastened to the wound surface underneath the skin margins with miniature forceps, so that the skin wound is not touched at all during the subsequent manipulations.

(4) The knife used for the skin incision must not be used for further incisions. The operation should be performed as rapidly as possible.

(5) For uniting the wound margins of the skin the subcutaneous method should be preferred.

(6) Forcible manipulations, especially blunt operating, should be avoided.

(7) The surgeon and assistants wear sterilized suits or gowns. Their heads must be covered with sterilized caps, because in bending over the field of operation it often happens that the heads of the surgeon and his assistant come in contact, whereby infectious material might be introduced into the wound.

(8) Long beards are entirely unsurgical.

(9) If a surgeon should suffer from rhinitis, tonsillitis, etc., he should use the most minute local precautions, or would better omit operating until recovery. It is self-understood that a surgeon should regard it as a crime to operate so long as he suffers even from a slight furuncle on his hand.

With the expenditure of a little more time and trouble the same principles can be carried through in private practice also.

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## THE SURGICAL TREATMENT OF GALL STONES.

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THE disease known as cholelithiasis, commonly gall stones, has not heretofore received the attention from the profession that its importance deserves. It is a popular fallacy among the profession that gall stones are not of very frequent occurrence and are rarely attended with a fatal issue, and yet there are but two other surgical diseases that are of equal importance, from the standpoint of frequency of occurrence and of fatal ending when not submitted to the surgeon's knife—viz., appendicitis and ectopic pregnancy.

In looking over the transactions of our State society I find that since its organization, fifty years ago, but five papers have been read before it upon this subject. It seems to me, in view of the large mortality of this disease when treated medically, and the extremely low mortality when treated surgically, that it is high time that physicians everywhere should awaken to the necessity of surgical interference in these cases.

The liver is the largest gland in the human body, and excretes daily about three and one-half pounds of a fluid known as bile. It is situated in the right hypochondriac region, weighs from three to four pounds, and measures in its transverse diameter from ten to twelve inches, in its antero-posterior from six to seven inches. It is divided into a right and a left lobe by a fold of peritoneum, called the suspensory ligament. Proceeding from the transverse fissure are two ducts, one from the right and the other from the left lobe, which unite and pass downward to the right about one and one-half inches, where they join at an acute angle the cystic duct, forming the common duct, or the ductus communis choledochus. The gall bladder is a membranous, pear-shaped sac, about four inches in length, one inch broad in its widest part, and has a fundus, body, and neck; it is lodged in a fossa on the under surface of the liver, extending from the right extremity of the transverse fissure to the anterior free margin of the liver. The fundus is directed downward and forward to the right, and sometimes projects beyond the anterior border of the liver. The body and neck are directed upward and backward to the left. It is held in position by the peritoneum, which, in the majority of cases, passes over its under surface, but occasionally invests the gall bladder, which then is connected to the liver by a kind of mesentery. The relations of the gall bladder are as follows: The body, by its upper surface, with the first portion of the duodenum, occasionally with the pyloric end of the stomach and the hepatic flexure of the colon. The fundus is completely invested by the peritoneum, and is in relation in front with the abdominal parietes immediately below the ninth costal cartilage, behind, with the transverse arch of the colon. The neck is narrow, and curves upon itself like the italic letter *f*, and at the point of junction with the body and cystic duct it has a well-marked constriction.

I shall not weary you with dry anatomical details, but the foregoing brief description seems necessary, in order to an intelligent understanding of the surgical treatment of biliary calculi.

The gall bladder is a reservoir, merely serving to store up the bile and allow of its slow discharge into the intestine. It is difficult, says Robert Abbe,[1] to reconcile the apparent superfluousness of this fluid with its necessary storage. The horse and some other animals have no gall bladder, and seemingly it is of little or no utility in man. When it is entirely removed, his digestion and nutrition go on just as well. Furthermore, the absence of bile in the intestines, as in cases in which it escapes in its entirety by external fistulæ, is consistent with perfect health. Indeed, when reabsorbed into the system it is a distinct poison, and, according to Bouchard, it is nine times as poisonous as urine. The liver may form bile enough in eight hours to be fatal, if it is all absorbed. Physiological experiments seem to show that it is a slight but unnecessary aid to the pancreatic secretion in emulsifying fats.

Within the last few years many patients discharging all bile externally have been carefully observed by various authors, and, as a rule, there has been no difference in their daily health or bowel function unless it is an occasional tendency to flatulence. I myself have a patient upon whom I did a cholecystenterostomy ten months ago, anastomosing the gall bladder with the transverse colon, and in whom not the slightest tendency to indigestion, or to any impairment of health, has appeared. To my mind, there seems no

[1] Dennis' "System of Surgery."

reason to doubt that the bile is almost, if not wholly, an excrementitious substance, having little or no power to aid digestion, but, on the contrary, is a poisonous substance, which, if reabsorbed in moderate quantities, may be fatal in its action.

The development of biliary calculi seems to depend upon crystallization of the excess of cholesterin and bile salts, due, perhaps, to temporary stagnation and absorption of water by the walls of the gall bladder, or possibly to a transient catarrh of the mucous membrane of this organ. It is a well-known fact that the gall bladder may contain a great number of biliary calculi, and yet the possessor be totally unconscious of their presence. It is only when one attempts to pass the cystic or the common ducts that the trouble begins; a trouble, says Abbe, "that is only rivalled by labor." In many cases the calculus finally passes through the cystic and common ducts, or falls back into the gall bladder, and the patient apparently recovers. But nature is not always so successful in her efforts, for a relatively large number die while the physician is awaiting the result of nature's methods of getting rid of these bodies.

There are a number of ways by which biliary calculi may find an exit from the gall bladder. First, they may pass through the cystic and common ducts into the intestine. Second, they may, by ulceration, be discharged into the duodenum, stomach, or colon. This conservative process, however, may miscarry, and the stone be discharged into the peritoneal cavity, thus sacrificing the patient's life; or, following the direction of least resistance, or guided by natural barriers, it may, after weeks or months of torture to the unhappy victim, discharge at the navel, having followed the round ligament of the liver, or it may discharge in the loin or in the inguinal region.

The symptoms of acute hepatic colic are usually so pronounced and so uniform in character that a diagnosis is easily made. As a rule the attack is sudden. There are no prodromata. The patient is suddenly seized with an agonizing pain under the right ribs or in the region of the gall bladder, extending through the right shoulder-blade, followed by nausea, vomiting, and sweating. The pain is distinctly paroxysmal in character; it abates and returns. There is no rise of temperature, and the pulse during the intervals of the paroxysms is normal. The paroxysms of pain may cease in an hour or they may last for days. Their cessation indicates that the stone has either passed through the common duct into the intestines, or has fallen back into the gall bladder. Sometimes, however, the calculus is arrested in its progress through the common duct; it becomes impacted—neither advances nor retreats—and, the bile having no outlet, the coloring matter is absorbed, the patient becomes jaundiced, the gall bladder becomes extremely sensitive and is sometimes so distended as to be plainly felt by the hand. Here let me call attention to an important point with reference to jaundice, viz.: jaundice never appears in acute cases unless the common duct is obstructed.

The diagnosis in acute cases presents no difficulties. The paroxysmal pain, its location, nausea, vomiting, and the occurrence of jaundice within two or three days if the common duct is obstructed, the tenderness over the stomach and in the region of the gall bladder, the enlargement of that viscus when the stone has lodged in the common duct, present an ensemble of signs and symptoms found in no other disease. In chronic cases, however, the diagnosis oftentimes is attended with difficulty, and especially is this true if there is no obstruction of the common duct; for in such cases jaundice is absent, and impaction of the cystic duct may have continued so long that distinct paroxysms of pain may be absent. However, with due attention to the history of the case, the symptoms in previous attacks as well as in the present, we may usually arrive at a correct diagnosis. Chronic cases nearly always give a history of acute attacks some months or years previously, and this fact, taken in conection with the almost constant pain in the region of the gall bladder, soreness and tenderness on pressure, and, in thin subjects, the palpation of the cyst itself, all point to a correct solution. In these chronic cases the presence of impacted stones may have led to abscess of the liver or to atrophy of the cyst, and to other complications which may render the diagnosis difficult.

The prognosis in any given case of cholelithiasis, to be of any value, must be based upon the pathological conditions and the anatomical characters present in each individual case; and as it is not in the power of physician or surgeon to know, in any case, the number of stones present, their size or their exact situation, or to know the pathological condition of the gall bladder and the bile ducts, or the anatomical characters existing, it follows that a prognosis in a given case anterior to a surgical operation is a mere guess and of little value. It may be truthfully said, however, that the majority of chronic cases eventually result fatally unless surgery is called to their aid, and the majority of acute cases sooner or later become chronic.

Physicians often say that patients frequently recover under ordinary medical treatment; if by this is meant that the calculi pass through the common duct into the intestine, or, failing in this, slip back into the gall bladder, thus relieving the patient for the time being, I grant the truth of the statement. But, if it is meant that these calculi are absorbed or dissolved, or pass through the common duct, and the patient is never afterward troubled with the malady, I challenge proof of the assertion. That such a happy termination may take place in exceptional cases, I will not deny; but in medicine we must not erect exceptions into rules, unless we wish to jeopardize and oftentimes needlessly sacrifice human life. Suppose biliary calculi do frequently pass through the common duct and the patient recovers from the attack. Are you warranted in hugging the delusion that the patient is permanently well? Can you truthfully say that all calculi contained in the gall bladder have been expelled? Certainly not. Even were it possible for you to know that all the stones had passed, is it not true that, in the majority of cases, other calculi are sure to form and again place the life of the patient in jeopardy? On the other hand, if the calculi slip back into the gall bladder, is it not absolutely certain that they will go on increasing in size and sooner or later will either find their way into the stomach or intestine, or into the peritoneal cavity—most probably the latter? And this means, as you know, peritonitis and death. That biliary calculi are foreign bodies and will sooner or later escape from their imprisonment is certain. Like a stone in the bed of a stream of water holding lime in solution, they grow larger and larger by the precipitation of the constituents of the bile upon their surface, until, finally, the gall bladder is distended to its utmost limits, its walls become so thin that they give way, and the calculi, followed by bile, are precipitated into the abdominal cavity. That biliary calculi in rare cases do ulcerate their way into the stomach is true, but this does not destroy the fact that much more frequently they take the course indicated above, nor can it by any means justify the physician in withholding the only remedy that promises a cure, viz., a surgical operation.

In view of the foregoing reasons I would suggest that cholelithiasis is purely a surgical disease and should be taken out of the category of general medicine. Indeed, when we consider the anatomical rela-

tions of the gall bladder with the stomach, the duodenum, the transverse colon, and the anterior abdominal walls, together with the fact that the gall bladder oftentimes through some error of chemism becomes loaded with biliary calculi; that these calculi are, to all intents and purposes, foreign bodies and will sooner or later probably seek an outlet through one or more of the ways mentioned in the foregoing paragraph—we are forcibly impressed with the idea that the course they will take when left to nature is so uncertain that surgery is the only means by which the patient can be relieved of these dangerous bodies with but little risk to life.

If, then, we accept the doctrine, which I think the foregoing facts fully warrant, that the treatment of cholelithiasis should be surgical rather than medical, the question arises, How shall we proceed to relieve victims of this disease by surgery?

Several operations have been proposed and practised for this purpose: (1) Cholecystotomy, (2) cholecystectomy, (3) cholecystenterostomy, (4) choledochotomy, (5) cholelithotrity. Of these we shall notice the first three only.

Cholecystotomy consists in making an incision through the abdominal walls over the site of the gall bladder, opening it, extracting the calculi and suturing the edges of the gall cyst to the incision in the abdominal walls, thus establishing an external biliary fistula. This is the simplest of all operations upon the biliary passages. An incision is made vertically from the tip of the tenth rib downward three to four inches. Upon opening the peritoneal cavity the cyst will be found presenting. However, if the preceding attacks have been very severe, it may be hidden from view by adhesions, or by the colon. In this case the cyst must be carefully isolated by gently tearing apart all adhesions, and, after surrounding it with gauze or sponges to avoid soiling the peritoneum, its fluid contents are aspirated, and an incision is made through the fundus, or, what is better, a half-inch of the fundus may be cut off. The calculi are then extracted, after which the opening in the gall bladder is sutured to the parietal peritoneum and the lower part of the wound closed up to the open bladder.

Cholecystectomy, or excision of the gall bladder, may be resorted to in cancer of the cyst, when we have reason to believe that we can remove all the diseased tissue. It may also be done "when chronic atrophy has left a distorted and pocketed bladder."

Cholecystenterostomy consists in uniting the gall bladder to the intestine in such a way as to make a fistulous opening between the two, so that the bile may flow directly into the intestine. Von Winiwarter was the first to attempt this operation, stitching the gall bladder to the colon and attaching both to the abdominal wound. After adhesions had taken place he made an opening between them and sutured the opposite sides of the incision together. He finally succeeded in one case. Several years afterward Gaston, of Georgia, succeeded in uniting, in dogs, the gall bladder and duodenum. In 1889 Terrier, of Paris, succeeded in doing this operation in man. But the suture method was too difficult and dangerous to inspire many imitators. It was not until Murphy invented his button that the operation became an easy and a safe procedure, so that cholecystenterostomy is now one of the simplest and safest surgical procedures known to surgical art.

The operation of selection depends somewhat upon the pathological conditions found upon opening the abdomen. Should the gall bladder be found so extensively diseased or so greatly atrophied that its attachment to the colon or the duodenum is impracticable, cholecystotomy or cholecystectomy may be done. One such case has occurred in my practice, which will be reported below. In all other cases cholecystenterostomy is, in my judgment, the ideal operation: first, because drainage is made into the intestinal canal instead of externally; second, convalescence is much more rapid; third, the patient is permanently cured.

In the treatment of cholelithiasis, as in all other curable diseases, we should select that remedy which promises a speedy and a safe cure. Mere palliative remedies, whether they be medical or surgical, are pernicious, mere makeshifts, and often lead to a fatal issue. In laying down the proposition that cholelithiasis is a purely surgical disease, I am in accord with the best modern authorities. However, do not understand me as saying that we should resort to an immediate operation in every case. In first attacks of hepatic colic tentative treatment is allowable. The attack may pass away in a few days and the patient apparently recover. But he should be warned that sooner or later the attack will in all probability recur, and a surgical operation may be necessary to save his life. But in acute attacks attended with jaundice and lasting longer than from ten days to two weeks, and in which there are no signs of improvement, operation is indicated. In all acute cases, unattended with jaundice, lasting for a week or more without improvement, operation is unmistakably indicated.

In all chronic cases, namely, cases in which there has been a recurrence from time to time of hepatic colic, whether there is or is not a coincident jaundice, operation is indicated. Then there is another class of cases, chronic in nature, that drag their slow length along for months, sometimes for years, in which the distinctive symptoms of gall stones have been merged into constipation, chronic indigestion, anæmia, soreness, and sometimes excessive tenderness in the epigastric region. Jaundice, if present at all, is very slight. Such cases are frequently treated for malaria, "bilious fever," or "liver disease." The gall bladder in such cases is liable to undergo cancerous degeneration and should be operated upon without delay.

In conclusion, I beg leave to report, in illustration, a few cases that have come under my care within the last year.

Mrs. S——, aged thirty years, married, the mother of three children, consulted me in August, 1898. She had suffered for six years, at intervals varying from two to six weeks, with paroxysmal pain, having all the distinctive characteristics of hepatic colic. She was now four and a half months pregnant. Since the beginning of this pregnancy the intervals between the attacks of colic had grown shorter until, when I saw her, she was having three or four attacks a week. She was markedly jaundiced and her stools were clay-colored. A diagnosis of impacted gall stones was made, and an operation was recommended. The woman was removed to the Deaconess' Hospital, and, after proper preparatory treatment, I performed a cholecystenterostomy, removing thirty-two gall stones, two of them the size of a small marble, the remainder not so large. The gall bladder was attached to the transverse colon with a Murphy button. Recovery was rapid and without a single bad symptom. The hepatic colic ceased immediately after the operation, and in January last the woman was delivered at full term of a living child. Up to this time she has remained perfectly well.

Mrs. T——, aged forty years, married, has given birth to two children. The family history is good. I was called to Danville, Ind., to see her in consultation with her physician, about one year ago. She had been confined to her bed for eight weeks, and was being treated by her physician for "bilious fever." The past history and present symptoms pointed unerringly to impacted gall stones. To this diagnosis her physician demurred, and, although I begged permission to

operate, the family physician's influence with the husband exceeded my own, and operation was refused. The woman died some two weeks after my first visit. I succeeded in getting a post-mortem examination, which was made by Dr. T. B. Noble, in the presence of Drs. Barker, Farabee, Lawson, and two or three other physicians of Danville. The cyst and its duct were found impacted with five large gall stones, which had caused her death.

Mrs. W——, aged forty-five years, mother of several children, had been suffering from attacks of pain in the region of the back and gall bladder for twenty years. I saw her in consultation with Dr. Noble about April 12, 1899. Dr. Noble had made a diagnosis of gall stones, in which I concurred. She had been confined to her bed for about two months, suffering intense paroxysmal pain, having all the characteristics of hepatic colic, and accompanied with jaundice, clay-colored stools, etc. She was greatly emaciated, anæmic, and profoundly prostrated. She was removed to the Deaconess' Hospital and prepared for operation. On April 17th, assisted by Drs. T. B. Noble, Martha J. Smith, W. B. Ryan, and Dr. Christian, of Glen Valley, Ind., I removed two hundred and three gall stones, ranging in size from a grain of wheat to that of a small almond. The cyst was united to the transverse colon by a Murphy button and the abdomen was closed. The patient rapidly convalesced and returned to her home on the twenty-third day after the operation, feeling perfectly well, although the button had not yet made its appearance. In this case the walls of the gall bladder were greatly thickened, and this accounts for the long delay in the appearance of the button, which was passed ten weeks after the operation.

Mrs. T——, aged thirty years, married, had given birth to four children. She was always healthy and strong until three years ago, when she had a violent attack of paroxysmal pain, followed by vomiting. These paroxysms recurred frequently and at shorter intervals until she became a confirmed invalid and a morphine habituée. Notwithstanding the fact that jaundice and clay-colored stools sometimes followed these attacks, a diagnosis of gall stones had never been made by the physicians who attended her, until April 13, 1899. At that date she consulted Dr. T. B. Noble, who made the diagnosis, and asked me to see her, with the view of an operation. On Tuesday, April 16th, she was admitted to the Deaconess' Hospital and put upon preparatory treatment. On Thursday afternoon following she had a terrific attack of hepatic colic, requiring morphine in heroic doses every hour or two, with whiskey, and occasionally inhalations of chloroform, to make the pain bearable. From Thursday until Friday morning she had received gr. xv. of morphine hypodermically, and yet she was in great agony. The operation was performed at nine o'clock Friday morning. When the abdomen was opened the gall bladder was found greatly atrophied, and containing one gall stone, the size and shape of a cherry, in the fundus. The fundus was found adherent to the pyloric extremity of the stomach, showing that nature was trying to eliminate the stone in this way. After separating the adhesions I found it impossible, on account of the atrophied state of the cyst, to anastomose it with the intestine, or to lift it up sufficiently to attach it to the severed edges of the peritoneum. While considering the propriety of exsection Dr. Noble suggested the stripping of the peritoneum from the abdominal walls, bending it down, and suturing it around the atrophied fundus. This suggestion was immediately acted upon. The cyst was opened and the stone extracted, and the lower part of the abdominal wound was then closed, the bile being allowed to escape externally. The patient made an uninterrupted recovery. For the first four or five days the bile escaped so profusely as to require several changes of dressing daily. It then gradually diminished in quantity, until, at the end of a month, the abdominal wound had completely healed, and the patient was discharged.

Mrs. B——, aged forty-eight years, married, had given birth to several children. Dr. Ryan was called to her first on the day before her death, November 15, 1898. She was suffering from great pain in the region of the stomach, accompanied by nausea and occasional vomiting. Dr. Ryan made a diagnosis of gall stones and gave palliative treatment, assuring her that nothing but a surgical operation would prove curative. The following evening the doctor asked me to see her. When we arrived, having been delayed several hours, she had just expired. No well-defined history of the case could be had from the relatives, but the gall bladder, which was removed at the post-mortem examination by Dr. T. B. Noble, tells its own story. It tells us of repeated attacks of violent hepatic colic in past years. It tells us that these gall stones, two of them as large as buckeyes, had made repeated trials and failures to escape from their imprisonment through the cystic duct. An opening just over the largest stone tells us that in her last and fatal attack the organ ruptured, bile was precipitated into the peritoneal cavity, and septic peritonitis supervened. In its mute eloquence it tells us of the conservative powers of nature; how, in her beneficence, she enlarged its cavity, extended its length, increased the thickness of its walls, so as to make room for the increasing size of the stones and raise a barrier against their escape into the peritoneal cavity. This specimen also tells us that the life of the woman could have been saved by a skilful surgical operation at any time previous to the last attack.

But I have not the time to dwell further upon these interesting cases, some of them so tragic in their ending. They carry with them their own lessons—lessons which, if learned and remembered, will result in the saving of many valuable lives.

19 West Ohio Street.

## A NEW METHOD OF REDUCING OLD DISLOCATIONS OF THE LOWER JAW.

By THEODORE A. McGRAW, M.D.,

PROFESSOR OF SURGERY IN THE DETROIT COLLEGE OF MEDICINE.

Having failed to reduce an ancient dislocation of the lower jaw by the usual methods, I was forced to invent a procedure which is so simple and yet so effective that it seems to me worthy of record.

James Loder, aged thirty-two years, while walking in his garden on the morning of June 6, 1898, suddenly fell paralyzed in his left arm and leg. The history of the case is not clear, and it is uncertain whether his jaw was dislocated when he fell or immediately afterward while yawning. However that may be, the symptoms of dislocation made themselves manifest immediately after the fall and continued without intermission until I reduced it. There was a gradual but nearly complete recovery from the paralysis of the leg and thigh, and to-day they seem as sound and powerful as their fellows. The left hand and arm, however, still show the effects of the stroke. The hand especially is shrunken and stiffened. Its muscles are atrophied and its motion is much impaired. The evident paralysis apparently blinded the man's many physicians to the true nature of the deformity and loss of function of the jaw.

His difficulty of speech was referred to a paralysis of the muscles of the mouth, and the inability to close his mouth to spasm and permanent contraction of the

depressor muscles of the chin. It was not until October, when he fell into the hands of Dr. David Inglis, that a correct diagnosis was made of his injury. About the middle of October Dr. F. W. Robbins made a prolonged but unsuccessful effort to effect the reduction of the dislocation with the patient under anæsthesia.

I saw him for the first time on November 2d in my clinic at St. Mary's Hospital. I found a man of magnificent proportions and great muscular development, with typical symptoms of a bilateral dislocation of the lower jaw. There were marked hollows in front of both ears. The jaw was open and thrust forward so that the chin protruded. The motion of the jaw was extremely limited. The teeth could not be brought together; mastication was impossible, and the speech was much impaired. During the five months which had elapsed since the injury, no improvement had taken place in the motion of the jaw. I was unable to discover the cause of the paralysis. He had not been ill before, and the suspicions entertained of syphilis were not confirmed by his history or by any existing symptoms. His heart sounds were clear and his urine was normal. It is possible that he may have suffered from some form of embolism. The man was put under chloroform, and I made a protracted effort to put the jaw in place by traction, by inserting wedges between the teeth, by Nélaton's method, and in fact by all methods which could be used without especial apparatus. I failed completely, and could not see at the close of the trial that the condyles had been stirred in the slightest degree from their abnormal position.

On November 9th I made a new attempt on a different plan. I provided myself with a strong steel hook; it was made especially for the purpose, with a short prong bent in such a way as to run parallel to and near to the shaft. The space between the prong of the hook and its shaft was just wide enough to permit the hook to pass over and grasp the jaw at the sigmoid fossa. I purposed making incisions under each zygoma, separating the fibres of the masseter, passing the hook through in front of the condyle on each side and over the bone at the sigmoid notch, and then pulling downward and backward until the condyle was disengaged and slipped into place. In carrying out this plan, I made first a T-shaped incision below the right zygomatic arch. I found it easy then to pass the hook through the masseter by separating but not dividing its fibres, and to fasten it over the bone in front of the condyle. Pieces of cork were inserted between the molars as far back as possible, and an assistant was directed to pull the chin forward and upward with all of his force, while I myself made traction on the hook. This was continued over fifteen minutes before I could feel the jaw yield to the strain. It was rendered more movable, but could not as yet be replaced in its normal position. I now made a straight and short cut under the left zygoma and succeeded in passing the hook as before. Repeating on the left side the efforts I had made before on the right, I had soon the satisfaction of feeling the bone slip into place. The chin fell back to its proper position; the teeth were brought together, and motion was restored. The jaw was kept bandaged for two weeks, and all motion forbidden. The patient took nourishment in fluid form without opening the mouth. It was interesting to note how after a few days the jaw seemed to settle more and more into its normal relations. Directly after the operation there remained a slight projection of the teeth and an abnormal fulness over the joints. This gradually disappeared, and the man left the hospital with the form and function of the jaw perfectly restored. The operation was followed by some inflammation and suppuration, which, however, soon subsided, and his recovery was perfect. I found on trial that the first incisions, those made on the right side, were unnecessarily long, and when I operated on the left side I contented myself with a straight cut about an inch in length. I am satisfied, however, that this, too, was longer than necessary, and in another case I should content myself with the very smallest incision which would permit the hook to pass through the muscle and over the jaw. The fibres of the muscle are easily separated, and the hook can be passed over the sigmoid notch without exposing the bone to view. On traction the muscle would yield and the elasticity of the skin would make no opposition to the downward pull. Although I have found, in several systematic works on surgery, the advice to proceed, in case of failure to reduce the dislocations of the jaw to operative measures, it is curious that no such author whom I have been able to consult has described any such operation or cited any cases. The only cases of operations made for this purpose which I have been able to find in the periodical literature were:

(1) That of Brockway.[1] A bilateral dislocation of thirteen months' standing in a woman thirty years of age, after unsuccessful trial of other methods, was reduced by making incisions below the zygomas, exposing the condyles and the glenoid fossæ, and prying the condyles out of their abnormal positions by some blunt instrument. The use of the jaw was fully recovered.

(2) Two cases of Dr. R. H. M. Dawbarn.[2] Dr. Dawbarn presented a patient who had suffered a long time with an unreduced bilateral dislocation of the lower jaw. Several unavailing attempts had been made to reduce it. Dr. Dawbarn had made incisions almost dividing both masseter muscles, enabling him to reach the displaced bone and pry it back into place. The result was permanent and satisfactory. In another case the speaker had been able to effect reduction after nearly dividing only one of the masseter muscles.

(3) Mazzoni, of Rome,[3] has described an operation for the relief of an irreducible dislocation of the lower jaw of eight days' duration. He resected both condyles, and after three months' treatment had a successful result.

Old dislocations of the lower jaw are not common. The inconvenience arising from the injury makes the patient generally clamorous for aid, and the symptoms are so pronounced that mistakes in diagnosis rarely occur. The reduction of the recent luxation is usually not difficult, and cases of this kind are rarely neglected so long that the bone becomes fixed in its abnormal position. As regards the instrumental methods in vogue for the reduction of difficult dislocations of the jaw, they are all based upon the use of force exercised within the mouth by means of wedges and levers. The fulcrums for this leverage are the molar teeth, upon which the instruments rest and which are pried apart. But force applied within the mouth is exerted at great disadvantage. In an old dislocation, a pressure applied to the molar teeth sufficient to break adhesions, stretch the contracted temporal muscles, and disengage the jaw must endanger the teeth. How many such teeth have been broken in attempts at reduction does not appear in the records. Probably the surgeons have thought the matter too trivial for mention, and yet it is no small matter to suffer the loss of molar teeth. However that may be, there will be occasional cases which will resist all such efforts at reduction. For such, the surgeon has a choice of two operative procedures, the one that adopted by Drs. Brockway and Dawbarn, of incisions over the glenoid cavity and through the masseters, the exposure of the

[1] Johns Hopkins Hospital Bulletin, May, 1890.
[2] New York Medical Journal, March 12, 1892.
[3] Gazeta Medica di Roma, 1877, No. 4.

injured bones, and then reduction by prying the condyles out of their false position by means of chisels or similar instruments. In so doing the fulcrum of the lever must be the zygoma itself. The other method is that which I have just described. When it is taken into consideration that by the use of a hook and traction it is not necessary to expose the bone or joint, or to cut the masseter across its fibres, I do not think that there can be any question that my method is the simpler and better. In the one case which I have reported, I made incisions unnecessarily long. I know now that the operation could be done through a cut so small that it would be practically subcutaneous.

For the investigation of the literature of this subject, I wish to express my obligations to the National Bureau of Medical Bibliography in Washington.

## SUPPLEMENTARY NOTE ON THE ETIOLOGY OF SCARLATINA.

By W. J. CLASS, M.D.,

CHICAGO, ILL.

THERE are a few further features of importance in regard to the diplococcus of scarlatina which have been omitted in the writer's previous reports on this subject. That the causative factor of scarlet fever is a diplococcus there can be but little doubt; diplococci have been found in the blood of scarlet-fever patients not by the writer alone, but by a number of other competent observers. The morphology of these diplococci has differed somewhat, to judge from the descriptions published. A further item indicating that a diplococcus is in all probability the cause of scarlatina has come to the writer's notice since the publication of his last report. Dr. Grünbaum,[1] at a meeting of the Liverpool Medical Institution, mentioned the fact that in experimenting with the agglutination test

FIG. 1. Large Cocci grown on Earth Agar, old culture. × 1,000.

he had made the discovery that a certain diplococcus taken from a scarlet-fever patient was agglutinated by the serum from another scarlet-fever patient; he did not, however, give any further description of the organism. The variance in the morphology of the diplococci found in the blood of scarlet-fever patients by different observers corresponds with the experience of the writer in his work on the germ described in the MEDICAL RECORD of September 2d. This germ varies greatly in size and shape, and although the form usually seen in primary cultures grown on the earth agar is the diplococcus resembling a very large gonococcus, still the primary culture may show it in one of its other forms. In order to prove the identity of the organisms it becomes necessary to make successive transplantations of the culture from one culture tube to another; allowing it to grow for a few days at the least before

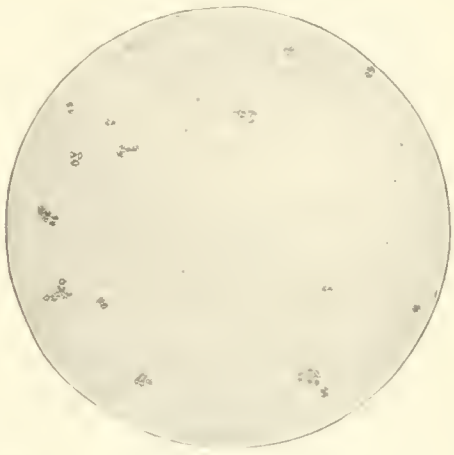

FIG. 2.—Usual Form as Seen in Throat and Scale Cultures. × 1,000

transferring to a fresh tube. The different forms can be best studied by beginning with a culture of the large diplococcus; by transferring a loop of this culture to another tube of earth agar, and allowing it to

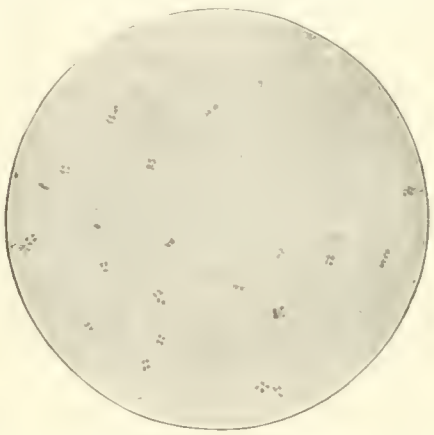

FIG. 3. Involution Forms, Tetrads, and Long Coccus resembling a bacillus, formed by the longitudinal division of the diplococcus. × 1,000.

grow for a few days and then making an examination of the growth, it will be found to consist largely of tetrads; by the still further division of the tetrads in the next subculture, small diplococci are formed, and,

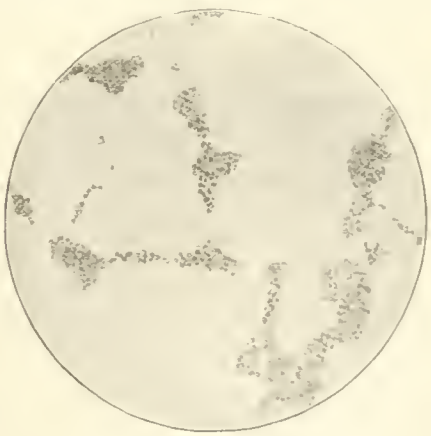

FIG. 4.—Small Cocci in Bunches, Showing Pseudo-Capsule. × 1,000

through the division of these, single cocci, etc. As Page' has pointed out, other organisms in the primary

[1] Grünbaum: The Lancet, February 13, 1897. "Non-Motile Diplococcus from Scarlet Fever Clumped by Serum of Another Scarlet-Fever Case."

[1] Page: Journal of the Boston Society of Medical Science, June 20, 1899. "Preliminary Report on the Diplococcus of Scarlet Fever" (Class).

cultures frequently grow through the glutinous substance holding these cocci together, the two being intimately mixed; this may give rise to very misleading pictures. It is probably this condition in which extraneous bacilli have grown into the glutinous substance which Klebs has described as "monas scarlatinosum." The accompanying reproductions of micro-photographs represent the forms of this organism most generally encountered.

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## THE PULSATORY HAND AND FOOT PHENOMENA.

By W. MOSER, M.D.,

BROOKLYN, N. Y.

In placing the palmar (inner) surface of the two hands together, as in the attitude of prayer, and making slight pressure with each finger tip, a visible pulsation, capillary in origin, is not only felt, but seen in most individuals. If too much pressure be made with the finger tips it is not visible, since we know that by compression of a vessel we may shut off the circulation. This finger or hand pulsatory phenomenon, like the foot phenomenon, which occurs when the legs are crossed, possesses some practical or diagnostic significance, and notably is that the case in aortic regurgitation, in which sphygmographic tracings will show a much higher ascent than normal, the condition in question being a demonstration of "Quincke's capillary pulse." By studying a number of normal cases first, and then abnormal, this sign will prove of diagnostic and probably prognostic value. I look upon both these pulsatory phenomena as principally capillary in origin. But the central point is the heart, and disease of this organ, as aortic regurgitation or a rapid and forcible heart, will increase or render more visible these pulsatory phenomena. It is a good index of the central station, and may prove of especial service to those who are not well acquainted with the auscultatory phenomenon.

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# Clinical Department.

## ANOMALY OF THE LONG TENDON OF THE BICEPS MUSCLE OF THE ARM.

By JOSEPH D. CRAIG, A.M., M.D.,

ADJUNCT PROFESSOR OF ANATOMY, ALBANY MEDICAL COLLEGE.

The following anomaly of the long tendon of the biceps muscle of the arm is believed to be of sufficient interest to warrant its being made a matter of record. The anomaly was found in a dissecting-room subject in the Albany Medical College, and in the left shoulder-joint of a man evidently a laborer, about middle life and of strong muscular development. The shoulder-joint on the right side was normal in all respects, the long tendon of the biceps passing through it in the usual way, surrounded by the usual synovial sheath and supported in front by the thickening of the capsule which is sometimes called the gleno-humeral ligament (Flood's). The anomaly was on the left side alone. On this side the long tendon of the biceps of the arm was not found within the shoulder-joint in any part of its length. The transverse ligament usually found between the tuberosities of the humerus was much thickened and was intimately blended with the insertion of the biceps tendon immediately behind. This ligament was also prolonged downward, was much thickened, and laterally was attached to the margins of the bicipital groove, gradually blending below with the deep fascia. The long tendon of the biceps, starting below at the belly of the muscle, proceeded upward along the bicipital groove, but instead of being free within it, as is usual, and surrounded by a synovial sheath, had little or no investing synovial membrane, and gave off strong lateral fasciculi which became gradually blended with the transverse ligament and were finally attached to the margins of the bicipital groove. So the tendon proceeded until it reached the interval between the bicipital tuberosities, where it stopped abruptly, becoming intimately attached to the bottom of the groove and all the surrounding structures. There was no part of the tendon within the joint. Neither was there any trace of Flood's ligament. The supra-glenoid tubercle was only a small nodule. In other respects the arrangement of the structures about the joint was normal. There were no evidences of pathological change in the joint, no thickening of the ligaments, no roughening of the synovial surfaces. The arrangement must have been congenital. Complete absence of the tendon of the biceps from within the shoulder-joint must be very rare, and for this reason this case seems to be worthy of record.

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## A TACK IN THE LUNG FOR SEVEN YEARS.

By ANDREW V. JOVA, M.D.,

NEWBURG, N. Y.

A young man, seventeen years old, a driver by occupation, complained of having had a severe cough with expectoration for seven years. On April 24th, he complained that the cough had been worse for three weeks; he was unable to eat, and felt very weak. He had had a slight hemorrhage a few days before. The tongue was thickly coated. Expectoration was profuse and very fetid. Respiration, 44; temperature, 104° F.; pulse, 146. April 25th physical examination of the chest showed, on the left side, percussion normal; there was exaggerated respiratory murmur over the entire lung with slight roughness. On the right side percussion was normal in the upper part. The respiratory murmur was slightly bronchial, and there were a few moist râles. In the lower part, especially over the back and side, percussion was dull, and there was almost complete absence of the respiratory murmur. The symptoms continued about the same on April 26th and 27th. During the night of April 27th–28th the patient coughed up a hard substance surrounded by thick mucus of a dark color. On examination this proved to be a tack seven-eighths of an inch in length, well preserved except that it was covered with rust. On the following morning the respiration was 30; pulse, 100, and temperature, 102° F. There were abundant moist râles over the upper part of the affected lung. Over the lower part, besides large moist râles, there was a gurgling sound, and over a circumscribed space about two inches in diameter cavernous breathing. Three days later the respiration, pulse, and temperature were normal. To-day (May 14th) the patient is practically well and able to resume his occupation, but he still coughs a little, and there is some dulness over the lower part of the lung with broncho-vesicular breathing. The mother of the young man informs me that seven years ago, when he was ten years old, he had swallowed a tack while playing. He had experienced a slight choking sensation at the time, but it soon passed away. He had coughed ever since, however, and she consulted several physicians, who ridiculed the idea of the tack and told her the boy had bronchitis.

## EMPYEMA, SACCULATED BETWEEN THE HEART AND THE LUNG.

By WILLIAM S. DODD, M.D.,
CESAREA, TURKEY IN ASIA.

The following case of empyema may have interest for others as well as myself, because of the failure to locate a circumscribed abscess in the chest:

Mr. H——, an American, aged fifty-seven years, was a man of muscular build, strong constitution, and, as he said, had hitherto never known a day's sickness. About Christmas time he had a carbuncle on the back of his neck, and this was followed by boils. He continued very hard at work, taking no time for rest and recuperation. On February 20th he was taken sick with pneumonia involving the lower lobe of the left lung. On March 4th his temperature had returned to normal, but the next day it rose to 101° F., and continued thereafter with morning and evening fluctuations varying from 99.5° to 103.5° F.

I saw him first on March 31st. On examination, the left side of the chest did not appear enlarged nor were the intercostal spaces bulging. Percussion in front gave dulness from the third rib downward, and from the edge of the sternum to the mammary line. Auscultation corresponded with this, giving vesicular breathing over the resonant portions. Behind there was dulness from the seventh rib downward, respiration not being heard below that line, and above being vesicular in character though diminished in intensity. Puncture in the seventh space gave pus.

An operation was performed the next morning. Two inches of the eighth rib in the mid-axillary line was resected and the pus evacuated. The amount was small, about 250 gm. by estimation, but there were considerable masses of consolidated fibrin, one of which, half the size of my hand, came away with the irrigation two or three days later.

The temperature fell to normal that evening, but was worse again the next day. The cough became more violent and paroxysmal, and the sputum purulent in character, which it had not been before. Morning and evening irrigations with plain boiled water were employed. The course of the fever, differing but little from that before the operation, convinced me that there was another abscess, and the most careful search was made to discover its locality. Posteriorly the lung had expanded, vesicular breathing being heard to the base of the lung, though it was naturally faint. Anteriorly, the only change to be found was that the apex beat, which previous to the operation had been nearer to the sternum, had returned to within half an inch of its normal position. I have neglected to say that the patient had complained of a spot of considerable tenderness at the junction of the fifth rib with the sternum. The area of tenderness was no larger than the end of my finger. No trace of fluctuation or œdema could be discovered. This tenderness dated from some time previous, probably as early as the first part of March. At first there had been a slight swelling there, but that had passed away.

The further course of the disease it is unnecessary to follow. Death took place twelve days after the operation, the final cause being an embolism in the left side of the brain.

At the autopsy the finding was as follows: The right lung was normal; the left lung was fully expanded and filling the entire pleural cavity, adherent over the whole surface, anterior and posterior, except where the drainage tubes were, and that cavity was quite small. The adhesions were thick and firm on the anterior surface and on a part of the diaphragm, yielding only to dissection. An encapsulated abscess was found between the pericardium and lung containing perhaps 300 gm. of pus. This was covered in by the lung, and was in relation to the anterior wall of the chest only in the fourth intercostal space from the mammary line for about 3 cm. toward the sternum, but the pericardium was directly under a part of this. A needle in the fourth intercostal space 1 cm. internal to the mammary line would probably have found the abscess without entering the pericardium and carrying infection with it. At the end of the fifth rib, corresponding to the point of tenderness described above, the bone tissue was found broken down and necrotic. A small bit, as large as the head of a pin, of what may have been inspissated pus, was found in one of the deeper cells. Although the abscess extended in the direction of this spot, no communication could be found; neither could any communication be found between the abscess and even the smallest bronchi. The walls of the abscess were thick and tough. The lung tissue was dark red, congested, and œdematous. The other findings it is unnecessary to describe.

The question that concerns me is this: In view of my conviction that there was another abscess, and finding no other area of dulness than that corresponding to the heart, ought I to have ventured to put the exploring needle into the outer edge of this area?

## A SEVERE CASE OF ECLAMPSIA COMPLICATED BY A MARKED ERYTHEMA MULTIFORME.

By JAMES D. VOORHEES, A.M., M.D.,
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L. B——, aged twenty-one years, was admitted to the Sloane Maternity Hospital February 12, 1899, with the following history: The patient had had scarlet fever when seven years old. During her pregnancy she suffered from considerable nausea but no vomiting. At times she had slight headaches. For three weeks before admission she had noticed a slight swelling of the ankles. There had been no trouble with her eyesight, and she had passed plenty of urine. After breakfast, February 12th, she complained of backache, and while sitting in a chair, without any warning whatsoever, had a severe convulsion, followed by coma. She had three other convulsions during the morning, and then was brought to the hospital by an ambulance.

On admission, 1 P.M., the patient was unconscious. The breathing was stertorous, and the pulse slow with considerable tension. There was no œdema. Nine ounces of urine were obtained by catheter. It was clear and pale; reaction acid; specific gravity 1.010. It contained only two per cent. of albumin on boiling, and there were a moderate number of blood and epithelial casts. The patient was at her eighth month; child lying L.S.A.; the cervix was long and tough, but both the internal and external os admitted one finger. She was immediately started on light chloroform anæsthesia and given Magendie's solution ℥ss. hypodermatically. The indication was to deliver. This was accomplished with some difficulty on account of the rigidity of the cervix and its immaturity. It was first manually dilated as far as possible, then more so by pulling down a foot. It began to tear on the right side. To prevent this tear from extending up into the lower uterine segment Dührssen's incisions were made anteriorly, posteriorly, and on the left side. The breech then came through and was born, but the after-coming head was gripped in the cervix. It was easily delivered with the forceps. A living child was born at 4:54 P.M. It weighed four pounds nine ounces. The mother stood the delivery

very well and was in good condition just after the operation.

At 6:10 P.M., the patient was slightly conscious and took calomel gr. v. by mouth. She was also given chloral gr. xx. by rectum and started on nitroglycerin gr. $\frac{1}{100}$ every hour hypodermatically. Everything seemed to be progressing nicely and the prognosis given was good. Notwithstanding, at 7:04 P.M. she had a very severe convulsion. Magendie ℥vi. was then given, and more chloroform.

At 9:35 P.M., after being in a hot pack for half an hour, the patient had another seizure in which she almost died. Her color became very cyanotic and the pulse was imperceptible for a few minutes. After this during the night her condition was very poor. Two other seizures were aborted by the use of chloroform, and the morphine was pushed to a point where the respirations were lowered to twelve a minute. These two drugs, however, seemed to do harm. The patient's breathing became labored as well as slow, followed by some cyanosis, and in the morning some œdema of the lungs had commenced. The pulse increased to 128 without tension; so both were discontinued as well as the nitroglycerin, and instead a few doses of digitalis were substituted. At 9 A.M. a continuous rectal irrigation of hot decinormal salt solution at 116° F. was started and continued for an hour. She was passing plenty of urine. Seven and a half ounces were obtained at 9 A.M. by catheter. This showed only a trace of albumin. At 10 A.M. her improvement was very manifest. Her color and breathing were much better; the pulse was slower and stronger. By noon she was conscious. After this she was practically well. Some headache bothered her for about twelve hours. Her urine was excreted in large quantities, and the analysis was negative as early as the second day. One peculiar symptom was a moderate jaundice which lasted a few days. As far as her eclampsia was concerned she was well in thirty-six hours after delivery.

On the morning of the seventh day, February 18th, a bullous eruption was discovered involving most of the extremities and the body. This had come out during the night without any premonitory symptoms, and the rapidity with which it spread was marvellous. The serous patches varied in size from that of a pea to almost that of a goose egg. Some of them were isolated, but most of them were crowded closely together. Individuals and groups were surrounded by erythematous areas. The bullæ were elevated and of different shapes—rounded, ovoid, and irregular in outline. The epidermis was very thin over them, and the contents were clear, yellowish serum. The eruption itched somewhat, but not intensely. At the onset there was no elevated temperature.

On the next day the face became involved and the hands more completely. About the nose and mouth numerous small vesicles appeared. On the fingers and toes, palms, and soles the bullæ were very large and irregular. Some of them were at least 6 to 7 cm. in diameter and contained an ounce or more of serum. One finger was surrounded by one tense bulla from almost the tip to the hand. At the navel also there was one immense one almost the size of a fist.

In the axillæ, cubital fossæ, in the groins and popliteal spaces, the bullæ and vesicles were very confluent, and when they had broken produced very marked irritation.

On February 20th the mucous membrane of the mouth was affected; the roof of the mouth, the gums, and tongue being involved. These vesicles soon ruptured and produced little ulcers, rendering talking and swallowing painful.

By February 22d—the fourth day of the eruption—it was at its height. About nine-tenths of the body was involved. The scalp now was covered with numerous large and small vesicles. The temperature and pulse began to rise, the former to 102° F. and the latter 124 in the afternoon. After the bullæ ruptured excoriations were left. Some of these were covered with a scab and in dry places soon desiccated and desquamated. Others, especially in the moist places, like the axillæ, elbows, groins, popliteal spaces, and ankles, became superficial ulcers with an excessive thin, acrid, serous discharge. These, when scratched, bled easily, and some of them were infected. Very few bullæ or vesicles suppurated. Many of the ulcers were surrounded by reddened and inflamed areas. Only one gland was enlarged. That one was of the upper posterior cervical group which drained the scalp. From February 22d to March 4th the patient ran a temperature between 99.6° and 102.4° F., probably due to a mild sepsis.

During the time there were successive relapses in the eruption. In the new skin new bullæ and new vesicles formed, and in some localities there were as many as four different crops. In each relapse, however, the bullæ were smaller and covered less and less extensive areas.

By March 9th—the nineteenth day of the eruption—the face and the body were clear; there was still some desquamation of the hands and feet, but there remained only a few small ulcers, the size of a dime, on the ankles.

On March 20th the patient was discharged perfectly well, and all that remained of the eruption were a few cicatrices about the ankles. The treatment of the case consisted in milk diet, cathartics, salicylate of sodium for one week, and then sodium iodide internally. Externally at first for the moist stage an ointment of zinc oxide, starch, and salicylic acid was used; during the dry stage a powder of stearate of zinc. Sedatives were given for the itching and chlorate of potash for a mouth wash. There are many points of interest in this case:

(1) It was one of those cases of eclampsia in which the urine was excreted in large quantities, in which the specific gravity was low and there was little albumin. Such cases are very uncommon in our experience at the Sloane Maternity Hospital. This fact shows that the condition is a toxæmia when other organs than the kidneys are at fault. This woman was afterward jaundiced. This points to the liver. Therefore we assume that the liver must have produced the toxins, or it failed to excrete the toxins, or it must have been affected by the toxins which caused the convulsion. In the light of post-mortem findings this lesion is a hemorrhagic hepatitis.

(2) The case also indicates that if a woman has had but one eclamptic seizure we must always give a guarded prognosis. Even if the uterus is empty, even if the kidneys are active, even if the pulse is slow and there is no pyrexia, even if the coma is transient, the outcome is not always a recovery.

(3) Again we learn that morphine, chloroform, and hot packs must be given with care and judgment. Convulsions will occur even when these drugs are given in fairly large doses, and then there is the danger of a cardiac depression manifested by œdema of the lungs. Any slight indication of such an unfavorable turn requires an immediate cessation of such remedies. In these cases, in our later experience, while there is tension to the pulse, veratrum viride has acted with very good results.

(4) The skin lesion—erythema multiforme in a bullous form—even of itself is very rare, and I cannot find a record of such a case during the puerperium. At the Sloane Maternity Hospital and in the various journals there are cases of simple and papular erythemata reported, but none in which bullæ were developed.

As to the etiology of the eruption, perhaps the liver in its resolution elaborated a toxin which affected the skin. Kaposi puts the causes of this skin disease under four headings: Case due to (*a*) change of seasons; (*b*) angio-neuroses which occur principally in women; (*c*) instability of the vasomotor centres: (*d*) auto-infection, *i.e.*, toxic substances which have entered the blood as the result of some internal disease as chronic nephritis. Our case probably comes under the last division.

Some other unusual points about the erythema were the rapid onset without any prodromal constitutional symptoms, the rapidity of the primary general involvement, and the number of relapses.

That the patient escaped a general septicæmia was very gratifying.

This case occurred during the service of Dr. E. B. Cragin, with whose kind permission I publish it.

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## EXCISION OF THE HIP: WITH SKIAGRAPH TAKEN AFTER FIVE YEARS.

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A. V——, aged twenty-eight years, furrier by occupation, native of Russia, came under my care at the Beth Israel Hospital on October 31, 1893. All the history bearing on his condition that could be obtained from him was that eight years previously he had had an abscess in the region of the left hip, which was then opened, and of which the scars are yet evident. Since then he has had no trouble from his hip. Otherwise he has been always well.

On admission to the hospital he was suffering great pain in the left thigh, extending from the buttocks to the knee, which pain was aggravated by pressure. There was then no apparent swelling, and only a slight rise of temperature. His trouble simulated sciatica, but on closer examination was found to be in the hip-joint, which was held slightly flexed, though at this time it was not dislocated. In the course of a few days a painful swelling began to form posterior to the hip-joint; the flexure of the thigh became much more pronounced. An abscess with spontaneous dislocation of the hip was diagnosed, and operative interference decided on.

On November 6th, a long incision was made over the trochanter major down to the bone, and the head was found in an abscess cavity above and communicating with the acetabulum. The head and neck of the bone were extensively carious, as was also the rim of the acetabulum, and excision was decided on. After freeing the periosteum, the ligaments were divided, except the teres which was already destroyed, and the head and neck were freed, protruded through the wound, and separated with a chain saw below the trochanter major. The lesser trochanter was chiselled off, the end of the bone rounded, and the carious portion of the acetabulum removed. The lower angle of the wound was sutured, leaving the major portion open for packing with iodoform gauze and healing by granulation.

The after-treatment was extension of the limb in abduction, and cleaning and repacking the wound every two or three days. About the eighth week the patient began to hobble around on crutches, with which, in the course of a couple of weeks, he got along very well. A shoe with an extra two inches of sole on that foot helped him to drop one and then the other crutch, and to walk pretty well without assistance. There was shortening of two inches, but a very good and serviceable joint, and six months after operation, when he was discharged from the hospital, the fistula had entirely closed and he was able to return to his work.

The head of the bone excised was entirely denuded of its articular cartilage; most of the surface was eroded, a segment of the under side rotted away, and on the upper side was a hole a half-inch deep, large enough to admit the tip of the index finger. The trochanter major was much enlarged and covered with spicula of new bone formation, apparently due to previous inflammation, and was also in some parts excavated and carious.

For the excellent skiagraph of this patient I am indebted to Dr. F. W. Gwyer, who has his apparatus at Bellevue Hospital. I believe it is the first taken showing, after so long an interval, nature's reparative

process in new joint formation. It was taken in January, 1899, more than five years after the operation, and shows excellently the truly wonderful formation of the new joint. The upper end of the femur has grown into a sort of mushroom-like expansion, very dense and solid on its inner side where it sits under the enlarged and projecting upper portion of the rim of the acetabulum. This portion of the acetabulum is also a very dense and solid bony growth, and from it extends a shelving process of new tissue, partly ossified, covering in the whole upper end of the femur. This new growth may be in process of further ossification to form ultimately a cap of solid bone over the new head of the femur. But for the present the weight of the body is evidently supported by the enlarged and projecting upper part of the rim of the acetabulum resting on the dense new bony growth on the inner side of the femur, and this is sufficient to give the man a good, freely movable, and serviceable joint.

While resection of the hip is quite a frequent and more or less successful operation for tuberculous disease in children, it is rather rarely done in adults, who bear the operation very badly. Ashhurst's statistics show sixteen per cent. of fatalities in children below fifteen years, and seventy per cent. in adults. I have been unable to find later statistics than his, given in 1888, but do not doubt that at the present time the mortality should be lower.

## BULLET WOUNDS OF INTESTINE; OPERATION; RECOVERY.

By GEORGE SHERRILL, M.D.,

STAMFORD, CONN.

On June 12, 1898, Joseph S——, an Italian, aged twenty-two years, was accidentally shot with a Winchester target rifle. The bullet (a 22 calibre, short), entered the abdominal wall at the right edge of the rectus muscle on a line between the umbilicus and right anterior superior spine of the ilium. He was taken to the Stamford Hospital, where I saw him two hours after he was shot. He was suffering from a moderate amount of shock, had a small regular pulse of 100, and complained of severe pain, referred to the region around the umbilicus. He was etherized, and, with the assistance of the hospital staff, I opened the abdomen in the right border of the rectus above and below the wound of entrance of the bullet. Beginning at the ileo-cæcal valve, I removed the small intestine, finding the first perforation about three inches from the cæcum. There were in all fourteen perforations of the small intestine, and one through the mesentery. Most of the blood found in the abdominal cavity came apparently from the wound in the mesentery, where an artery had been severed. The wounds of the intestine were sutured with a continuous suture through the mucous membrane, and two rows of Lembert sutures. The wound in the mesentery was drawn together by a continuous suture. The bullet was not found. The large intestine was apparently not injured. A very long appendix (normal) was removed. There was very little extravasation of the contents of the intestine in the abdominal cavity, which was washed out with a decinormal saline solution. A small wick of sterile gauze was left to drain through the wound of entrance of the bullet, and the abdominal wall was sutured. The operation consumed about three hours. The patient reacted well. The following morning he had a temperature (rectal) of 99.4° F. and a pulse of 90. He vomited but once. He had no nourishment by the mouth for seventy-two hours. His temperature did not go above 100° F., save on the third day when it reached 101° F. On changing the dressing I found a small amount of pus around the bullet wound, which apparently became infected from particles of clothing carried in with the bullet. His bowels moved on the fourth day without any help. The wound united primarily, save the sinus from the gauze drain, which filled up rapidly. The small amount of reaction that followed so extensive an injury to the intestine, and the rapidity with which the intestine recovered its tone, were remarkable. The patient, two hours before he was shot, had his supper, which consisted of three fried eggs, tea, and bread. He was operated on two hours after the accident, which happened three miles from the hospital, to which he was brought in a wagon, over a rough road.

## THE DRACUNCULUS MEDINENSIS.

By JOHN PATTERSON, M.D.,

CONSTANTINOPLE, TURKEY.

The *British Medical Journal* of January 23d contains a note on "Dracunculus Medinensis," by Dr. Major V. Harrington, I.M.S., in which he briefly discusses a few interesting points in connection with the habits of that parasite, and especially its wanderings in the body. The following case is somewhat illustrative.

A Frenchman, aged twenty-nine years, came under treatment on February 27th, for a large abscess of the left calf of the leg, which burst the same day by a very small opening. This was at once enlarged, and about two ounces of a pyosanguineous fluid escaped. The cavity was washed out with carbolic-acid lotion. For fourteen days it showed no sign of healing. An opening was then made in a more depending position, when a sinus, six inches long, was traced straight upward in the middle of the popliteal space. In almost a week or so, both the abscess and sinus healed. A few days later an œdematous red swelling appeared at the posterior part of the inner malleolus of the same leg, which was poulticed. It was opened the next day, March 19th, when a worm twenty-five inches long partly escaped, and was partly extracted. It had very feeble movements. The microscope showed the caudal extremity perfect, but no head. The wound rapidly healed.

The patient's history was as follows: The patient three years before had been on the Gold Coast for eighteen months, trading from Cape Coast Castle to Cape Palmas and Akra. He always went barefooted, and, with one exception, was never on shore. He returned to Havre, his native place. A year later, he shipped as foreman on board an English ship for Parmelio, on the Spanish coast. On January 6th, the ship called at Gibraltar for coal, where he scalded his right foot, and was sent next day to the hospital to be treated for the scald. He remained in the hospital thirty-six days, being discharged on February 12th. On February 1st, after living twenty days in the hospital, a hard, red swelling almost the size of a chestnut came out on the upper and inner part of the left tibia. This was poulticed for four days, and then "lanced" by a Spanish surgeon. "Bloody matter and four inches of a thin white worm came out." The wound healed in a few days, leaving a small circular cicatrix still visible.

The points of Major Harrington's note are that if the parasite be introduced into the system through the alimentary canal it would have insurmountable difficulties to encounter in finding its way to the extremities, especially to the lower part of the leg, in view of the anatomical "barriers between the abdomen and the thigh, and again those at the knee."

Now, in this patient the young dracunculus must have been taken into the alimentary canal in drinking-water, or introduced through the skin. In either case

(assuming that the parasite was acquired on the Gold Coast, as the other places frequented are not habitats of the dracunculus), it is remarkable how long was the period of development.

## TYPHOID PERFORATION IN A CASE IN WHICH THE WIDAL REACTION WAS ABSENT; OPERATION; DEATH.

By THOMAS W. JACKSON, M.D.,

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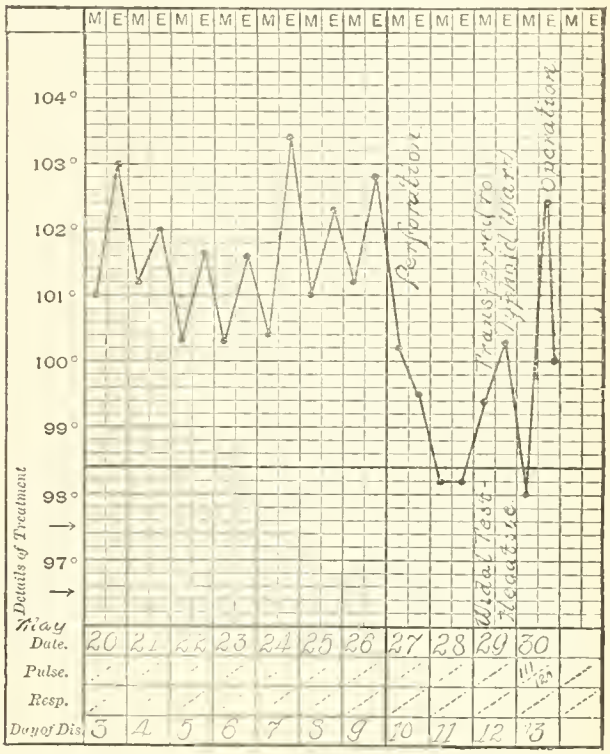
Operation in the case reported below may or may not have been well advised. Ordinarily the surgeon refuses to operate in any case in which the chances of a favorable outcome are so small as in this one, but the expressed request of an intelligent patient, that he be given the benefit of the only remaining chance for life, outweighed all other considerations in this case. Perhaps the most interesting feature is the lack of response in this case to the Widal test. This, however, can scarcely be used as an argument against the value of Widal's serum test in typhoid fever, as this case doubtless constituted an exception to the rule. An extended experience with the Widal test for diagnostic purposes has created in me a confidence in its value which this exceptional case has in no degree shaken. The case is as follows:

Private J. H. D——, Troop C, Seventh Cavalry, aged twenty-six years, was admitted to the post hospital, Pinar del Rio, May 20, 1899, suffering with fever of moderate degree. There was nothing significant about the condition of his bowels at the outset. Constipation and slight diarrhœa occurred, alternately at first, later followed by some pain in the abdomen. The tongue gradually took on an appearance suggestive of typhoid fever. Upon the 27th inst., a drop in temperature occurred (*vide* chart), with onset of hiccough and vomiting, but with a trifling amount of pain in the belly. No food was borne by the stomach, but small amounts of iced brandy and champagne were retained. It seems more than probable that perforation occurred May 27th, and that the hiccough and vomiting were referable thereto. Major S. P. Kramer, Brigade Surgeon U. S. V., of military hospital No. 2, Havana, chanced to be at this hospital May 29th, and concurred in the clinical diagnosis of typhoid fever, but subjected a specimen of the patient's blood to a careful microscopical examination for the malarial organism, and to the Widal test for typhoid, with negative result in each case. This finding left the diagnosis somewhat in doubt, and the symptoms of obstruction and peritonitis having become apparent, the possibility of an inflammatory condition surgical and non-typhoidal was considered. High colonic flushings failing to bring away any fecal matter, and the collapsed condition of the patient growing progressively worse, his desperate condition was explained to him; operation was offered and accepted, all with the knowledge that only the smallest chance of recovery, with or without operation, existed.

Major W. F. de Niedman and Acting Assistant Surgeons Alden, Bruning, Lundy, and myself concurred in the opinion that operation offered the only possible chance of recovery.

The patient went upon the table at 10 P.M., May 30th, with a pulse rate of 140. The anæsthetic was most carefully given and hypodermatic stimulation was continued throughout. The operation consisted of an incision over the cæcum, revealing adhesions and an abscess cavity in the right inguinal region. The abdominal cavity contained stinking gas and a considerable amount of brown fecal-smelling fluid. The abscess cavity contained about four ounces of pus. The small intestine was obstructed by adhesive inflammation of adjacent coils. The condition of the patient was so critical as to prevent further investigation, and the abdomen was quickly flushed with decinormal saline solution; the adhesions were separated, and the abscess cavity drained and walled off as completely as possible with gauze, the incision left open




and packed with gauze. The appendix vermiformis was inspected and found to be uninvolved and of normal appearance. The patient was taken from the table and lived for more than an hour. After death a further examination revealed typhoid lesions of the ileum, a perforation a quarter of an inch in diameter opposite to the abscess cavity, and a typhoid ulcer just upon the point of perforation, the serous coat of the small intestine alone remaining.

## WOOD PULP AS A MATERIAL FOR POULTICES AND SURGICAL DRESSINGS.

By FREDERICK T. GORDON,

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I have for some time conducted experiments looking to the investigation of the properties of this substance, and I trust that the results here published will be of some practical use and value to the profession at large. Wood-pulp, as obtained in its crude form from the manufacturers, comes in sheets of any size and of varied thickness; it is comparatively cheap and easily obtained, and possesses the following valuable properties: When macerated in water, it swells up and absorbs from four to five times its weight of the liquid, retaining it for a long time. As the pulp becomes soft, a poultice of any desired consistence can be had by varying the amount of water. If hot water is used, the pulp absorbs so great a quantity that the resulting poultice will contain a greater proportion of hot water and retain its heat and moisture longer than a similar poultice made of bread or flaxseed. Antiseptic drugs soluble in water may be dissolved in the water in which the pulp is to be soaked, as the pulp is unaffected by most drugs of the sort. When perfectly dry the pulp will absorb oils and fats,

so that such antiseptics as thymol and eucalyptol can be dissolved in the oil and the pulp impregnated with the solution, giving an emollient and antiseptic substitute for salves, etc. (on lint), as a surgical dressing.

The pulp when moist can be moulded into any shape and will retain it when dry; it can therefore be used also as a splint.

When kept slightly moist with an antiseptic solution the pulp remains soft, and can be used as an absorbent dressing for wounds, ulcers, and suppurating surfaces.

Crude wood pulp, as received, can easily be sterilized by heating it in an ordinary sterilizer or oven. When heated sufficiently to char the surface slightly it will act as a deodorizing dressing.

For poultices, wood pulp is far superior to flaxseed, as it will retain more water (and consequently more heat), and thus the effect desired is produced with less trouble: the poultices can be prepared by simply soaking the pulp in water of the desired temperature, allowing the excess to drain, and then applying it. Pulp poultices thus made are far lighter than similar ones of flaxseed, and readily conform to the surface of the body; they require no cloths and no mixing, and can be made by the most unskilful nurse. Wood pulp is perfectly stable, does not deteriorate in any climate, and a supply can be carried in very small compass owing to its lightness; if wetted by any mischance, it can be dried in an ordinary stove oven. For the country practitioner it is the ideal material; no trouble, no mess, and the user can always be sure of getting exactly the results he wishes. Then it is very cheap, sheets four feet square costing no more than fifteen or twenty cents.

Navy Yard, League Island, Pa.

## Progress of Medical Science.

**The Plantar Reflex.**—In an article in *Brain*, No. 22, 1899, Dr. James Collier reports the results of certain investigations undertaken with a view to the elucidation of the nature and variations of the plantar reflex in normal persons, the character of the plantar reflex in diseases of the nervous system, the clinical value of deviations from the normal in such conditions, and a theory of the causation of pes cavus in spastic states. His conclusions from five hundred cases are as follows:

(1) This investigation has confirmed those of Babinski, Van Gehuchten, and Brissaud in all essential points.

(2) The plantar reflex of healthy subjects, with the exception of infants, consists of a regular succession of contraction in certain muscles to increasing stimuli. The response may be confined to certain muscles of the hip. It is doubtful whether the plantar reflex is ever constantly and completely absent in healthy subjects. The term "flexor response" is proposed for this form of plantar reflex.

(3) In infants, up to the age of learning to walk, the succession of the contraction of the muscles in the plantar reflex is entirely different from that seen in the adult; the change from the one form of the plantar reflex to the other occurring gradually with the establishment of complete volitional control over the legs, usually between the second and third year of life. The term "infantile response" is proposed for this form of plantar reflex.

(4) During sleep the plantar reflexes are diminished, and the infantile and adult forms preserved, except in some children up to the age of twelve years, in whom in deep sleep the infantile form of reflex returns.

(5) In almost all cases of lesions of the pyramidal systems, the form of plantar reflex is changed, a plantar reflex resembling closely that found in infants appearing. This change in the form of the reflex is one of the first signs of such lesions to appear, and is the last to disappear when the lesion is temporary. It may be the only unequivocal objective sign of a lesion of the pyramidal system. This form of reflex is never found under other conditions, and is a sign of great clinical value. The term "extensor response" is proposed for this form of the plantar reflex.

(6) In cases of total transverse lesion of the cord, the extensor response is the only reflex phenomenon present in the lower limbs.

(7) In functional cases the plantar reflex is often difficult to elicit, and there is frequently no response in the foot, but in such cases a response may usually be observed in the hip muscles. The form of reflex is the flexor response.

(8) In tabes dorsalis the plantar reflex was entirely absent in twenty per cent. of the cases. The response is often confined to the hip muscles. The attempt to obtain the reflex frequently may set up irregular movements of the foot lasting some time. The reflex when present is the flexor response.

(9) In peripheral neuritis the reflex when present is the flexor response. The hip muscles respond alone in some cases.

(10) In cerebral and cerebellar tumors the flexor response occurs if there be no involvement of the pyramidal system.

(11) In neurasthenia, chorea, paralysis agitans, poliomyelitis, myopathy, and sciatica the flexor response is found.

(12) In lesions of the pyramidal system a degree of pes cavus is frequently found. It is intimately associated with the extensor response in the plantar reflex, and is produced by a state of reflex hypertonicity preponderating in those muscles which respond most vigorously in the plantar reflex. In all such cases of pes cavus evidence of increased tone in certain muscles can be demonstrated.

(13) The theory that the pes cavus of spastic conditions is due to weakness of the interossei is not justified.

**Chronic Mediastinitis.**—Dr. William Cecil Bosanquet (*Lancet*, July 1, 1899) reports three cases of this disease occurring in the service of the Charing Cross Hospital, which present several points of resemblance and interest. The patients were all boys, their ages being respectively fifteen years, eight years, and six years. In one case there was a distinct history of ill-health dating from an attack of whooping-cough two years previously; in another, whooping-cough was the only disease from which the patient had suffered, and in the third case there was an anamnesis of measles. The writer calls attention to the frequency of enlargement of the bronchial glands in both measles and whooping-cough, and thinks it reasonable to conclude that the connecting-link between these diseases and mediastinitis may be found in a spread of inflammation from these structures to surrounding tissues. The duration of the illness after definite symptoms had developed was approximately two years in two of the cases. The third was of much longer duration. Clinically the most striking feature in each instance was the great enlargement of the liver, which was found to reach to or below the level of the umbilicus. In one case there was a definite history of recent rapid growth in size of this organ. The writer regards this enlargement of the liver as a valuable diagnostic feature, and says that in all cases of enlarged liver, especially in

children, without obvious cause the possibility of mediastinitis should be considered. Post mortem the condition of the liver was one of very chronic congestion, which seemed to have passed beyond the "nutmeg" stage into one of general engorgement, pigmentation, and fibrosis, with a certain amount of fatty change. In two of the cases the heart was small, the tough adhesions apparently preventing any great amount of dilatation or hypertrophy. All three cases might be classed as "mediastino-pericarditis," the pericardial cavity being almost completely obliterated. Pleurisy with effusion occurred in all three cases, and was bilateral in one case, and was of inflammatory nature. The kidneys were much congested. The urine always contained albumin toward the end of life. In none of the cases was increased cardiac dulness marked; recession of the intercostal spaces with cardiac systole did not occur, and no peculiarity of the pulse existed.

**Two Cases of Tabetic Spontaneous Dislocation at the Hip-Joint.**—Dr. Huchzermeyer reports, in the *Centralblatt f. Nervenheilkunde und Psychiatrie*, vol. xxvii., 1899, p. 263, two cases of tabes, in which dislocation of the hip-joint was an early symptom. Both of these patients showed typical symptoms of locomotor ataxia. The point of interest brought out in their clinical histories was that it was thought possible that the trauma was the cause of the development of the disease; the spinal cord becoming involved after a chronic ascending neuritis.

**The Origin of the Oxalic Acid of the Urine.**—As the result of clinical investigation Lommel concludes that the oxalic acid contained in human urine is derived, if at all, in only small amounts from the oxalic acid introduced with the food. In by far the largest part it is generated in the organism. The amount of oxalic acid in the urine and in the fæces after ingestion of considerable quantities of oxalic acid represents only a small portion of that introduced. The oxalic acid is probably decomposed largely in its passage through the organism. Decomposition of the oxalic acid in the intestines is, however, not to be excluded. The elimination of oxalic acid bears direct relation to albuminoid metabolism. A diet rich in nuclein induces, in addition to increased elimination of uric acid, also a considerable increase in the elimination of oxalic acid. A diet rich in gelatin likewise causes increased elimination of oxalic acid.—*Archiv fur klinische Medicin*, Nos. 5 and 6, vol. lxii., 1899.

**Purification of Water by Ozone.**—Th. Weyl, in the *Centralblatt f. Bacteriologie*, June 26, 1899, reports a series of experiments on the action of ozone on bacteria in drinking-water. These were carried on in the laboratories of Siemens and Halske, where the ozone was developed by electrical methods. The results would seem to show that the water could be rendered bacteria-free by this process, and in a large experimental research the plans were elaborated for the wholesale application of the process to purify the water of the Spree, furnished to the city of Berlin. The experiments carried on delivered 80,000 litres of ozonized Spree water in twenty hours, which water was as free from bacteria as the sand-filtered water utilized by that city. Organic matter was also considerably reduced in quantity by the process. The author suggests the use of such apparatus instead of the sand-filtration methods, since he believes the results obtained were better.

**Prophylaxis against Diphtheria.**—Gabritschewski (*Deutsche Medizinal-Zeitung*, August 14, 1899) mentions the following: (1) The bacteriological examination of the secretion of the mouth, pharynx, and nose must be undertaken not only in patients for diagnostic purposes, but also as a prophylactic measure in healthy persons who have been exposed to infection. (2) Infected persons, even though they are perfectly well, must undergo the same prophylactic measures as diphtheritic patients. That persons with a marked infection may appear perfectly well has been demonstrated by bacteriological investigation. (3) Patients who have been cured must not leave the hospital until the diphtheria bacilli have entirely disappeared. (4) In poor-houses, institutions, boarding-houses, as well as in families in which a number of children under ten years of age are to be found, a thorough examination of the mouth, nose, and pharynx for diphtheria bacilli must be undertaken yearly, preferably in the early spring. (5) The general disinfection in diphtheria cases must be done after the disappearance of the bacilli.

**The Femoral Artery and Vein.**—Dr. B. Merill Ricketts (*Journal of the American Medical Association*, August 12, 1899) concludes a short clinical and statistical article on "The Femoral Artery and Vein, Their Destruction Without Loss of Leg," as follows: (1) Amputation of the leg is not always necessary when the lumen of the femoral artery or vein, or both, is suddenly or slowly occluded by injury or otherwise. (2) It is better to ligate the femoral artery or vein, or both, and give the patient the benefit of a doubt, than to amputate immediately. (3) It is impossible to determine the circulation of the thigh or any given part of the human body without a complete dissection, which can be done only post mortem. (4) Ligating the femoral artery or vein, or both, in chronic pathologic conditions of the thigh, seems less likely to result in death or gangrene than when the ligature is applied in case of accident in a normal thigh. (5) It cannot be determined what rôle, if any, any one of the six varieties of the femoral artery has played in any case in which the femoral artery or vein, or both, have been ligated, as no record of dissection seems to have been made. (6) While end-to-end anastomosis may be accomplished, complete occlusion sooner or later takes place. (7) Suturing and the application of ligatures to arteries and veins which have been lacerated have no advantage over complete immediate occlusion by ligature. (8) Gangrene is possibly due to septic infection and not merely to the occlusion of the femoral artery or vein, or both, unless the vessels for collateral circulation are absent. (9) The preservation of the leg does not seem to depend upon the ligating of the femoral artery or vein, or both, at any particular point.

**Tabes Dorsalis.**—Dr. Adamkiewicz (*Berliner klin. Wochenschrift*, June 5, 1899) makes the following classification of tabes, according to the etiology: (1) Idiopathic, the usual and most frequent form, of unknown origin and incurable, resulting from a primary parenchymatous degeneration of the posterior column, and attended with progressive ataxia and grossly preserved muscular vigor. (2) Traumatic tabes, differing from the former only in its origin in trauma and the stability of symptoms. It is also incurable. (3) Syphilitic tabes, due to change in the vessels of the posterior columns of the cord, which are peculiarly susceptible to syphilitic changes. This variety is subdivided into two forms: acute, due to endarteritic processes, and curable; and chronic, dependent upon sclerotic processes in the posterior column, and hence incurable.

**Stricture of the Œsophagus.**—Dr. W. J. Mayo, in an interesting article on "The Œsophagus, Cicatricial Contraction Thereof; Its Treatment" (*Journal of the American Medical Association*, July 29, 1899), formu-

lates the following conclusions: (1) Systematic sounding should be commenced in from two to four weeks after the swallowing of a caustic substance. (2) Should the traumatism be severe, immediate gastrostomy will lessen infection and hasten cicatrization, sounding being carried on as before. (3) Non-dilatable strictures in the vicinity of the cricoid cartilage should be divided by external œsophagotomy. (4) Stricture above the arch of the aorta may be safely cut by a combined internal and external œsophagotomy. (5) Dense thoracic strictures are best dilated by Ochsner's method, and, if necessary, divided by Abbe's string saw. (6) Impassable strictures should be treated by retrograde dilatation. (7) A dilated stricture should be occasionally sounded for years, if not for life.

**Typhoid Fever in Army Camps.**—In an article on "My Observations on the Typhoid-Fever Epidemic in Southern Camps and Its Treatment" (*New York Medical Journal*, August 5, 1899), Dr. Joseph F. Chmelicek, from a personal experience, arrives at the following conclusions: (1) The camp should be frequently changed. (2) The division hospital is here to stay, as only in this hospital can female nurses be employed, and (3) the proper person as attendant is the female nurse. (4) All soldiers should be educated in plain sanitary hygiene. (5) The sooner the patient takes to bed the fewer complications are likely to follow. The hemorrhagic and perforation complications develop in patients who walk until they fall, and who use indigestible food during the first stage of typhoid. (6) Milk is not suitable for every case; many of the patent foods on the market, especially "predigested" foods, must replace it in many cases. (7) Sugar used during convalescence will cause relapse quicker than solid food. (8) Every case requires special study. (9) The severest case, with hemorrhages and other complications, may be recovered from, while the lightest case, apparently doing well, may result fatally. Never give up a case as hopeless. (10) All the patients in the southern camps showed a remarkably low pulse rate even with high temperature, for which I cannot offer any explanation.

**Successful Resection of Carcinoma of the Liver.**—Keen has reported the case of a man, fifty years old, who for three months complained of dull pain in the abdomen just below the umbilicus and also in the epigastrium. The pain was moderately severe, and for a time transient, but subsequently it became almost constant. It was of a dull, grinding character, and it increased after meals. The appetite had been poor for two months. There was, however, no nausea or vomiting. The bowels were moved daily, and the stools were normal. The man had previously weighed two hundred and thirty-five pounds, but he had been reduced to two hundred and five. He was weak and had been incapacitated from work for ten weeks. On uncovering the abdomen the epigastrium was seen to bulge forward in a uniformly rounded swelling. The elevation above what would be the normal contour of the abdomen was 2 or 3 cm. in size. Palpation disclosed a hard, firm, movable mass, the size of a large hand, entirely filling the epigastric region, and extending to the level of the umbilicus. Over this the percussion note was dull and the dulness was continuous with that of the liver. With the gastrodiaphane the epigastrium appeared absolutely opaque. Hydrochloric acid was found in normal proportion in the gastric juice obtained after a test meal. There had never been jaundice or other hepatic derangement, and no disturbance of the bowels. An exploratory operation was advised and consented to. As soon as the abdomen was opened in the middle line it became clear that the tumor was hepatic, and when it was drawn outside of the abdomen a number of large nodules were found occupying the entire left lobe of the liver. Palpation failed to disclose other nodules or involvement of the lymphatic glands. As it seemed possible to remove the entire left lobe of the liver, and with it the whole of the tumor, extirpation was at once proceeded with, the operation being performed entirely with the Paquelin cautery. From twenty to thirty minutes were required to sever the left lobe from the remainder of the liver. The hemorrhage was not excessive, except when some of the larger veins were burnt into. Each of these when opened was instantly closed with the left forefinger; then, with the cautery temporarily laid aside, a catgut ligature was passed under each by means of a Hagedorn needle, and an assistant tied it slowly but firmly. Five ligatures were thus applied. Three of the veins required ligature of both of the divided ends. The hemorrhage, except from these large veins, was arrested by the Paquelin cautery; however, occasionally, when the cautery was laid aside to apply the ligature, temporary packing with iodoform gauze proved of great service in arresting the parenchymatous hemorrhage. The amount of blood lost was estimated at eight or ten ounces, but as a severe loss was feared before the end of the operation, an intravenous saline injection, one quart, was made at the beginning of the hepatic portion of the operation. The surrounding tissues were well protected against the cautery by wet aseptic gauze pads. When the tumor was removed it was found possible to obliterate a part of the resulting raw surface by folding the edge of the liver upon itself like the flap of an amputation, the cautery incision having been made obliquely. A few catgut stitches approximated these flaps, but there was still left over one half of the burnt surface exposed in the peritoneal cavity. To prevent hemorrhage or subsequent adhesions, as well as to provide against the escape of bile into the peritoneal cavity, iodoform gauze was packed against the liver, the end protruding through the abdominal wound. The abdominal cavity was then carefully flushed out with salt solution, though but few clots were thus removed, and the abdominal wound was closed excepting at the point where the gauze packing protruded. The tumor measured five and one-half inches long, four and one-quarter inches wide, and three inches thick. Its circumference was eleven by thirteen and one-eighth inches in the two directions. The raw surface left where the tumor had been detached from the liver was five and one-half inches by two and three-eighths inches. The weight of the tumor was twenty-one ounces. The post-operative history was uncomplicated; with the exception of vomiting, which continued for nearly forty-eight hours, and hiccough on the second day, nothing of special note occurred. Ice, champagne, doses of cocaine, gr. $\frac{1}{40}$, and similar doses of carbolic acid had no effect on the vomiting. At the end of forty-eight hours, after lavage, both the vomiting and the hiccough ceased entirely. The temperature scarcely rose above the normal. The gauze packing was removed at the end of forty-eight hours. It was stained in streaks with bile. By the fourth day the discharge of bile through the opening left by the removal of the gauze was quite free, amounting to perhaps three or four ounces in twenty-four hours. This gradually diminished, and ceased by the twelfth day, a little serous discharge then taking its place; but this became slightly purulent after two weeks. After a month the wound was entirely well except for a small shallow sinus, which promised to close, and the patient was out of bed. Histological examination disclosed the tumor to be a carcinoma.—*Annals of Surgery*, No. 3, vol. xxx., 1899.

# MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

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PUBLISHERS

WM. WOOD & CO., 51 Fifth Avenue.

New York, October 7, 1899.


## DRAINAGE AFTER SUPRA-PUBIC CYSTOTOMY.

THE more nearly we approach perfection in any surgical procedure, the more distinctly are emphasized any imperfections in the details of technique or result. There was once a time when supra-pubic cystotomy was looked upon as a dangerous and undesirable operation. This period was followed by one during which the pendulum swung the other way, perhaps too far, and at present there are frequently urged several more or less serious drawbacks to the operation, though no satisfactory substitute is offered. The question of proper drainage is the one about which there is most discussion, without any very definite agreement among surgeons.

The most generally advised methods of securing bladder drainage are through the supra-pubic wound by means of some sort of a tube or even a siphon. The disadvantage of drainage by this route is that fluids persist in declining to run up hill, and in order to escape in this way there must be some *vis a tergo*. The dressings are troublesome, and our success is only partial in getting rid of the discharges, some of which remain in a bladder already the seat of inflammation varying in severity from the least to the greatest. The effect of this retention can only be to maintain and increase the amount of inflammation, which depends as a rule upon qualities in the urine as it enters the bladder or acquired by it while in that organ.

If we add to these sources of irritation the effect of the operative traumatism and the possible invasion of bacteria from the air or other surroundings, it is easy to understand what may be important factors in delaying the healing of a supra-pubic wound, especially toward the end of its course when conditions become so favorable for the formation of a fistula. This is in sharp contrast with the behavior of the perineal opening into the bladder, made for the purpose of drainage, after a deep urethrotomy for instance, when the intra-vesical conditions may be fully as bad as in disease requiring the supra-pubic operation. It is unfortunately too common an occurrence, after the latter operation, to have the wound apparently go on to solid healing, and then break open and establish a fistula into the bladder. The reason for this occurrence is certainly not to be found in the skin, fascia, and muscle, but is to be sought in the wall of the bladder and in the cavity of the organ. The mucous membrane of the anterior vesical wall is loosely attached, and its relations are more or less disturbed when the bladder is opened in this region, so that there is a chance for infection and inflammation between this membrane and the rest of the wall. After the operation is complete, conditions are not favorable for accurate suturing even if such were desirable, and when supra-pubic drainage is established the edges of the wound are continually covered with urine and pus which act as irritants and interfere with normal healing. The explanation of fistula-formation after apparent solid healing can be found in the mucous membrane at the point where the wound should finally heal. Instead of a prompt re-formation of mucous membrane along the line of incision with very little cicatricial tissue, there is more or less irregularity in the process, and the formation of granulation tissue which is destined ordinarily to become dense cicatricial tissue, but which under these circumstances is perverted from this course. The result of this is the formation of one or more points of unhealthy and sluggish granulation in the interior of the bladder, along the line of the incision, any one of which may give entrance to bacteria practically always present in the urine of these patients. It is then a short step to abscess and fistula and perhaps extensive infection in the cellular tissue of the abdominal wall. The addition of a perineal drain makes the prospect of getting solid and prompt union in the supra-pubic wound much greater than if up-hill drainage is depended upon, and the introduction of such a drain is an easy and rapidly accomplished matter. This form of drainage is particularly satisfactory when the bladder is the seat of chronic inflammation, to ameliorate which it is desirable to give the organ complete rest. With the perineal tube carefully kept open by suitable irrigation, the course toward healing in the supra-pubic wound is much more satisfactory, and on this account this form of drainage should be recommended as a routine procedure in cases of supra-pubic cystotomy, to be discarded only under exceptional circumstances. The annoyance of a persistent supra-pubic fistula can hardly be overestimated, and, furthermore, its presence involves a certain amount of danger. We are therefore justified in using perineal drainage simply because it increases the chance of permanent recovery, not because it is demanded by any specific intravesical condition. This plan is already carried out by some surgeons in their intravesical work, and its adoption will probably become general, as its desirability becomes recognized.

**Another Model Dwelling-House for London.**—The homes for the working classes in London introduced by Lord Rowton have proved so successful in every way that new ones are being built in all parts of the metropolis. It is stated that a Rowton House is to be built in the heart of the East End, in Whitechapel, behind the London Hospital. Accommodation will be provided for eight hundred inmates.

## VENTILATION AND SANITATION OF CHURCHES, THEATRES, AND RAILWAY CARS.

Sir William Preece, in the course of his presidential address delivered at the meeting of the British Sanitary Institute, recently held at Southampton, referred to this subject, which was a few months ago made the text for an editorial in the Medical Record and which attracted widespread attention. Sir William Preece spoke as follows: "Thus the whole theory of ventilation is circulation of air maintained at a proper temperature, for cold air may be injurious. The British legislature has taken care that lunatic asylums, hospitals, workhouses, and jails shall be well supplied with proper air space per person, and shall be supplied with effective means for ventilation; but churches, theatres, meeting halls, assembly rooms, railway carriages, and other places where healthy and well-to-do persons most do congregate are totally neglected and remain sinks of discomfort." This evil exists probably to quite as great an extent in this country as in Great Britain, and now that the theatre season has just commenced, the time for once again attracting notice to this unpleasant state of affairs is distinctly apropos. As was stated in the article in the Medical Record, the initiation of sanitary reforms in theatres rests wholly with the public. Until the patrons of theatres show their dissatisfaction with the present sanitary conduct of play-houses in a practical manner, the proprietors thereof are not likely to make a move. If, however, theatre-goers decide to boycott those theatres which are notoriously defective in ventilation and general sanitation, the result will be that a radical change will quickly be brought to pass. Similar remarks apply with equal force to railway cars. So far as churches are concerned—although in many good hygienic arrangements are woefully lacking—the remedy is more difficult to suggest. Nevertheless the majority of American churches are supported by their congregations, and if these congregations refuse to endanger their health by attending services in buildings in which the sanitation is bad, the result would doubtless be that the causes of offence would be forthwith removed and the defects put in order.

## CRIMINAL PRACTICE IN SEARCH OF PROTECTION.

It is not so many years ago that there lived in New York a man of unsavory reputation who was wont at stated intervals to send his professional card broadcast in the community heralding the fact that he was a specialist in obstetrics, and offering his services to such as had "sinned without right," or who, having the right, were not willing to accept the consequences. For years this man prospered in the community, a professional abortionist, protected by police and officers of the law. The Medical Record over and again scored the fellow, and finally he fled the city under indictment, doubtless with sufficient of (in his case) filthy lucre to live and prosper the rest of his days. It is inevitable, apparently, that the abortionist should ply his trade in every community, for he is, of all foul birds, the one it is most difficult to salt the tail of. In other words, legal proof is hard to secure for self-evident reasons. And yet in view of the ills, moral and physical, following in the train of the abortionist, every community should aim at ridding itself of him. At least, let him keep under cover and not inflict on the medical fraternity his alluring circulars, filled up with insulting proposals. These remarks are called for by the receipt of a circular from one who aims at being the successor of "the man with the card." This circular, after alluding to the advantages offered at his sanatorium, offers a bonus of twenty per cent. to the practitioner referring a case for "treatment," thus making him a party to the act, and securing for the proprietor of the sanatorium the further protection of being backed by medical men of supposedly good repute! Will the fish bite? Gullible as the profession has often proven itself to be; ready as over and again it has shown itself to be to help boom some patented article which is later advertised in the lay press and travelling conveyances; blind as repeatedly it has been to its own interests, it remains to be seen if this latest bid for protection, together with its insulting proposal, shall meet with the ready response it calls for.

## AN ATTACK ON BACTERIOLOGY.

Of all the subjects discussed at the recent meeting of the British Medical Association, that on the relations of bacteriological research and methods of treatment to preventive medicine, dealt with by Dr. George Wilson in the opening address of the section of state medicine, was one of the most valuable. Its interest lay in its revolutionary character. The address was from beginning to end a strong indictment of the manner in which bacteriological research is carried on by present-day investigators, and, according to Dr. Wilson, the erroneous premises deduced from these investigations. After offering up the usual meed of praise to Jenner—we are pleased to observe that Dr. Wilson is a firm believer in the efficacy of vaccination—he proceeds to show, at least to his own satisfaction, that the modern bacteriologists, while admitting that they base their methods of prophylaxis and cure on Jenner's discovery, ignore the important point that no pathogenic microbe of smallpox or vaccinia has ever been isolated with certainty. He, therefore, argues that there is no legitimate analogy between Jenner's discovery and these newer methods of prophylaxis and cure founded on that discovery. Dr. Wilson furthermore contends that the almost universal use of antitoxins by the younger generation of medical men is chiefly responsible for the existing widespread prejudice against vaccination; in fact, he claims that the members of the medical profession have to a great extent only themselves to thank for the present unfortunate situation. The latter portion of the address is taken up with the endeavor to demonstrate the worthlessness of most of the cura-

tive serums and of the mode of procedure of many experimental operators, and concludes with a vehement diatribe directed against the commercial methods of a considerable number of up-to-date bacteriologists.

While we cannot accept these conclusions, the expression of such views is not without its uses. There is a certain amount of danger in keeping our eyes fixed too steadily on bacteriology alone, and, wonderful though its revelations be, we must not let them blind us to other causes or favoring factors of disease. Medical progress nowadays has been compared to the rush of a railroad train, and it must be allowed that on occasions the presence of a brake is needful, and to that useful instrument for impeding the too rapid revolution of the wheels the address of Dr. Wilson may not be unfairly compared. His opinions, like those of most earnest critics, have a decidedly biassed tone, and his sweeping assertions as regards the absolute uselessness of bacteriology will hardly carry conviction to the minds of the unprejudiced. At the same time it is possible that enthusiastic bacteriologists have been transported by the vehemence of their beliefs, and have lauded in extravagant and absurd terms the virtues of the serum treatment. We are, however, cordially in accord with Dr. Wilson when he attacks the commercial aspect of the question, and agree with him that the action of Behring and Koch is altogether at variance with professional ethics.

## NEGRO MORTALITY.

Attention has again been called to the extremely high death rate among negroes. Since the abolition of slavery the colored race has decidedly retrograded from a health point of view. This is undoubtedly chiefly due to the unsanitary conditions under which the majority of negroes live. In the Southern towns they are herded together in alley tenements whose unhygienic state and want of cleanliness tend to originate and spread disease. The existing state of affairs is a standing menace to the health of the community at large, and calls for immediate reform. At the Hampton Conference held in July, Dr. F. J. Shadd, of Washington, gave statistics regarding the mortality of the negro in Southern cities. In Baltimore for a given period among the whites the proportion of deaths was slightly less than that of births. Among the colored the deaths were greatly in excess of the births. Deaths from scrofula and consumption are twice as numerous with the colored as with the whites. The most rapid increase in the death rate has been among infants. But while this side of the picture is dark, the gloom is relieved to a certain extent by the knowledge gained by the committee of investigation, showing that the growth in material prosperity among the negroes is satisfactory. With the accumulation of property, together with the sense of responsibility which the possession of money brings, and with the advance of education, it is to be hoped that a new era may dawn for the negro, and that in the course of time he will develop into a clean-living, self-respecting citizen.

## News of the Week.

**Tri-State Medical Society of Alabama, Georgia, and Tennessee.**—The eleventh annual meeting of the Tri-State Medical Society will be held in Chattanooga Tuesday, Wednesday, and Thursday, October 24, 25, and 26, 1899. Those desiring to read papers should send titles to the secretary, Dr. Frank Trester Smith, Chattanooga.

**Medical Society of Virginia.**—The thirtieth annual session of this society will be held in the roof garden of the Jefferson Hotel, Richmond, Va., October 24, 25, and 26, 1899, under the presidency of Dr. Jacob Michaux, of Richmond. The recording secretary is Dr. Landon B. Edwards, and the corresponding secretary Dr. J. F. Winn, both of Richmond.

**Insurance against Sickness.**—In 1889 a law was passed in Germany that every German with an income of $750 and over must insure his life against sickness and old age. In 1898 there were 11,200,000 persons in Germany thus insured, and so many of these had pulmonary consumption that thirty-seven of the insurance companies erected at their own expense a sanatorium for the care of these persons.—*Maryland Medical Journal.*

**Osteopathy in South Dakota.**—At a meeting of the South Dakota State board of health, held recently at Sioux Falls, a decision was made concerning the licensing of osteopaths to practise in the State. It was resolved that only graduates of "regularly conducted" schools of osteopathy should be admitted to practice. The requirements of such regularly conducted schools were stated to be as follows: (1) The possession of a diploma or certificate of graduation from a high school or a certificate of successful examination in certain branches equivalent to a high-school course. (2) One course of twenty months' duration or four courses of five months' duration each in anatomy, physiology, chemistry, histology, theory and practice of osteopathy, pathology and pathological anatomy, and obstetrics and gynecology. In addition evidence must be given of attendance upon at least two terms of clinical instruction and of having dissected at least one lateral half of a cadaver. Finally, the school must show that it has a sufficient and competent corps of instructors, and the necessary facilities for teaching by laboratories and clinics, and for dissections.

**Pathological Society of Philadelphia.**—At a stated meeting held September 28th, Drs. A. A. Eshner and G. A. Pfahler presented two hearts, one exhibiting the lesions of chronic endocarditis, together with recent vegetations and ulceration, aneurism of a sinus of Valsalva, and obliterative pericarditis; the other extensive atheroma of the aorta and of the aortic and mitral valve leaflets. The case from which the first specimen was obtained presented distinctive features, and was recognized during life as one of ulcerative endocarditis; that from which the second specimen was obtained simulated ulcerative endocarditis, being

complicated by a purpuric eruption, gangrenous stomatitis, hemorrhage from the mucous membrane of the mouth, and icterus, but chills, sweats, and elevation of temperature were wanting. Dr. J. H. McKee exhibited a bilocular dermoid cyst of the ovary removed surgically from the abdomen of a child seven years old. In the growth epiblastic and mesoblastic structures were found. Dr. D. Riesman exhibited an abscess of the right frontal lobe of the brain in an adult woman, without obvious ear disease, or nose disease, or disease of the cranial bones. There was no history of recent traumatism or of syphilis, and no evidence of any other focus of suppuration, although a complete post-mortem examination was not permitted. The abscess was well circumscribed, and contained offensive greenish pus. Dr. M. H. Fussell exhibited specimens of croupous pneumonia, of enlarged spleen, and of chronic nephritis, from an alcoholic subject whose blood during life yielded the Widal reaction, although he presented no symptoms of typhoid fever and gave no history of a previous attack, and the intestines were free from lesions.

**Philadelphia County Medical Society.**—At a stated meeting held September 27th, Dr. A. A. Eshner presented a case of myxœdema in a man, fifty-four years old, in which improvement followed administration of thyroid extract, gr. v. daily.

**Hospitals Not Liable for Damages for Unauthorized Autopsy.**—A Philadelphia judge, in refusing a new trial in a suit for damages against the German Hospital, has decided that as a public charity, possessed of no funds except such as have been contributed by the charitably disposed for the furtherance of its philanthropic purposes, the diversion of its assets to compensate for injuries inflicted or occasioned by the wrongful acts of its agents or servants would be against all law and all equity.

**The Schleich Method of Local Anæsthesia.**—In discussing the methods of producing extensive local anæsthesia with Schleich's solutions, Dr. Rudolph Matas stated before the Orleans Parish Medical Society, September 23d, that the injection of the solution directly into the nerve trunks by the "blocking" method gave the most satisfactory results. Such a procedure is not applicable in every case, owing to the difficulty of exposing the nerves, but in all operations of any magnitude upon the extremities, *e.g.*, amputations, resections, etc., the anæsthesia is all that could be desired.

**The Plague** continues without much change in all the places where it has been previously reported to exist. In Poonah, in the Bombay Presidency, it has begun to attack the European residents, even those who have not, as nurses or physicians, been brought into immediate contact with plague sufferers. Twenty physicians and thirty nurses have recently been sent to India from England on special plague duty. The disease in southern Russia is said to be of the pneumonic form, and fears are entertained of its spread to other parts of the empire. The Paris newspapers publish reports of an interview with Dr. Calmette, who was sent by the Pasteur Institute to study the outbreak in Oporto, in which he says that before his arrival the mortality among those stricken with the plague amounted to thirty-three per cent., whereas, of fifteen treated by him with Yersin's serum, not one died. This restored public confidence, and in three days he inoculated four hundred and twenty-three persons. Dr. Mendoza, who was sent by the Spanish government to study the disease in Oporto, has reported that the plague owes its virulence to the filthy dwellings and habits of the people living in the poorer parts of the city. Those attacked are conveyed to the Misericordia Hospital, and none of the hospital patients were found to constitute new foci for disease, demonstrating the facility with which the epidemic might be localized and stamped out if energetic measures were adopted. The disease has spread from Oporto to Bagina, a village outside the sanitary cordon, and several of the soldiers forming the cordon have been stricken. Several of the foreign physicians who have gone to Oporto to study the disease were recently stoned by a mob and were rescued with difficulty by the police.

**The Hospital Ship "Missouri"** has recently sailed from this port for Manila. She was formerly of the Atlantic Transport Line, and is the finest ship in the hospital service.

**Dispensary Management.**—The committee on dispensaries of the State board of charities gave a public hearing in this city a few days ago, at which a tentative set of rules for the government of dispensaries was discussed. Those rules were based upon data obtained from physicians and laymen engaged in the administration or supervision of dispensaries, and the committee wished to obtain further suggestions before submitting the rules to the State board. One of the rules provided for a minority representation of women on the managing boards of dispensaries incorporated independently of any other institution. The main objection offered to the adoption of this rule was that it might possibly conflict with the provisions of some will or charter under which the dispensary might have been established. On the other hand, others argued that this requirement was entirely in accord with an increasingly prevalent sentiment that institutions treating women and children should have women members in the supervising body. Another rule which elicited considerable discussion was one which seeks to provide a means of sifting out of the number of applicants those who are able to pay for medical attendance. The rule requires that all applicants shall sign a sworn statement of their inability to pay, and that all suspicious cases shall be investigated. It was thought that in time there would be established a registration bureau, which should act as a sort of clearing-house, wherein should be filed a list of all applicants for treatment, together with the results of an investigation concerning their financial ability.

**A School for the Feeble-Minded.**—"The Chicago Physiological School" has recently been incorporated under the laws of the State of Illinois by President

Harper of the Chicago University and others. The school is to be an experimental one in training children whose development is stunted. There will be three departments, physiological, psychological, and pedagogical. Those who are to be in charge of the school will keep the pupils under constant surveillance. A close study is to be made of the peculiarities of each one, and records of every observation will be kept. It is thought by this method to get at some logical conclusions to determine what environment will do for the children who fail to develop normally. It is thought probable that the school, if it turns out to be practically successful, will eventually become affiliated with the University of Chicago. The school will be under the charge of Miss Mary R. Campbell, who is also one of the incorporators.

**Death of the Tallest Man in the World.**—Harry Cooper, said to be the tallest man in the world, has just died. He was born at Cleveland, in Yorkshire, England, and was eight feet eight inches in height. He was at one time a member of Barnum's troupe, and died in British Columbia.

**Deportation of a Leper.**—The health authorities in San Francisco are having trouble with a woman who is in an advanced stage of leprosy, and whom they desire to send to Hawaii in an army transport. The woman objects to being deported, and has appealed to the War Department officials in Washington, with the result that some other means of transportation will have to be provided if the woman is to be sent to Molokai.

**Yellow Fever** continues at Key West in undiminished force, the number of new cases being from forty to fifty daily. Sporadic cases have occurred also in Jackson, Miss., and it is probable that a quarantine will be declared against the town. The yellow-fever report for September has been made public in Havana, showing a total number of fifty-four cases, with eighteen deaths. The weather is now cool, and no more apprehension is felt. It is thought remarkable that in Casa Blanca, formerly the worst part of the city, there was only one case of yellow fever during the month.

**The Association of Military Surgeons.**—The eighth annual meeting of the Association of Military Surgeons of the United States was held in Kansas City last week. Delegates were present from Great Britain, Mexico, and all parts of this country. At the opening session addresses of welcome were made by Major Jones and Major William Warner; Medical Director Capt. J. W. Woods, U. S. N., and Col. Nicholas Senn, Surgeon-General Illinois National Guard, responding. Col. Henry Lippincott, formerly chief surgeon of the army in the Philippine Islands and now in charge of the department of Colorado, spoke on "The Army." One of the papers which caused the liveliest discussion was presented by Dr. Huidekoper, formerly a veterinary surgeon of this city and later surgeon of the First Army Corps. The paper, entitled "The Organization of Army Corps," was essentially a defence of the volunteer surgeon as opposed to the regular army surgeon in the management of the home camps during the late war. Concerning the regular army surgeons, "while," he said, "they were mostly officers of ability and reputation, there were among them men who never, in last year's war, learned to appreciate that an army corps was larger than any one company post in which they had been stationed in the last decade or more, and who absolutely failed to realize the energy and attention required for the handling of new troops." He spoke of the difficulty experienced in getting medical supplies, and declared, "The complete outfit of a brigade hospital as a unit, and the supplies for three regiments multiplied a hundred times, could have been supplied by any contractor inside of two weeks." He said that while at Chickamauga he had made many complaints of the men forced upon the surgeons as nurses. Numbers of these were epileptics and drunkards whom the line officers transferred to the hospital corps in order to get rid of them. His complaints were pigeonholed, however, and never bore fruit.

**Obituary Notes.**—Dr. Israel Gilbert Young died at Philadelphia, on September 27th, at the age of fifty-nine years. He was graduated from the medical department of the University of Pennsylvania in 1862. —Dr. Henry C. Cunneely, of Hoboken, health warden of the city, died on September 30th, of appendicitis. He was graduated from the Bellevue Hospital Medical College in 1886, and then served the regular term on the house staff of St. Vincent's Hospital.— Dr. George W. Wayson, of Baltimore, died in that city on September 26th, at the age of eighty years. He was a graduate of the Washington University School of Medicine, Baltimore, in 1846. During the Civil War he raised a regiment on the side of the Union, and was its colonel. Afterward he was elected to the city council, and while there introduced the bill to establish the first free school for colored children. —Dr. John Henry Fuess, an acting assistant surgeon in the United States army, stationed at Santiago, committed suicide last week while on the transport *Burnside*, arriving at this port from Cuba. He had hallucination of persecution, and in a letter written just before he shot himself, Dr. Fuess wrote that he had been permitted to practise privately in Santiago, and that he was doing well until another physician appeared in his neighborhood, and formed a conspiracy with his colored servant to ruin him. He said that the physician and the servant accused him of suppressing a case of yellow fever, and although the charge was false it ruined his reputation. Dr. Fuess was a native of Germany, and was thirty-five years old.—Dr. Francis A. Thomas died in the Presbyterian Hospital, New York, on October 1st, from concussion of the brain, having been struck by a cable car a few days before. He was born in Lewis County seventy-three years ago, and was graduated from the College of Physicians and Surgeons in 1853. The next year he was appointed house physician and surgeon on Blackwell's Island, and he served one year. In 1868 he was appointed a police surgeon, and he held the position for ten years.

# Reviews and Notices.

DIAGNOSTIC DES MALADIES DE LA MOËLLE (siège des lésions). Par le DR. GRASSET, professeur de clinique à l'Université de Montpellier, associé national de l'Académie de médecine, lauréat de l'Institut. Paris: J. B. Baillière et Fils. 1899.

IN this little volume there is presented concisely the diagnostic symptomatology of the diseases of the spinal cord, with especial reference to the distribution and the localization of the lesions. The matter is considered in two main parts: (1) the diagnosis of the system or tract affected, and (2) the diagnosis of the level of the lesion. Under the first division there are discussed: the symptom complex of disease of the posterior columns—disturbances of sensibility and of co-ordination; of the antero-lateral columns—paresis, spasticity, contractures, and intention tremor; of the posterior and lateral columns—ataxia and spasticity; of the anterior horns—muscular atrophy; of the lateral columns and the anterior horns—muscular atrophy and spasticity; of the central gray matter—syringomyelic sensory dissociation and vasomotor disturbances; of the anterior horns and the central gray matter—muscular atrophy, syringomyelic dissociation, and vasomotor disturbances; and of a lateral half of the cord—crossed hemiparaplegia. In the second part are discussed first the general principles governing the diagnosis of the level of the lesion, then the root and segmental symptoms of lesions of the conus medullaris, and successively of the sacral, lumbar, dorsal, and cervical portions of the cord. This exposition should prove useful to both clinician and surgeon, as some of the disorders under consideration are not amenable to medicinal measures and will require operative intervention.

LES GREFFS URETÉRALES. Par DR. P. TREKAKI. Paris: A. Maloine, Éditeur. 1899.

THIS little monograph embodies a very full discussion of the occurrence, production, treatment, and results of fistulæ between the ureter and other structures or the external air. The absence of illustrations and diagrams does not help the descriptions of operative work, but the discussion of indications, etc., is clear and systematic.

THE TREATMENT OF PELVIC INFLAMMATIONS THROUGH THE VAGINA. By WILLIAM R. PRYOR, Professor of Gynæcology, New York Polyclinic, etc. With 110 illustrations. Philadelphia: W. B. Saunders. 1899.

THIS is a series of lectures, elaborated and put into book form. The author is a firm believer in the efficacy of the treatment of many conditions in the female pelvis by the vaginal route, and he cites many cases in support of his views. There is no doubt that operation through the vagina has in skilled hands many advantages over the abdominal method, especially remote advantages, but it is also true that the vaginal method is not one so much easier than the abdominal that its employment should be recommended without special instruction in the details of its technique. The book contains many useful hints for the advanced student, and much that is interesting and useful for one who is specially interested in gynæcology. There is a well-written and freely illustrated chapter upon vaginal ablation.

THE CEREBRO-SPINAL FLUID; ITS SPONTANEOUS ESCAPE FROM THE NOSE. With Observations on its Composition and Function in the Human Subject. By ST. CLAIR THOMSON, M.D., M.R.C.P. Lond., F.R.C.S. Eng.; Physician to the Throat Hospital, Golden Square; Surgeon to the Royal Ear Hospital, London. 8vo, pp. 140. London, Paris, New York, and Melbourne: Cassell & Co., Limited. 1899.

WE have here presented the interesting account of a case in which discharge of cerebro-spinal fluid took place spontaneously from one side of the nose for a period of several years, together with a collection of twenty other cases in which it is believed a similar condition was present, though, as a rule, not recognized. The patient whose case is reported in detail was in apparently good health, and free from any tangible cause for the rhinorrhœa, suffering only in consequence of the mechanical disability; although in most of the other cases cerebral symptoms were present and in some retinal changes. A description of the composition and function of the cerebro-spinal fluid in the human subject, based upon careful studies, is also given. Escape of cerebro-spinal fluid as a result of traumatism is a well-recognized phenomenon, but spontaneous discharge has hitherto received scanty recognition. The only plausible explanation of either condition is an adventitious or anomalous communication between the cerebro-spinal sac and the nares, the mode of origin of which is readily comprehensible in the one instance and yet awaits demonstration in the other. The treatment, including the suggestion of lumbar puncture, is not very promising.

A SYSTEM OF MEDICINE. By Many Writers. Edited by THOMAS CLIFFORD ALLBUTT, M.A., M.D., LL.D., F.R.C.P., F.L.S., F.S.A.; Regius Professor of Physics in the University of Cambridge; Fellow of Gonville and Caius College; Hon. Fellow of the Royal College of Physicians of Ireland. Volume vi. New York: The Macmillan Company. 1899.

ABOUT a year ago we reviewed volume vi. of this excellent system of medicine, which was on diseases of the respiratory and circulatory systems, and now comes another volume vi. on diseases of the circulatory and nervous systems. Fortunately this confusion of volumes ceases with the title-page, the contents being different though of the same high order of excellence as those of the earlier volumes of the series. This volume contains the conclusion of diseases of the heart, articles on diseases of the blood and lymphatic vessels and of the muscles, and the beginning of diseases of the nervous system, including trophoneuroses, diseases of the peripheral nerves, and those of the spinal column and spinal meninges. Dr. William H. Welch is the only American writer in the volume, and to him, as the editor has previously complained, was due the delay of nearly a year in the appearance of the present volume. Evidently the writer wished to show himself untainted with the national vice of "hurry." His articles on thrombosis and embolism are disappointing. Among the articles on diseases of the circulation we have found the one on angina pectoris, by Sir R. Douglas Powell, and that on arterial degenerations (particularly arterio-sclerosis), by Dr. Frederick W. Mott, especially profitable. An excellent article is the one on diseases of the mediastinum and thymus gland, by Dr. Frederick T. Roberts. Another one deserving of special notice is that on the general pathology of the nervous system, by Dr. W. Bevan Lewis. It brings the reader of uncertain age, who has not kept pace with the wonderful progress of recent years in the minute anatomy and physiology of the nervous system, up to date, and places him in a position to study intelligently the succeeding article on diseases of the peripheral nerves, and more especially those on diseases of the brain and spinal cord which are presumably to appear in the next volume. A few pages are devoted very profitably to a consideration of the relations between general and ocular diseases, and of the information concerning the former which may be gained by an ophthalmoscopic examination.

PRACTICAL DIAGNOSIS: The Use of Symptoms in the Diagnosis of Disease. By HOBART AMORY HARE, M.D., B.Sc., Professor of Therapeutics in the Jefferson Medical College of Philadelphia; Physician to the Jefferson Medical College Hospital; Laureate of the Medical Society of London, of the Royal Academy of Medicine of Belgium; Corresponding Fellow of the Sociedad Español de la Higiene of Madrid; Member of the Association of American Physicians; Fellow of the College of Physicians of Philadelphia, etc.; Author of "A Textbook of Practical Therapeutics." Fourth edition, revised and enlarged. Philadelphia and New York: Lea Brothers & Co. 1899.

THIS new edition of Dr. Hare's excellent work appears in less than a year after the third. It differs but little from that, except that a few illustrations have been added and some slight alterations have been made in the text. The plan which the author has adopted in this work differs from that of most of the others of a like character, in that it takes the reader from the symptoms to the disease, and does not make him first guess at the disease and then see if the symptoms fit his hypothesis. This is, of course, the true principle of passing from the known to the unknown, and is the only

one by which true progress can be made in any science. The chapter on the information furnished by an examination of the blood is especially interesting, and is illustrated by several colored plates of much beauty as well as accuracy. The young practitioner can scarcely afford to be without some guide to a correct diagnosis in his early cases, and we know of no better general guide than the one before us.

## Society Reports.

### THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

*Stated Meeting, September 25, 1899.*

S. O. VANDER POEL, M.D., PRESIDENT.

**How Nature Utilizes the Iron Contained in the Blaud Pill.**—DR. WILLIAM HENRY PORTER read a paper with this title. He said that it had become generally recognized that both iron and manganese could not be absorbed from the healthy human intestine and carried into the body. It had been found that the iron taken into the system was largely derived from a substance called nucleo-albumin. It had been so called because first found in connection with the nuclei of cell life, and in association with albuminous material. Nucleo-albumin was especially abundant in green vegetables and in the legumina. Apparently it was a very complex substance resembling more especially the globulin series than the other proteid bodies. Nucleo-albumin formed in the cells of the vegetable kingdom was unquestionably the principal source of iron. When this substance was taken into the stomach in the form of food, it was acted upon by the digestive ferments and rendered less complex, being transformed so as to be capable of being taken up by the epithelial cells. By a process of oxidation reduction it became transformed into animal nucleo-albumin. While the nucleo-albumins were more abundant in the vegetable than in the animal kingdom they were more complex in the former, and those found in animal substances were more easily digested and assimilated. When the total quantity of nucleo-albumin in the food-stuffs was inadequate to meet the demands of the system, an anæmic condition of the animal economy must sooner or later follow. A too exclusive use of the animal foods would yield a like result. This was particularly noticeable in the infant fed entirely upon cow's milk: hence, the necessity for the addition of the vegetable class of food stuffs so soon as they can be utilized by the digestive system. To secure the highest grade of nutrition the animal and vegetable food stuffs must be carefully proportioned. The intake and output of iron in the system were comparatively small. Nucleo-albumin was the only source of the iron supplied to the system for the formation of hæmoglobin. In an ordinary mixed diet it was supplied far in excess of the daily needs of the system, but if this hæmoglobin-forming compound should be decomposed during its passage through the alimentary canal, it was easy to conceive that anæmia might follow.

Medical anæmia: Medical anæmia might be said to occur under three conditions, viz.: (1) When too little food was ingested, or the quantity of nucleo-albumins in the food was deficient; (2) when sulphur compounds were introduced into the alimentary canal, or digestive disturbances were present which led to the formation of an unduly large quantity of these sulphur compounds; and (3) when the chemico-physiological activity of the system was so disturbed that the nucleo-albumins could not be properly oxidized and utilized by the animal economy. The form of anæmia due to the last-mentioned factor was met with in the acute infectious diseases, in various toxæmias, and in many chronic affections. The sulphur compounds found in the alimentary canal in these cases drew the iron out of the nucleo-albumin, and formed an insoluble and unabsorbable sulphide of iron.

Preparations of iron: The so-called albuminates of iron were probably split up in the system into the chloride of iron and an albuminoid substance—indeed, there was evidence to show that all the vaunted medicinal preparations of iron were split up into the chloride of that metal before being utilized by the system. After the iron-bearing compound had been converted into a chloride the iron was quickly attacked by the sulphur compounds, with the result that an insoluble sulphide of iron was formed. It was this black sulphide of iron which, appearing in the stools, gave them the dark color observed when iron was being administered.

The Blaud pill: From the foregoing considerations it was evident that the old tincture of the chloride of iron was the most effective form of iron for therapeutic use except where the digestive system was very easily disturbed. When the latter condition existed it might be necessary to substitute the Blaud pill. This pill, as was well known, contained carbonate of iron and sulphate of soda when freshly made. If introduced into the stomach at this time the newly formed carbonate of iron was quite easily acted upon by the hydrochloric acid of the gastric juice, with the result that iron chloride was formed. This chloride quickly united with the sulphur compounds, and the nucleo-albumin was thus protected in its passage through the alimentary tract on its way to reach the liver cells—just as occurred when the tincture of the chloride of iron was administered. The use, therefore, of other preparations of iron only served to throw an additional tax upon the digestive system. This criticism applied to each and every other preparation of iron, whether official or not. Among the so-called vegetable compounds of iron was a proprietary preparation that had been made at his suggestion, and in accordance with the considerations just presented. It was nothing but a concentrated solution of nucleo-albumins derived from the vegetable kingdom, and hence was a food rather than a medicinal compound.

DR. WILLIAM L. STOWELL, in discussing the paper, said that he had gradually come to the use of three preparations of iron, the old tincture of the chloride, the Blaud pill, and the proprietary preparation referred to by the reader of the paper. He emphasized the importance of using only Blaud pills which had been freshly made.

**Some Important Points Regarding the Perfection of Asepsis.**—DR. CARL BECK read a paper with this title (see page 505).

**Strong Alcohol a Powerful Antiseptic.**—DR. H. J. GARRIGUES commended very highly the simple but very original and weighty advice, to discard the first knife as soon as the skin incision had been made, in order to avoid that very troublesome source of infection—the deeper layers of the skin. He said that it had been proved experimentally that by only moderately loud talking germs might be projected from the mouth a distance of several yards. One of the best ways of cleaning the skin was by the application of ninety-five-per-cent. alcohol. It was an old and tried remedy, and in some clinics was accorded a very high place as an antiseptic. It should be rubbed well into the skin and under the finger-nails by means of pieces of flannel.

DR. BECK, in closing, remarked that it had been demonstrated experimentally that fifty-per-cent. alcohol was a more powerful antiseptic than stronger alcohol.

## AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

*Proceedings of the Twelfth Annual Meeting, Held at Indianapolis, Indiana, September 19, 20, and 21, 1899.*

*First Day—Tuesday, September 19th—Morning Session.*

The association met in the Century Club Rooms of the Denison House, under the presidency of Dr. Edward J. Ill, of Newark, N. J. An address of welcome was delivered by Mayor Taggart, which was responded to by the president. After a brief executive session for the transaction of routine business, the reading of papers was begun.

**Three Rare Cases of Kidney Cysts.**—Dr. James F. Baldwin, of Columbus, Ohio, read this paper.

Case I.—Enormous hydronephrosis simulating ovarian cystoma. The tumor in this case filled the entire abdomen and entered the true pelvis, pushing the uterus to the left. The patient was unaware of the existence of a tumor, but thought that she had been getting stout for two years. There was no history whatever of any disturbance about the kidney. The enlargement was much more marked on the left side of the abdomen. At the operation the tumor was found to be hydronephrotic, of the right side, and with entire destruction of all kidney tissue. The blood-vessels had so far disappeared that the only pedicle was an enormously distended ureter resembling a piece of small intestine. The cyst, which was retro-colic, was enucleated without special difficulty, and recovery was uninterrupted.

Case II.—A large paranephric cyst containing about one and a half pints of straw-colored fluid resembling urine. The cyst wall was exceedingly thin, but was successfully enucleated, and the cavity closed with temporary drainage. Healing occurred by first intention.

Case III.—Hydronephrosis of a retro-rectal congenitally misplaced and sarcomatous kidney. This tumor filled the pelvis, pushing the uterus up and pressing so firmly upon the urethra as to necessitate the use of a catheter. The rectum was so pressed upon as to render defecation almost impossible. After separating the tissues the cyst was tapped through the vagina and about one quart of urinous fluid drawn off. The completion of the enucleation had to be made through the abdomen. The specimen proved to be a sarcomatous kidney congenitally misplaced in the pelvis. During the development of the disease hydronephrosis resulted, giving rise to the cyst which obstructed the pelvis. The patient recovered without difficulty and continued well at the time of the report.

Dr. Baldwin said that while hydronephrosis simulating ovarian cystoma was not excessively rare, paranephric cysts, of any considerable size at least, had been very seldom reported. The case of hydronephrosis of a pelvic kidney was, so far as the reporter could ascertain, after a somewhat extended correspondence, entirely unique.

Dr. James F. W. Ross, of Toronto, directed attention to a point in the diagnosis of cystic tumors of the kidney. It was this: Given a tumor that was unilocular by fluctuation, but looked like a multilocular tumor in consequence of the striæ, it was always a tumor of the kidney, and not of the ovary. As to the treatment of the ureter, if the end of it was tied with catgut, it could be left in the course of a nephrectomy. It was not necessary to follow the ureter down to the bladder.

Dr. Lewis S. McMurtry, of Louisville, agreed with Dr. Ross as to dealing with the ureter.

Dr. L. H. Dunning, of Indianapolis, mentioned a diagnostic point in cysts of the kidney, namely, the presence of the colon in front of the tumor. He had been able to demonstrate this in large sarcomatous tumors of the kidney. By pumping the colon full of air, the distended bowel could be seen running over the outer border or centre of the tumor.

Dr. J. Henry Carstens, of Detroit, stated that the point made by Dr. Dunning did not always obtain. He believed that when there was a loose kidney which flopped around, it might grow over the colon, and in some of the cases the colon was behind instead of in front of the tumor.

Dr. Joseph Eastman, of Indianapolis (by invitation), reported an interesting case of large pancreatic cyst, saying that it was very satisfactory to notice the ascent and descent of this tumor during inspiration and expiration, a thing not possible if the tumor had been post-peritoneal or connected with the kidney.

Dr. John M. Duff, of Pittsburg, narrated an instructive case in which a diagnosis of abscess of the spleen had been made, but a more careful subsequent examination revealed a kidney tumor, which was removed by operation.

Dr. Dunning asked as to the reliability of the Harris instrument for examining the urine of the two kidneys, to which Dr. Baldwin replied that it was very satisfactory. He had used it several times in women, and considered that it could be used more quickly and with less trouble than ureteral catheterization.

**Ectopic Gestation; Shall the Case be Operated upon At or Near Full Term, the Child being Alive?**—Dr. L. H. Dunning, of Indianapolis, read this paper. He reported the history of a case of ectopic gestation of eight months' duration, and which was operated upon five weeks after the death of the fœtus. The proper treatment of ectopic pregnancy after the sixth month, when the child was still living, was still under discussion. His paper was written for the purpose of considering one phase only of the subject, namely, Shall operative intervention be instituted during the period of viability of the child, or shall we await the death of the child, and the cessation of the active circulation of the placenta, and then operate? The settlement of this question, he said, must hinge upon the relative mortality to the mother of the different procedures. The ectopic infant was of such low vitality and so frequently deformed that if to rescue it greatly jeopardized the life of the mother, then ethically one must withhold the hand and permit the child to die that the greater life might be saved. Such had been the sentiments of the writer for many years. He had had three cases of ectopic gestation at or near full term. In the first, the operation was done during spurious labor at full term. Although fœtal movements were detected one hour before operation, the child never breathed after removal by abdominal incision. The mother died the eighth day after the operation, of hemorrhage resulting from the removal of the placenta, which was left at the time of the initial operation. The placenta was removed thus early in consequence of impending death from septicæmia. The other two cases were briefly narrated. A statistical table accompanied the paper. His only endeavor was to strive to arrive at a correct answer of the question, "Is it safer for the mother to be operated upon in a case of ectopic gestation during the viability of the fœtus?" He believed that the statistics collected and compiled by him were so nearly complete and correct that the answer could now be given unqualifiedly in the affirmative.

Dr. J. Henry Carstens agreed with the essayist that the proper way, other things being equal, was to operate at once when the child was living and viable. The placenta was not always attached to the broad ligament. Often rupture took place, and the placenta was attached to the intestine, the colon, the rectum, or the sigmoid, and in cases of that kind it was utterly impossible to remove the placenta when an operation

was undertaken when the child was alive. He had seen such operations performed by other surgeons, but the patients invariably died of hemorrhage.

Dr. Lewis S. McMurtry narrated a case in which the fœtus had gone to full term, was dead, and some weeks after a spurious labor, when there were beginning septic symptoms, he operated. No fœtal movements had been observed for nearly three weeks. The placenta was very large; there was no sign of any atrophic changes in it in consequence of the death of the fœtus; it was spread out over one side of the uterus, over the colon and ileum, and there was a profuse hemorrhage attending the enucleation of the placenta. When the placenta was disposed toward the broad ligament and uterus, Dr. McMurtry believed that there was a good opportunity for its complete enucleation.

Dr. X. O. Werder, of Pittsburg, said he had reported a case in which he had done a cœliotomy for ectopic gestation at full term, or within two weeks of full term. He succeeded in enucleating the placenta and removing at least two-thirds of the sac. The rest of the sac was adherent to the intestines, and it was found advisable to stitch it to the abdominal wall. Hemorrhage during the removal of the placenta was very profuse, but was controlled promptly by clamping the uterine and ovarian arteries. The woman recovered, and the child lived four days.

Dr. Joseph Eastman fully concurred in the conclusions of the essayist, and narrated an interesting case of ectopic gestation that had come under his observation ten years ago.

Dr. John M. Duff was of the firm belief that in every case of extra-uterine pregnancy, when the diagnosis was made, arrangements should be perfected for an operation as soon as possible.

The paper was further discussed by Drs. Gilliam, Ricketts, and Ross, all of whom, with slight differences of opinion, agreed with the essayist.

Dr. Lewis S. McMurtry, of Louisville, presented some observations, chiefly clinical, upon the temperature after intraperitoneal operations.

**What Shall We Do with the Post-Operative Hemorrhage of Cœliotomy?**—This paper was read by Dr. Tod Gilliam, of Columbus, Ohio. Cases of post-operative hemorrhage were cited. The author stated that he had very little to offer in the way of suggestion. As a burnt child dreaded the fire, so his most painful experience in tragic cases cited by him had imbued him with a wholesome dread of delayed interference after cœliotomy. He had on several occasions opened the abdominal incision down to the peritoneum on account of hemorrhage from the walls, without untoward results. This class of cases could usually be easily distinguished from intraperitoneal bleeding by the puffed and discolored appearance of the tissues along the line of incision. If he was satisfied that a large vessel had let go, as indicated by the rapid development of symptoms indicative of hemorrhage, he would open the abdomen with the utmost celerity. As to the vital question, when to interfere surgically and when to refrain, the paper ended where it began—in an interrogation point.

Dr. Charles A. L. Reed, of Cincinnati, stated that when he observed symptoms unmistakably indicative of internal hemorrhage, he wanted to get at the bleeding point as quickly as possible. He cited cases in which he had dealt with post-operative hemorrhage following cœliotomy.

Dr. H. W. Longyear, of Detroit, stated that if he knew a vessel was bleeding, he considered it his duty to cut down and search for it, no matter what the condition of the patient was. In a case of ruptured tubal pregnancy, in which internal hemorrhage was taking place, it was the duty of the surgeon to reopen the abdomen and do the best under the circumstances.

Dr. Rufus B. Hall, of Cincinnati, thought that hemorrhage or shock could be determined largely by the operator himself. When a patient was put to bed after an operation the surgeon was well aware as to whether there was great danger of secondary hemorrhage or not. If the operation had been a complicated one and a condition was left which added to the risk of hemorrhage, this aided the surgeon materially in determining whether or not the patient was bleeding or suffering from shock. He would not hesitate to remove a stitch, after the abdomen had been closed without drainage, and he believed without very extensive exploration he could determine readily and certainly whether hemorrhage was going on or not.

Dr. Lewis S. McMurtry said that in the early days, before operative technique was developed and improved as it was now, and the drainage tube was more universally used, it was common twenty-four or forty-eight hours after an operation to see great quantities of blood pumped out of the drainage-tube. Hæmostasis was not so thorough then as it was now. To-day the small vessels were ligated carefully. He had pursued the course of securing the ends of vessels with fine ligatures, which gave additional security.

Dr. J. Henry Carstens dwelt upon the differential diagnosis between hemorrhage and shock.

Dr. James F. W. Ross said that in cases of thick pus tubes with a very œdematous pedicle the surgeon was liable to have such a hemorrhage, particularly from the œdematous pedicle and rotten condition of the tissues afterward. He would not hesitate to remove a stitch and search for the bleeding vessel.

Dr. L. H. Dunning called attention to a valuable diagnostic sign in differentiating between shock and hemorrhage. He had seen shock occur in twelve, twenty-four, and thirty-six hours after operations. He had also seen patients recover from shock who could not have recovered from hemorrhage. The differential diagnostic sign was that of irregular capillary circulation or congestions here and there. He recalled three or four cases in which he had spent hours at the bedsides of patients, hesitating between shock and hemorrhage, but on the appearance of localized spots, as a purple ear or purple lip, or a spot upon the face, he decided it was shock.

Dr. X. O. Werder stated that it was his rule, as soon as he suspected a hemorrhage after an operation, to take out a stitch and insert his finger for the purpose of determining the existence of hemorrhage, and if his suspicions were confirmed he reopened the abdominal wound and tied the bleeding vessel without anæsthetizing the patient.

Dr. Edwin Ricketts, of Cincinnati, said that whenever ligatures were used, there was one procedure to which he desired to direct attention, one always resorted to by Bantock—and that was, crushing the tisssues for half or one-quarter of a minute with the heavy jaw clamp, and after the removal of the clamp applying the ligature. Hemorrhage was controlled in this way.

Dr. William H. Humiston, of Cleveland, thought that if each vessel was caught separately and tied with fine catgut or silk, reinforced by seizing the ovarian artery as it came off the pelvic wall, and inserting one stitch in it and one near the corner of the uterus, hemorrhage need not take place. He thought it was unnecessary to crush the tissues after the method mentioned by Dr. Ricketts.

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*First Day—Afternoon Session.*

**Coccygeal Dermoid Fistulæ.**—Dr. Robert T. Morris, of New York, made some remarks on this subject, saying that coccygeal dermoid fistulæ was a theme that had not received very much attention, as he had found little reference to it in medical literature. Occasion-

ally some one had reported the findings of a dermoid cyst in the coccygeal region, but without making comments on the way in which such cysts were likely to have been formed. He had seen reference to cysts only, but on studying the subject he had found that surgeons were much more apt to find fistulæ than cysts. They were more apt to find depressions than fistulæ. In the region of the coccyx not infrequently funnel-shaped depressions of the skin were found. Fistulæ were less frequent, extending to a depth of from half an inch to four inches in his deepest case; and still less frequently wholly encapsulated cysts were observed. These fistulæ and cysts contained straight hairs of the lanugo type mostly, although he had seen some nearly three inches in length, straight, in a mass, and welded together by sebaceous material. The sebaceous material escaped in large quantities from the fistulæ; it remained encapsulated in the cysts and in the funnel-shaped depressions; it frequently dried upon the surface and came away in the form of scales mixed with epidermis. These funnel-shaped depressions or fistulæ, or cysts of the coccygeal region, evidently represented an embryonal defect. There was a possibility that the tail of the embryo in undergoing involution left a portion of the skin highly endowed with embryonal latent cells, and that the skin, developing more perfectly in the connective tissues about it, encapsuled, in part or in whole, this absorbing or involuting embryonal tail, so that in a coccygeal fistulæ we had an inverted tail. He had had four cases of coccygeal fistulæ come under observation up to the present time which contained masses of hair. In their removal the surgeon must remove the entire cyst wall or fistula wall, because it consisted so largely of embryonal tissue that recurrence took place promptly unless this was done. The method of treatment with nitrate of silver and with caustics resulted only in temporary destruction of the inner layer, just as when the surgeon tried to destroy branchial cysts or branchial fistulæ. The author cited a case in point and exhibited microscopic slides.

**House-to-House Operating.**—Dr. Edwin Ricketts, of Cincinnati, Ohio, read this paper. The skilled abdominal and gynæcological surgeon of to-day was a product of surgical evolution, to which no man ever gave such an impetus as the great and lamented Mr. Lawson Tait. From him we had learned that the best results depended upon simplicity, thoroughness, rapidity, and rigid cleanliness, and that his best work was done in house-to-house operating. The advantages were many. Briefly, they were: (1) The greater ability of the general practitioner to attend to the after-treatment, assisted by a competent nurse, the telegraph, and telephone. (2) The absence of the mental dread of the patient to go into an institution, and the risk therein entailed, a condition by no means to be underestimated. (3) Iron bedsteads and improved household furniture were rapidly finding their way into country homes. (4) God's pure air, and, undeniably, less liability to infection. With reference to the use of antiseptics, it was necessary to mention but one fact, a quotation from Richelot, that "the elimination of all micro-organisms during the operation by antiseptics had not been attained." Consequently their use was to be condemned, and in their stead surgeons should rely upon hot water, a dry wound, and rapid operating, which meant a shorter time under the anæsthetic—a very important consideration.

A spirited discussion followed the reading of this paper, the majority of the speakers taking issue with the essayist except in emergency cases.

**Primary Sclerosis of the Ovary.**—This paper was read by Dr. William H. Humiston, of Cleveland, Ohio. The author said that there were two distinct pathological conditions now classed as sclerosis of the ovaries, and universally believed to be due to inflammatory changes. There were a primary or non-inflammatory sclerosis and a secondary or inflammatory fibrosis. These forms could be recognized both clinically and by microscopical examination. In the secondary degenerations was found (in a section taken from some portion of the ovary) a small round-celled infiltration, or the connective-tissue elements in some of their various stages of development. Also, however advanced the stage of fibrosis might be, the numerical relation of nuclear to cellular elements in this variety was always greater than in the primary form. Thirdly, the microscopical appearances of the vascular system were also different. In the inflammatory group there was primarily a dilatation of the vessels with secondary contractions of their greatly thickened walls and a lessening of their lumen. In the primary group there was usually no thickening of the vessel walls; there was never any dilatation, and contraction occurred so early that one immediately noted the poor blood supply, particularly to the periphery of the organ. In those cases of arterio-sclerosis of the vessels, within the broad ligament was usually found the condition extending to the vessels entering the ovary, not otherwise. Lastly, in the primary group the epithelial cells of the ovarian stroma were diminished in number and usually in size. In some sections they were hard to distinguish from the connective-tissue elements, and appeared to undergo a process of reversion. These several microscopic differences were constant and decidedly marked. Summarizing the history and points for differential diagnosis, he stated that the condition was non-inflammatory and without a history of infection and of signs of peritonitis. It occurred in early life, from puberty to the age of thirty, with dysmenorrhœa often since the first catamenia. Amenorrhœa or delayed menstrual flow and intermenstrual dysmenorrhœic pain, described by every patient as being alike in character and severity with the pains experienced during each catamenia, were constant. This latter symptom differentiated the origin of the dysmenorrhœa, making it clearly ovarian rather than uterine in its causation, and in itself was of chief importance clinically. In not a few cases there was evidence of a granular and contracted kidney. In a large percentage of cases a marked sclerosis of the walls of some one or more arteries could be demonstrated. The ovaries, one or both, were always within reach of the examining finger, and their condition as to size, shape and consistency could be determined. Neurasthenia developed early in these cases, but was often superseded by one of the various neuroses.

**Intestinal Adhesions in Suppurative Pelvic Disease; Their Significance after Vaginal Hystero-Salpingo-Oöphorectomy.**—This paper was read by Dr. F. Blume, of Pittsburg, Pa. The time had passed when a surgeon could say without jeopardizing his reputation that he operated exclusively by the abdominal or the vaginal route. He had seen many women who, after abdominal section for pelvic suppuration, performed in this country and abroad, were invalids, and he had done secondary operations upon a number of them. He had not, however, been called upon to treat a woman upon whom vaginal hysterectomy was performed by another surgeon, nor had any of his patients required or sought treatment at the hands of other operators. His experience was in accordance with the observations of other writers, and justified the assertion that the results of vaginal hystero-salpingo-oöphorectomy in suppurative pelvic disease were excellent, notwithstanding the suprapelvic complications, and there was no class of cases which, as a whole, gave more satisfaction. The author's first case of intestinal obstruction occurred in a series of

forty-two vaginal hysterectomies, and was reported last year. Since then he had done nine vaginal hystero-salpingo-oöphorectomies for pelvic suppuration, and had had another case of ileus, the history of which was detailed.

*First Day—Evening Session.*

This session was devoted to the exhibition of pathological specimens, of which the operators gave brief histories, and short discussions followed.

*Second Day—Wednesday, September 20th—Morning Session.*

**Shall We Abandon Ventro-Fixation of the Uterus?**—This paper was read by Dr. Walter B. Dorsett, of St. Louis, Mo. The question asked implied that some doubt existed as to the propriety of the operation of fixing or suspending the uterus to the abdominal wall. The object of the paper was not to discuss the different methods of correction of displacements of the uterus, nor the results or accidents that were liable to and occasionally did follow them; but it was for the purpose of drawing attention to one method which, on account of the unfortunate results that had now and then followed it, had been, to a certain extent, abandoned by some operators. He referred to ventro-fixation. By ventro-fixation, as practised by himself, he did not mean ventro-suspension as originated and practised by Kelly and others. His experience had not been followed by the results reported by others who had worked along the same lines. *Per contra*, it had been highly satisfactory. Prior to four weeks ago he had made thirty-eight ventro-fixations, and to the present time had had no failures in keeping the uterus in its proper place. Four of the patients had borne children without any of the usual troubles reported in pregnancy or during the delivery of the child, and none had had entanglements of the bowels or omentum. Of these operations, eight were done to correct different degrees of prolapsus, and the remainder were for retroflexions and retroversions. Fifteen of the latter were complicated with ruptures of the perineum and cervix, which were previously repaired by himself or others before the final operation was done. Sixteen patients were married women of the child-bearing age, *i.e.*, between the ages of twenty-three and thirty-nine years. Twelve were cases of marked disease of the adnexa; five of double pyosalpinx and abscess of one or both ovaries; and two of disease of one tube and one ovary. Six were marked neurasthenic women in whom there was a pronounced relaxed condition of the entire muscular system, predisposing the individual toward retrodeviation.

Dr. Dorsett then described at length the technique of the operation, his remarks being illustrated by blackboard sketches and numerous diagrams.

**Two Cases of Dystocia following Ventro-Fixation, One Requiring Cæsarean Section.** Dr. X. O. Werder, of Pittsburg, read this paper, in which he reported five cases of firm ventro-fixation followed by delivery at term. In two cases dystocia followed this operation done for complete prolapse of the uterus with inversion of the vagina. One case terminated spontaneously, the other required Cæsarean section. The former case had been operated upon by himself, the latter by another surgeon. In both cases a series of operations were done at one sitting, including curettage, amputation of the cervix, anterior colporrhaphy, ventro-fixation, and perineorrhaphy. In his own case, very firm fixation of the fundus and posterior wall of the uterus to the abdominal wall was made in order to be sure of relieving the prolapse. In the other case infection was said to have been the cause of broad attachment and firm fixation. He excluded from discussion other procedures intended to hold the uterus in anterior position, and defined the limits of ventro-fixation as follows: It was the operation of preference in cases of complete prolapse of the pelvic organs, and in cases in which a very large, heavy uterus, due to chronic metritis, was habitually retroverted or retroflexed, and caused pronounced symptoms. In these cases he thought less rigid fixation was ineffective. The fixation should be between the anterior uterine wall (not the fundus or posterior wall) and the angle of the wound. He attributed the serious after-results to errors in technique rather than to the procedure itself.

Dr. H. W. Longyear, of Detroit, Michigan, read a paper in which he described a simple, effective, and æsthetic operation for shortening the round ligaments.

**Memorial Address.**—This was delivered by Dr. Charles A. L. Reed, of Cincinnati, Ohio, on Lawson Tait, the great Scotch surgeon, of Birmingham, England, who died at Llandudno, Wales, June 13, 1899, and who was an honorary member of the association. Dr. Reed reviewed his life, noting that he did his first ovariotomy July 29, 1868, in the earlier months of his twenty-fourth year, and five others before 1870, when he removed to Birmingham. Mr. Tait shaped his practice according to his convictions. He modified his technique in the direction of simplicity. One accessory after another was laid aside, until a knife, scissors, needles and thread, a few hæmostatic forceps, some sponges, and tap water were the essential constituents of his armamentarium. This eminent surgeon characterized the great parade of instruments in the operating-room of a distinguished Parisian surgeon as suggesting an intention to fight over again the battle of Waterloo. The year 1879 fairly bristled with new achievements. He did his first cholecystotomy, a procedure in which he had been anticipated eleven years by Dr. Bobbs, of Indianapolis. Dr. Reed gave in detail the record of the achievements of this resourceful man, and of the many activities other than surgery in which he engaged.

**President's Address.**—This was delivered by Dr. Edward J. Ill, of Newark, N. J., who selected for his subject "The Rights of the Unborn; the Prevention of Conception." The rights of the unborn would be more respected if it could secure for itself competent legal authority to represent it before a court of law. He held that the induction of abortion was performed too frequently; that the law and custom of consultation left a wide field for opinion, judgment, and professional courtesy. Too frequently the practitioner's sympathy ran away with his reason. The frequent deaths of the unborn as caused by the regular profession legitimately must ever remain a sign of weakness and impotence of an otherwise noble and humane profession. The indication for such an operation must greatly change with the advances of therapeutics. Before long, he thought, we would be told that the life of the fœtus must not be taxed less than that of the mother. When that became an axiom, our resources would increase to an astonishing extent. Cæsarean section was now commonly performed with the greatest likelihood of saving mother and child, and with much less risk to the mother than was formerly incurred by induced abortion. He discussed pregnancy complicated with myomata, carcinoma of the cervix, hyperemesis, etc.

**Retroperitoneal Tumors, with Report of a Case and Presentation of Specimen.**—This paper was read by Dr. Rufus B. Hall, of Cincinnati, Ohio. He said that the retroperitoneal tumors that are operable are rare. The author's experience in dealing with them, so far as the removal of the tumor was concerned, had been limited. All retroperitoneal tumors were difficult to remove, and the operation was attended with

a high mortality. They were often malignant. The specimen he presented was probably a fibroid tumor of the uterus. When the tumor was removed eighteen months ago, it was so soft and so unlike a fibroid tumor in appearance and consistency, that he doubted this very much. The attachment of the uterus was so indistinct that one would doubt that it had its origin from that organ. The tumor was wholly post-peritoneal; it occupied the patient's right side, almost wholly filled the pelvic cavity, and projected well into the abdomen. Dr. Hall then detailed the case. The record showed that it was not always necessary to abandon an operation when the tumor was found to be retroperitoneal. In some cases these tumors could be removed without great difficulty, and the patient would make a complete and permanent recovery. It might not always be possible to determine which case could be safely operated upon until after the abdomen was opened. If the tumor was somewhat movable and the peritoneum not firmly agglutinated to the tumor mass, these tumors could be removed.

**Rupture of the Puerperal Uterus, with Cases.**—Dr. James F. W. Ross, of Toronto, read a paper with this title. He said it was well known that rupture of the uterus might occur before or during labor. To diagnosticate a rupture of the uterus before labor was extremely difficult. It was a subject about which very little was known. The cases under discussion were not those before labor, but those occurring at the time of labor. Every practitioner should be familiar with the symptoms of this condition, so as to be able to recognize it at as early a date as possible after its occurrence. He then mentioned the different causes of rupture of the uterus, that are well known. The question as to whether rupture of the uterus occurred more frequently in the first or in subsequent labors was still one that had not been settled. Some authorities claimed that rupture of the uterus was more frequently met with in primiparous than in multiparous cases; by others it was thought to be more frequently met with in multiparous than in primiparous cases. Some stated that rupture of the uterus might take place before the membranes had been ruptured. He considered that the duration of labor had a great deal to do with the production of rupture of the uterus, as the organ seemed more prone to tear after its structure had become impaired by continual and prolonged contraction. The fundus was less frequently ruptured than the body, and the body less frequently ruptured than the cervix. The posterior wall of the lower segment seemed to be the commonest site of rupture, and the tear was generally found to run toward the left. These tears usually extended over a distance of three or more inches. Cases of rupture of the uterus should be divided into four groups: first, those that were beyond hope from the first, that had the usual classical symptoms of rapid pulse, dyspnœa, precordial uneasiness, nausea, vomiting, and cold perspiration. Second, those cases that had, owing to delay, passed beyond the operable stage and in which the patient had become ill with commencing septicæmia and peritonitis, the peritonitis and septicæmia drawing attention to the case, and this extra attention revealing the fact that rupture of the uterus had been present without giving rise to early symptoms to indicate its existence. Third, a class of cases in which rupture was not immediately fatal, in which it was early recognized, and in which the patient was in good condition for operative interference. Fourth, a class of cases that might occur in which rupture was never recognized, but in which septic symptoms developed without any evident reason. In a case in which a very rapid pulse followed a fairly severe labor, and peritonitis set in, rupture of the uterus must be considered when endeavoring to discover the cause of the abnormal course of the puerperium. Intraperitoneal hemorrhage could be diagnosticated by percussion in the loins. The writer had diagnosticated it in this way on several occasions. The percussion sound might change as a consequence of the changed position of the clot, and when it did change it did so slowly. Since reading a paper before the Buffalo Academy of Medicine in January, 1898, he had met with two cases of rupture of the uterus. These were related in detail. One case occurred at full term, and the other during the fourth month, the latter having been produced by an attempt to empty the uterus. In each case drainage of the peritoneal cavity through the rupture and frequent irrigation were adopted. Each patient recovered after a long-continued illness. The rupture was not recognized in either case in time for interference by cœliotomy. In summing up the treatment of these cases, he considered that it was necessary to treat them according to the class to which they belonged. In the first class the patient was practically moribund before the physician in charge could call counsel. In the second class of cases, in which there were no symptoms to indicate that rupture of the uterus had occurred, the treatment must vary from that carried out in class three. The treatment in the second class was that indicated in the cases reported, namely, thorough drainage and thorough cleansing from below. In the third class of cases in which rupture was recognized, in which the patient was not moribund from shock and hemorrhage, there could be but one line of procedure to carry out, viz., cœliotomy, thorough inspection of the part, removal of blood clot from among the intestines, thorough stoppage of hemorrhage from the wound either by approximating sutures or gauze packing, and the establishment of thorough vaginal or abdominal drainage, or both. In the opinion of the essayist, suturing the rent was scarcely called for, and by this procedure the operation was unnecessarily prolonged, and the length of time consumed by such an operation was of importance. Any one who had had experience with this tragedy of the lying-in ward must have noticed that the edges were so bruised as scarcely to hold a suture. To pare them off meant increased hemorrhage and increased delay. He preferred packing with gauze, and was satisfied that the uterus afterward became perfectly normal. Hysterectomy under such circumstances must prolong the operation, increase the shock, and unsex the patient. In the treatment of the fourth class of cases, or those unrecognized, the question of improvement in means of diagnosis must be considered. How could it be discovered when it presented no symptoms? When inflammation and septicæmia were present, it was too late to make a diagnosis. He had not the fear of exploration of the interior of the uterus ordinarily taught by text-books. He did not consider this a sort of sacred chamber into which the finger of the accoucheur should seldom be put. He believed that in all cases of septicæmia following labor in which there was a greatly increased pulse without any apparent reason, the interior of the uterus should be thoroughly explored with the finger to ascertain the absence or presence of a rent.

**Wounds of the Liver and Biliary Tract.**—This was the title of a paper by Dr. W. E. B. Davis, of Birmingham, Ala. Penetrating wounds of the liver were not common. The surgeon might inflict such injuries in the treatment of hydatid cysts and abscesses of the liver. Severe wounds usually proved fatal. There was often injury to the biliary canals of the liver, and the extravasation of bile contributed to the fatal issue. He reported three cases illustrating injuries produced by the surgeon. The first case was that of a man, aged sixty years, in whom there was only one-half ounce of pus found in the right lobe of

the liver, but in searching for this small cavity a wound of very considerable depth and great size—perhaps two inches in length—was inflicted. There was very profuse hemorrhage, which was controlled by iodoform-gauze packing. Great quantities of bile were discharged for three weeks. The patient made an excellent recovery. He attributed this result not only to the drainage of pus, but to the opening up of some of the biliary canals which resulted in the emptying of the liver. The second case was that of a woman, thirty years of age, in whom there were attacks of pain, fever, and jaundice from a movable stone in the common duct; the liver became very much enlarged, and during an attack of peritonitis an incision was made and the right lobe of the liver freely opened and packed with gauze. There was no pus in this case. The patient rapidly recovered. The liver returned to its normal size and the stone was passed some months after, when the patient was being prepared for a radical operation. He also reported the case of a woman, sixty years of age, whose symptoms indicated obstruction of the common duct. The liver extended almost to the umbilicus. No nodules were to be made out on the surface. There being no obstruction in the common duct, it was decided that the obstruction was in the hepatic duct or its branches. A free incision was made into the right lobe of the liver with the hope of opening some of the biliary canals and thus relieving cholæmia. Death occurred a few days after from exhaustion. The patient was almost in a dying condition at the time of the operation. A large malignant nodule was found at the autopsy in the transverse fissure, which completely obstructed the branches of the hepatic duct. Dr. Davis said that wounds of the biliary tract beyond the liver produced death, not so much from the sudden escape of bile as from the continuous pouring of fresh bile into the peritoneal cavity. Gallons of fluid would not cause death if there were protective adhesions. He narrated a case of gunshot wound illustrating this point, the patient being cured by repeated tappings. Large quantities of bile had been removed at the first operation. He also detailed experiments on animals in which the adhesions had given way after two weeks, and death resulted from peritonitis. He said that rupture of the liver might be limited to the upper or lower surfaces, or that the organs might be completely torn through, the parts being held together by the veins. In four cases of operations on dogs he had removed more than one-third of the liver, all of them dying. In one case in which he removed the extreme left lobe of the liver the animal made a complete recovery. Six cases of operations on animals were detailed, illustrating the fact that small quantities of bile could be injected into the peritoneal cavity without harm. In one case he injected as much as five drachms of bile. He mentioned twenty-three cases of operations on dogs to demonstrate the effect of bile on the peritoneal cavity. In those cases in which only a small escape of bile took place the animals recovered; in those in which there was considerable extravasation, the animals died in from one to three days. The omentum and abdominal viscera in these cases were highly bile-stained, but there was not the redness of the intestines that was observed in septic peritonitis. The treatment of these cases consisted in promptly opening the abdomen, controlling the bleeding by gauze packing, and drainage. The essayist reported a large number of cases in which he had produced wounds of the gall bladder and ducts of dogs which had been successfully dealt with in this way. The opening in the bladder or duct closed as quickly as the fistula of a cholecystostomy.

Dr. William H. Myers, of Fort Wayne, Ind., followed with a paper in which he dealt with the past and present surgery of the gall bladder and bile ducts.

*Third Day—Thursday, September 21st—Morning Session.*

**Hemorrhage and the Menopause.**—Dr. John Milton Duff, of Pittsburg, contributed this paper. He did not believe that hemorrhage was a necessary concomitant of the menopause. When it did occur other than as a metrorrhagia in the true sense of that term, it was in ninety-five per cent. of the cases significant of a pathological condition. During the past three years he had interrogated, or had had others do it for him, four hundred and eighty-two healthy women over fifty-two years of age. Of these only thirty-nine gave a history of what could be termed a hemorrhage during the menopause, and of this number only five gave a history of persistent hemorrhage. In one hundred and eighty-seven tabulated cases, between forty-three and fifty years of age, suffering from uterine hemorrhage, nineteen were due to pregnancy, forty-eight to malignant disease, fifty-three to fibroids or uterine cysts, ten to diseased endometria, twenty-six to diseased appendages, while in thirty-one no positive diagnosis was made. In view of such statistics the author failed to see how any physician could argue, as he had heard them do, that hemorrhage during the menopause was not as a rule significant of disease. Finally, "all persistent hemorrhages during the menopause should be regarded with suspicion."

**Report of Four Additional Cases of Uterine Fibroids Complicating Pregnancy.**—Dr. M. Rosenwasser, of Cleveland, Ohio, read this paper. To the four cases reported in the paper the author added abstracts of three previously published in the Transactions of the association. The report formed the basis of a discussion of the subject under the following headings:

I. Before delivery: (*a*) In the interest of mother and child—(1) Non-intervention; (2) myomectomy; (3) Porro operation; (4) vaginal Cæsarean section. (*b*) In the interest of the mother—(1) Induction of abortion; (2) hysterectomy.

II. After delivery: (*a*) Non-intervention. (*b*) Hysterectomy, indicated by recurrent hemorrhage, and septic infection.

Non-intervention was recommended whenever, on account of its location, the tumor did not interfere with delivery, or when its moderate growth would admit of delay until viability of the child. Myomectomy for pedunculated fibroids was a safe procedure; but the enucleation of fibroids before viability risked the life of the child, as abortions were frequent. After viability it was indicated when it was desirable and possible to preserve the uterus, or during labor when myoma of the cervix obstructed the pelvis and could not be dislodged. The Porro operation was the safest procedure after viability of the child, or at term if the tumor obstructed delivery and if the uterus must be sacrificed. Vaginal Cæsarean section, as proposed by Dührssen, had not yet been tried. Induction of abortion was considered more dangerous and less readily controllable than hysterectomy. Distress from abdominal distention or pressure, interference with vital functions, great and constant anxiety might require hysterectomy as an emergency operation. When the tumor was located in the lower segment of the uterus, or in the anterior lip of the cervix, or in the broad ligament, and encroached on the pelvic space so as to constitute a barrier to delivery, the patient was entitled to her choice of time of intervention, whether before or after viability of the child. After safe delivery, only distinct indications warranted any intervention. Post-partum hemorrhage and sepsis should be managed the same as though no tumor was present. Hysterectomy became necessary during the puerperium when the hemorrhage could not be permanently

checked, or before infection or sloughing of the myomatous uterus or the retention of the secundines had led to general acute septicæmia.

**Technique of Abdominal Hysterectomy.**—Dr. J. Henry Carstens, of Detroit, contributed this paper. The following is a *résumé* of his contribution: The usual careful aseptic preparations were carried out. The patient was placed in the Trendelenburg position. After freeing the adhesions, the uterus and growth were pulled out of the abdominal cavity with the aid of a corkscrew. The intestines were kept in place by abdominal towels. Clamps were placed on each broad ligament outside of the ovary. The broad ligament was cut one-quarter of an inch from the clamps down as far as the latter extended. A cut was made across the uterus anteriorly from the point of one clamp to the other through the peritoneum, and the bladder was separated from the uterus. Another pair of clamps were now placed on the broad ligament down to the cervix, and the remainder of the broad ligament was cut to the point of the clamps. The slight attachment to the vagina and anteriorly was now easily separated, and the growth and uterus were removed. It would be noted that there were four clamps, two containing each ovarian artery and two containing the uterine arteries. Each artery was now separately ligated with dry sterilized catgut. If the arteries of the round ligament were large, as they sometimes were, they also required a ligature. The clamps were removed and the stumps and raw surfaces carefully covered with peritoneum by a running suture of dry sterilized catgut. If the cervix was removed, a small opening was left for a temporary gauze drain. If the cervix was left in, no drainage was used except in septic cases, when a puncture in the posterior cul-de-sac was made use of for a rubber drain. Dr. Carstens concluded: First, in abdominal surgery, the broad ligament should be clamped and the growth and uterus removed. Second, the four blood-vessels should be ligated separately. Third, all raw surfaces should be carefully covered with peritoneum. Fourth, in cases without tears and healthy mucous membrane the cervix was to be left in. Fifth, in any diseased condition of the cervix and malignant growth total hysterectomy must be performed.

**The Treatment of Inertia and Subinvolution.**—Dr. Charles Stover, of Amsterdam, N. Y., contributed this paper. He said that the practice of discharging puerperal cases after the third day, with the direction that if anything goes wrong the doctor is to be recalled, deprived the lying-in woman of an opportunity for the detection of subinvolution. The stasis of the circulation and absence of muscular contraction led to metritis, endometritis, retroflexion, and prolapsus. Muscular contraction might be secured by the physician at all stages of labor to overcome inertia and during convalescence to prevent subinvolution. In the treatment of inertia during the first stage of labor, ergot was to be condemned, and rest secured by sleep. In the second stage, instrumental delivery would usually be indicated, but the slowly interrupted faradic electrical current was useful, selecting the primary current when the secondary might be painful. Strychnine was to be given in doses of gr. $\frac{1}{30}$ or $\frac{1}{60}$, repeated in two hours if necessary. Ergot was not advised, save in exceptional cases, and then in doses of ♏ v. every fifteen or thirty minutes. In the third stage, when post-partum hemorrhage might have complicated the situation, after the coagula had been emptied out and the secundines removed beyond doubt, the faradic current was of great value. It might be applied with one pole over the abdomen, and one at the lumbar spine. This was usually sufficient, but the intrauterine bipolar application might accentuate its efficiency. The telescopic electrode invited sepsis. Ergot should be given hypodermatically. Manual compression and massage should not cease for an instant. The treatment of subinvolution presupposed the exclusion of endometritis, fibroids, retained secundines, or any pathological state, the condition being distinguished by stasis and muscular inaction. The interrupted faradic or galvanic current was to be used daily. Hot-water douches, as outlined by Emmet, were of value. Boroglyceride tampons, daily or every other day, were likewise helpful by depleting the tissues. Ergot was still of use, particularly in sthenic and rheumatic subjects, when combined with the citrate of potassium as used by Lawson Tait, in doses of ʒ ss.–i. in a half-pint of water four times daily an hour before meals and at bedtime. Indian hemp might at times go with the ergot. Saline cathartics and an occasional cholagogue were often useful to unload the pelvic veins and quicken the portal circulation. Iron was used in anæmic cases very early, with quinine, cinchona, and gentian as adjuvants. Lactation was considered to be a physiological and complementary function in promoting involution.

**Choice of Method for Total Hysterectomy, and Some Points of Technique.**—A paper with this title was contributed by Dr. B. Sherwood-Dunn of Boston, in which he compared the abdominal operations by Richelot, Le Bec, Doyen, and Martin with the American method, much to the favor of the last-named, and emphasized the advantages of the preservation of the cervix by giving five reasons in its favor. These reasons were: (1) Prolonging of the operation because of hemorrhage from the lateral and posterior vaginal arteries and closing of the vaginal opening. (2) Danger to the ureters. (3) In some women the os and cervix were the seat of sexual pleasure. (4) The cervix formed an integral part of the pelvic floor. (5) The opening into the vagina increased the chances of infection.

**Intrapelvic Adhesions.**—This paper was read by Dr. Walter B. Chase, of Brooklyn, N. Y. The author stated that in standard text-books on gynæcology very little space had been devoted to the distinctive topic of intrapelvic adhesions, and it was surprising to find how little notice on the whole it had received from writers on gynæcology and abdominal surgery. The character of the adhesions likely to be formed varied according to the variety of inflammation producing them. Recent adhesions lacked the strength and resistance of older ones, and the friability of those formed in the presence of septic, tuberculous, and malignant conditions was marked. The author then dwelt upon the diagnosis at considerable length. To prevent the development of adhesions, one must naturally prevent the occurrence of their antecedent septic and inflammatory processes. To retard their development two drugs had been long known —potassium iodide and mercurials; and to them must be added another—gold and sodium chloride. The Brand method of pelvic massage claimed recognition, and was undoubtedly useful. In the surgical treatment of these adhesions *per se* the danger was twofold —the difficulty of controlling the hemorrhage, and the liability of new adhesions forming from the exposed raw surface remaining. To control the hemorrhage, tying or torsion was recommended, or, when this was impossible, pressure, and the application of hot water or occasionally permanent pressure by gauze packing. Surgeons had encouragement for the future in the use of Dr. Skene's electro-hæmostatic method. To prevent the formation of new adhesions, as little raw surface as possible should be left, absorbable ligatures must be used, and what raw surface could not be covered was to be washed with decinormal salt solution.

The following officers were elected for the ensuing year: *President*, Dr. Rufus B. Hall, of Cincinnati,

Ohio; *Vice-Presidents*, Dr. L. H. Dunning, of Indianapolis, Ind., and Dr. T. J. Crofford, of Memphis, Tenn.; *Secretary*, Dr. William Warren Potter, of Buffalo, N. Y.; *Treasurer*, Dr. X. O. Werder, of Pittsburg, Pa.

Louisville, Ky., was selected as the next place of meeting in 1900.

## Correspondence.

### OUR LONDON LETTER.

(From our Special Correspondent.)

THE BRITISH ASSOCIATION; SIR MICHAEL FOSTER'S ADDRESS; WIRELESS TELEGRAPHY—OFFICIAL REPORT ON THE NAVAL MEDICAL SERVICE—A BLUE BOOK ON OYSTERS—JENNER INSTITUTE—SIR EDWARD FRY AGAIN.

LONDON, September 15, 1899.

THE British Association is holding its sixty-ninth annual meeting at Dover. This is to be distinguished from the Medical and other daughters who have taken the name British. The full description of this, the most important society of the kind, is British Association for the Advancement of Science, but the two words British Association alone are always understood as referring to it, and these are often abbreviated, sometimes as much as to the B. A. Medical subjects are not excluded, but must be viewed from a scientific point of view exclusively. The association is very popular, and the annual meetings in different towns are mostly well attended, not only by scientific workers but by many who feel an interest in the subject.

The association met on Wednesday, many members and friends having arrived on the Monday, and some on the preceding Saturday. In the evening Sir Michael Foster delivered his address as president. After referring to the losses sustained by the association through death during the year, especially to Sir Douglas Galton, who was chiefly responsible for the establishment of the National Physical Laboratory, he turned to the subject he had chosen, viz.: "The Progress of Science during the Nineteenth Century." This is certainly a large order, and could be only partially accomplished, but Sir Michael was able to please his audience with some bird's-eye views. Thus, he said, to-day our treatises on physiology are largely made up of exact expositions where our predecessors were obliged to resort to such vague terms as "vital force." Our present extensive knowledge of the nervous system was but an expansion of Charles Bell's new idea published in 1811. The middle years of the century marked an epoch in biological thought, for it was then that Darwin issued his "Origin of Species," a work that would have been impossible had not the earlier half of the century been in travail for its coming. The president pleaded on behalf of two great scientific projects—one, the Antarctic expedition, for which the association has voted £1,000. The other is a proposal for carrying out by international co-operation a complete current index of the scientific literature of the world.

Yesterday wireless telegraphy was to the fore, and gave Mr. Marconi another triumph. It had been arranged to exchange messages with the French association meeting at Boulogne. In order to intensify the currents a large cage of close wire netting was fixed to the mast-head at Dover, with very successful results. Messages were exchanged with Boulogne, the Goodwin lightship, and the South Foreland lighthouse. The ship is twelve miles out in the Channel, with four miles of high hills intervening between the sea and the transmitter at Dover. Numerous messages passed between members of the French and British associations, and the latter will pay a visit to Ostend on the 27th.

Professor Ogston's address was sure to excite criticism and widespread comment. Whether it had any effect in expediting the report of the committee appointed by the admiralty to consider the training for the naval medical service I cannot say; but that committee has just recommended a series of reforms. It pronounces the present course at Haslar to be insufficient. It recommends special instruction in diseases peculiar to foreign stations, and which must be met with in the naval service when abroad; serum therapeutics, including that of snakebites; ambulance drill, treatment of bullet wounds, and other branches of naval surgery; how to fit out a hospital ship; the use of the Roentgen-ray apparatus, and the photography connected therewith. These subjects are of such importance and so extensive that it is admitted some parts of the present course may have to be eliminated. An additional lecturer is recommended to be appointed, and three prizes are to be established. As a further stimulus to study the committee further recommends that the names of surgeons should not appear in the navy list until after they leave Haslar, and their seniority on the list should be determined by the marks obtained. Some other proposals are also made to enable officers on the active list to keep abreast of scientific progress. A recommendation which will give great satisfaction as removing a serious grievance is made respecting the surgeon's outfit. Hitherto naval medical officers have had to provide their own surgical instruments. The committee now recommends that all ships bearing medical officers, as well as naval and marine barracks, be provided with a set of instruments at the public cost.

Oysters seem on the way to a rehabilitation of character. A blue-book has just been issued containing the evidence submitted to the select committee appointed by the House of Lords. A number of expert witnesses were called. Dr. Bulstrode, of the local government board, says the bacillus of typhoid could not become a part of the flesh of the oyster without being first digested and therefore destroyed. The bacillus might be caught in the gills mechanically. The intestine might contain it, or the water in the shell if taken from a polluted bed, but even then it would not live long. Bacteriologists seems to agree that when an artificially infected oyster is placed in pure water, especially moving water, it gets rid of the infection within ten days. This will be pleasant reading to consumers as well as to the cultivators. But it certainly does not render less risky the planting of oyster beds near the outfalls of sewage.

On Wednesday, the changes necessary in the memorandum of association of the Jenner Institute to enable it to comply with the conditions of Lord Iveagh's gift of £250,000 were duly sanctioned by the court.

Sir Edward Fry has returned to his charge against the profession, but his letter to the *Times* is so full of blunders about the medical authorities and their powers that he only makes himself more ridiculous. Let him direct his attention to the black sheep of his own profession.

**Indications for Operations upon the Gall Bladder.**—(1) Cases marked by repeated attacks of gall-stone colic, which resist all treatment and are exhausting the patient's strength; (2) when there is evidence of suppuration about the gall bladder, due to gall stones; (3) in empyema; (4) in dropsy of the gall bladder; and (5) in obstructive jaundice, due to gall stones in the common duct.—ROBSON.

## FAITH CURE AND THE LAW.

To the Editor of the Medical Record.

Sir: I have just read your article on "Faith Curing in Illinois." I am not a Christian Scientist. There may not be any basis of truth for their claims as to curing people, but I am inclined to think there is such a basis. Of course Miss Eddy's book is mostly a conglomeration of nonsense, but the fact that Christian Scientists cure the sick is what influences people to accept their doctrine or theory as true. As far as human evidence can establish a proposition their "healers" cure as large a proportion of the sick as drug-physicians. Or what is the same thing to the sick as the "science," they are made to believe that they are cured.

Another point: I believe in giving sick people medicine, and I take some myself when I am sick. When I am very sick I like to take as little medicine as possible. Now suppose, although perfectly sane, I would conclude that I would not take any medicine at all. Would any person or organization have any right to make me take it? I think not. I never heard of such a proceeding.

If my child is sick and I think it should have medicine I effectually insist on its taking the medicine whether the child wants to take it or not. I do this because I feel responsible for the welfare of my child. I do not think the child competent to judge for itself, and so I exercise my judgment for it.

All will probably agree that I am right in this position. All will agree that I have the right to change doctors, and that I have the right to change from a "regular" to a "homœopath," or "eclectic," or the reverse. Some would question my wisdom in thus changing, but no one would think of doing so insane a thing as invoking "the law" to compel me to make a change or not make a change of said doctors. Why? Because they recognize my right to act for my child. Now suppose that for the good of the sick child I dismiss the drug-doctor and call in a faith or mind "healer," one who does not give drugs. At once some one raises the cry that I should be forced to have a "drug-doctor." Is this right? Is it just? Is it sanity? No, it is all wrong. Persuade me, if you can, to have a drug-doctor for myself or child, but don't try to force me to do either. You had better not. The argument used to justify compelling people to have a drug-doctor is that the sick person may die; yes, sir, may die! If a "mind healer" lets a patient die, a great hue and cry is raised against him, just as if no drug-doctor ever lost a case. If a drug doctor and a "healer" should each treat a hundred cases, the patients under each doctor being as nearly similar as possible, and the drug-doctor should lose ten of his hundred and the "mind healer" should lose only one of his hundred, there would be a great outcry against the "healer" and the family of the dead one, while hardly a remark would be made about the drug-doctor losing ten cases. The verdict would probably be that he had "pretty good luck" with his hundred cases, or "he did the best he could." Multiplied thousands of people die in New York City every year in spite of the best efforts of her many competent and painstaking doctors, and no one thinks anything of it, much less does any one denounce those doctors for letting those thousands die. But if a Christian Scientist or other "healer" lets one sick person die while being "treated" without drugs, at once every one connected with the case is denounced, and there is talk of "the law," and the incident is published far and near.

The childish absurdity of all this should be plain to every one, but it is not. We are blind worshippers of tradition, faithful trailers in old ruts, and loyal believers in the sacred and exclusive orthodoxy of drug medication as were our fathers. History repeats itself. Our grandchildren will smile when they read of our absurdities, eccentricities, and contradictions in these things. If a man wants for himself or child a doctor who does not give drugs, argue with him if you wish, convince him of his folly if you can, but don't talk about forcing him with "the law."

As to the "mind healer," "faith curist," or "Christian Scientist" (?), he will not "treat" any cases unless he is asked to do so, and he will not be asked to treat many unless he cures some; and the medicine doctor loses some of the cases treated.

I say all this although I am a strong believer in drugs. I take and give drugs, and if sick would have a drug-doctor. I plead for justice, fair dealing, and common sense in this matter.

N. C. Steele, M.D.

Chattanooga, Tenn.

## THE SMOKE NUISANCE.

To the Editor of the Medical Record.

Sir: The efforts of the New Yorkers to stop the smoke nuisance are quite pathetic to those who have been through a like experience in other cities. The claim that any one has a right to see the blue sky above or to breathe uncontaminated air below will be found to be absurd. Your wager (p. 453) is perfectly safe, even if you leave out the final clause. The nuisance will certainly increase so long as soft fuel is cheaper than hard. The economy is only for the consumer of coal, however. To the community the loss is great, in damage to clothing, house furniture and decorations, stocks of goods, impairment of health. The community simply pays all that the consumer gains, and much more. But the moment you interfere you are denounced as hostile to the manufacturer or to any large user of heat and power, and therefore to the city. The heavier the pall of smoke, the greater the prosperity.

No device yet attached to the furnace seems effective in overcoming the trouble. You must suffer more and more until electricity comes into universal use, and a few furnaces at convenient centres do the work of the thousands now running, or the force can be generated by water power at places more or less distant, and be distributed through the city by wires.

Rochester, September 25, 1899. *

## A VACCINE EXPELLER.

To the Editor of the Medical Record.

Sir: In your issue of September 23d "An Improvised Vaccine Expeller" is described by Dr. Boyer. Its object is to obviate the necessity of constituting one's self "a compressed air tank" in order to expel the vaccine from the capillary tube. He also mentions a "vaccine expeller" described in *The Lancet*, which, I should judge from the comparison made, is a rubber bulb, and considers his bicycle pump an improvement. When the capillary tubes of vaccine first came into general use some few years ago I had occasion to use them, and at first followed the health board's directions to "blow out" the virus. This did not please me for various reasons: the unpleasantness of putting things in one's mouth that the mouth was not designed for; the possibility of squirting saliva over the vaccine; the uncertainty of the amount of pressure from the "compressed air tank," which would sometimes suddenly shoot the vaccine out in all directions except where wanted.

A very simple expedient occurred to me that did

not necessitate the employment of any "mechanical apparatus." After breaking both ends of the glass tube and adjusting the small rubber tube in the usual manner, I simply take the free end of the rubber tube between my index finger and thumb, getting them in contact about a half-inch, or as much as possible, from their tips, at the same time holding their tips apart. This compresses only the end of the tube and practically makes a rubber bulb of it.

The tube lies between and parallel with the fingers, so that when the latter are gradually approximated from their point of contact toward their tips, the pressure expels the air from the rubber into the glass tube and forces the vaccine down. As only about a half-inch of the tube can be compressed in this manner, two such squeezes may be necessary to bring the vaccine out.

It is the simplest thing to do and perfectly under control, as the virus can be seen moving down the tube, and the pressure can be regulated accordingly. It is aseptic, clean, and convenient, and cannot be improved upon by any "mechanical apparatus."

It has also enabled me, when short of virus, to use one tube for two or three inoculations. Any desired portion can be forced out, and if the remainder is not to be used at once, a reversal of the forcing-out process will pull the vaccine back into the middle of the tube, and so allow of its ends being resealed by fusing them with a lighted match.

ARCHIBALD E. ISAACS, M.D.

240 EAST BROADWAY, NEW YORK.

## Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending September 30, 1899:

| | Cases. | Deaths. |
|---|---|---|
| Tuberculosis | 99 | 118 |
| Typhoid fever | 64 | 16 |
| Scarlet fever | 46 | 2 |
| Measles | 86 | 9 |
| Diphtheria | 158 | 20 |
| Laryngeal diphtheria (croup) | 8 | 6 |
| Cerebro-spinal meningitis | 0 | 5 |
| Chicken-pox | 3 | 0 |

**Climate of the Philippines.**—By some writers, and of course by a certain school of American politicians, the Philippines have been described as excessively unhealthy—a sort of eastern Bight of Benin, with the addition of constant earthquakes, periodic typhoons, and occasional epidemics of cholera. It is a common cry, familiar enough to Englishmen; but America need not be afraid that her new possessions will prove a white man's grave. Professor Worcester, it is true, complains much of the climate in his book, but in spite of his wide experience he does not appear—if he will pardon this expression of our opinion—to have acquired the rudiments of the art of travel. Without European food, without even flour, living on rice, oats, or anything he could find, often with no servants and insufficient means of protection against the weather, he naturally undermined his health and undoubtedly came very near his death from a severe attack of typhoid. It is not too much to say that similar exposure in a European climate would probably have been fatal. Mr. Foreman, undoubtedly one of the best authorities, gives it as his opinion that the climate of Luzon is excellent. Mr. Stevens describes the climate of Manila as much better than that of Hong Kong. Perhaps the best proof of these statements lies in the comparatively light mortality among the American troops in the present campaign. Beri-beri and cholera rarely attack Europeans, and the type of malarial fever is not a severe one. On the whole, for tropical islands they may be considered unusually healthy; less healthy, no doubt, than the islets of the Pacific, but far healthier than Borneo or New Guinea.—*English Quarterly Review.*

**Horseflesh as a Food.**—France is not the only country where horseflesh is popular; in Denmark it is preferred by many people to beef. Hippic butchers at Copenhagen have been in existence since 1830, and in Belgium for twenty years. In Germany and Austria business is brisk in horse-meat preparations, and is becoming more so every year. England is still reluctant about accepting the new aliment and classes that kind of food alongside snails and frogs. The first hippic butchers in Paris were only established in 1866; ever since that special trade is legally carried on, and is considerably increasing, as demonstrated by municipal statistics—so much so that to-day over five thousand tons of horseflesh are consumed annually in Paris, sold by sixty licensed horse-butchers, who receive supplies from two special hippic slaughter-houses, both outside the city proper. In both these abattoirs the sanitation is faultless, while the inspection of the meat itself is of the severest and most satisfactory nature, the same as for oxen, sheep, and pigs.—*Sanitary Record.*

**Golf and Neurology.**—It has been said, remarks the *Medical Press*, that every other man in America is now so addicted to Scotch ways and habits that he wears heather-tweeds, plays golf, drinks "Scotch," and says "Hoots, mon!" Of such must be Dr. Irving C. Rosse, of Washington, who contributed to the American Neurological Association a paper on golf from a neurological point of view. Dr. Rosse is evidently new to the game and knows little of its history, or he would know that fatal accidents have occurred, at least in Scotland, from golf-ball strokes. There is a great deal to be said in favor of golf for those suffering from heart lesions, arterial calcification, or certain hysterical conditions, and undoubtedly as a medical adjunct it is not to be despised. Dr. Rosse, while enjoining moderation, alleges that benefit has been derived in some cases of cough, nervous asthma, and in affections of bladder and prostate, but it is pre-eminently in functional nervous disease that our great Anglo-Saxon game is to be recommended both as a prophylactic and curative. As to its being a remedy for insomnia, there may be some doubt, as we have met within the last few days a golfer who, despite his golf exercise, suffered from insomnia. A great deal might be said in favor of golf as a mental and nervous tonic, but not to the exclusion of other sports which have many of the same advantages. Undoubtedly it is a good thing for the physician to know from his own actual experience the physical requirements of different games and their physiological uses. The use of golf as a remedy in the treatment of nervous ailments of a functional character, whether they affect the mental or visceral spheres, is worthy of all consideration.

**The Mouth as an Index to Character.**—A certain philosopher declares that a woman is known by her mouth—not by the words that issue therefrom, but by the shape and color of the lips and the lines and dimples that gather about this important feature. He is supported in his theory by physiognomists, who all endeavor to impress us with the fact that no woman with the small, red-lipped, "Cupid-bow" mouth, so praised in song and story, was ever intellectual or generous of heart. He says further that "it is con-

soling to those whose mouths are not in accordance with the lines of beauty laid down by the poets, to be told that a 'wide, straight mouth with strong, white teeth' denotes the woman of superior intelligence, goodness of heart, strength of mind, and a thousand and one other sterling qualities which we all like to think we possess." It is the fashion at present for women to hold their lips very slightly apart. This is supposed to give that innocent, wistful, wondering expression which was the peculiar property of the heroines of old-fashioned novels, but which bicycle riding and the kindred modern amusements have caused to vanish. It is difficult for the thin-lipped, determined woman to acquire this trick, but perseverance works wonders.—*English Outlook.*

**Influence of National Prosperity on the Marriage Rate.**—Dr. Farr has described the marriage rate as the barometer of prosperity, just as the funds are the barometer of credit. So we find that the marriages of England increase as "the result of peace after war, abundance after dearth, high wages after want of employment, speculation after languid enterprise, confidence after distrust, national triumphs after national disasters." The same conclusion is borne out by the fact frequently alluded to by the registrar general in his reports, that the marriage rate varies in the same direction as the value of British exports; the average price of wheat and the amount per head of population cleared out at the banker's clearing-house. The coincidence, it should be pointed out, is one in direction, but not in degree.—Dr. Newsholme on "Vital Statistics."

**The Multiplication of Congresses.**—The British Medical Association held a congress in July, when public-health subjects were more or less fully discussed; the Sanitary Institute Congress has recently had its session; that of the Royal Institution of Public Health opened on the 21st of August. Having regard to the sameness of subjects and speakers, we cannot help thinking that there would be much saving of "weariness of the flesh," much advantage to public-health science, if there were fewer opportunities of attacks of mental indigestion.—*Public Health.*

**Influence of Hereditary Diseases on Mortality of Children.**—Diseases in the parents are often accountable for weak children. In some instances these diseases cause the children to be prematurely born; in other instances the children are born at full term, but the iniquities of the parents are visited upon the children. Under this heading might be included alcoholism in the parents. The question of whether acquired characteristics can be transmitted need not trouble us; but it must be admitted that habitual drunkenness in the parents does tend to produce feeble children. Not only does drunkenness affect the children by causing the inherited capital with which the child starts in life to be deficient, but it also acts indirectly on the infant in this way, that often the surroundings are unhealthy and the mother neglects the child.—Dr. Thomas, in *Public Health.*

**Water Supply of Towns in Great Britain.**—*The Sanitary Record* says: "The exceptional heat of the past summer in Great Britain and the drought have had a very serious effect on the water supplies of the country. In the valley of the Thames the rainfall has been less than one-third of the normal quantity. The river has run low to an alarming degree, and the citizens of London are face-to-face with a repetition of the water famine, notwithstanding the facilities which the companies now possess of mutual assistance. No doubt the sufferers will derive much consolation from the assurance that the water commission will report in November. But it is not London only that is now threatened. From all parts of the kingdom comes the same tale of supplies running short concurrently with increased consumption. And in this connection one is constrained to remark on the deplorable thoughtlessness and lack of consideration displayed by so many people at a crisis such as this. Instead of exercising a prudent economy, they not only use the precious water with unnecessary extravagance, but they allow much of it simply to run to waste as if the supply were unlimited." The dwellers in American cities have reason to ponder over these remarks, for according to Sir William Preece the consumption of water in the majority of British cities rarely exceeds twenty-five gallons per head daily, while in New York sixty gallons and in Philadelphia ninety gallons are used daily.

**The Laughing-Plant of Arabia.**—An Indian medical journal publishes a description of a curious plant which grows in Arabia and in parts of the western frontier of Hindustan. It is popularly known as "the laughing-plant" on account of the effect produced by eating the seeds. "The plant is of moderate size with bright yellow flowers and soft velvety seed pods, each of which contains two or three seeds resembling small black beans. The natives of the district where the plant grows dry these seeds and reduce them to powder. A small dose of this powder has similar effects to those arising from the inhalation of laughing-gas. It causes the soberest person to dance, shout, and laugh with the boisterous excitement of a madman, and to rush about cutting the most ridiculous capers for about an hour. At the expiration of this time exhaustion sets in, and the excited person falls asleep, to wake after several hours with no recollection whatever of his antics."—*American Druggist.*

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended September 30, 1899:

| | | Cases. | Deaths. |
|---|---|---|---|
| **Smallpox—United States.** | | | |
| Massachusetts, Everett | September 15th to 23d | 1 | |
| Tennessee, Memphis | September 15th to 23d | 1 | |
| Virginia, Portsmouth | September 15th to 23d | 1 | |
| **Yellow Fever—United States.** | | | |
| Florida, Key West | September 25th to 27th | 166 | 9 |
| Miami | September 15th to 23d | 2 | 1 |
| Louisiana, New Orleans | September 15th to 23th | 19 | 4 |
| **Smallpox—Foreign.** | | | |
| Belgium, Antwerp | September 2d to 9th | 1 | |
| Bohemia, Prague | August 27th to September 2th | 6 | |
| Brazil, Rio de Janeiro | July 29th to August 11th | 121 | 63 |
| Egypt, Cairo | August 15th to 27th | 1 | |
| India, Bombay | August 5th to 12th | 12 | |
| Greece, Athens | September 2d to 28th | 7 | |
| Mexico, Chihuahua | September 8th to 11th | | 6 |
| Russia, Moscow | September 2d to 10th | | 3 |
| Odessa | August 27th to September 9th | 2 | 1 |
| Warsaw | August 26th to September 9th | | 8 |
| **Yellow Fever—Foreign.** | | | |
| Brazil, Rio de Janeiro | July 28th to August 11th | | 4 |
| Colombia, Cartagena | August 27th to September 9th | 1 | 1 |
| Panama | September 12th to 18th | 3 | 1 |
| Mexico, Tampico | September 15th to 22d | | 1 |
| Tuxpan | September 4th to 11th | | 3 |
| Vera Cruz | September 14th to 21st | | 6 |
| **Cholera.** | | | |
| India, Bombay | August 15th to 26th | | 4 |
| Calcutta | August 5th to 19th | | 15 |
| Karachi | August 11th to 18th | 3 | 2 |
| Japan, Osaka and Hiogo | August 19th to 26th | | 1 |
| Yokohama | August 19th to 26th | | 1 |
| **Plague.** | | | |
| China, Amoy | August 5th to 12th | 40 | 40 |
| Hong Kong | August 5th to 19th | 44 | 46 |
| Egypt, Alexandria | August 28th to September 3d | 1 | 1 |
| India, Bombay | August 15th to 26th | | 159 |
| Calcutta | August 5th to 19th | | 87 |
| Karachi | August 12th to 19th | 2 | 2 |

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 56, No. 16.
Whole No. 1510.

New York, October 14, 1899.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### A CONTRIBUTION TO THE STUDY OF THE GASTRIC CRISES OF TABES.

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NEW YORK.

There is scarcely another symptom complex that, owing to the severity and intensity of its manifestations, is so likely to attract and to hold the interest of the physician as that form of nervous vomiting which, since Charcot's time, has been known as "gastric crisis." The individual features of these paroxysms have been discussed at length by celebrated authors, but many cases present peculiar phenomena which have not been fully enough dwelt upon, and there therefore remains much, especially from the diagnostic standpoint, which requires further study and explanation.

Delamare[1] was the first to call attention to the clinical connection between locomotor ataxia and its gastric phenomena (pain, vomiting, etc.). Charcot,[2] who gave us the first classical description and first carefully studied and analyzed the clinical and pathological features, named the attacks "crises gastriques." He and his pupils taught that gastric crises could occur only in connection with diseases of the spinal column. Notwithstanding that Couty[3] in 1876, Mistarlet[4] and Mathelin[5] in 1877 described and published interesting cases of purpura in which attacks of periodic vomiting occurred, the above view was generally accepted until von Leyden,[6] in a paper read before the "Verein für innere Medicin" of Berlin, reported cases of periodical vomiting which were similar to the gastric crises of locomotor ataxia, but in which, for many years, and in some cases even until death, no other characteristic symptoms of tabes could be detected. Von Leyden thought he recognized in these attacks a form of primary nervous vomiting occasioned by neuralgia of the pneumogastric nerve or of the cœliac plexus. With the exception of one case in which he had examined the pneumogastric nerve post mortem, there had been no examinations of the central nervous system made; nevertheless, he believed he could exclude all disease of the central nervous system in his cases. This declaration of von Leyden opened up an entirely new aspect of the question of periodical vomiting, and since his first publication, Rémond (of Metz),[7] Boas,[8] Immerman,[9] and recently Leclézio,[10] as well as Oettinger,[11] have published cases apparently confirmatory of his statement, but in none, unfortunately, have exact post-mortem examinations been carried out.

About the same time as von Leyden reported his cases, Quincke[12] and Dinkelacker[13] described cases of "acute circumscribed œdema" occurring in various parts of the body, particularly about the hands, with attacks of vomiting similar to those of gastric crises. Such œdematous areas had been observed in the mucous membrane of the pharynx, and the theory was advanced that the vomiting was due to the formation of similar areas in the gastric mucous membrane. More recently Struebing[14] has reported cases of a like nature. Debove[15] demonstrated a case in the "Société des hôpitaux" in which, following a blow upon the chest, severe periodic attacks of vomiting had occurred for six years, accompanied by most intense pains originating in the pyloric region, and radiating backward and upward between the shoulders. At the time of the demonstration not a single symptom of tabes was present. Grube[16] has described interesting attacks of vomiting complicating diabetes mellitus, but without symptoms of tabes. Matthieu[17] and his scholar, Baraton,[18] have observed similar attacks in cases of floating kidney.

It would lead us too far to recapitulate the historic development of gastric crises as they have been observed and described. Besides tabes and the primary nervous vomiting of von Leyden, periodic vomiting and gastralgias occur also in the following conditions:

1. Diseases of the central nervous system: (*a*) Organic (tumor and abscess of the brain, cerebral and spinal syphilis, dementia paralytica, multiple sclerosis, acute myelitis, and compression myelitis); (*b*) functional (hysteria, neurasthenia, migraine, irritations of the external auditory canal, etc., etc.); (*c*) diseases of the sympathetic (acute circumscribed œdema ["angioneurotic œdema" of Struebing], certain forms of purpura, Basedow's disease, etc.).

2. Diseases of the stomach: (*a*) Organic (ulcer, cancer, chronic atrophic gastritis, gastritis anacida, motor insufficiency of the second grade—so called ectasia—and perigastritis); (*b*) functional (gastrosuccorrhœa [chronica as well as periodica], habitual vomiting [so-called vomitus nervosus], and cardio- and pyloro-spasmus).

3. Reflex vomiting from other organs: (*a*) Diseases of the abdominal organs which are in communication with the stomach through the pneumogastric (liver, gall bladder, and kidney); furthermore, in gall stones, renal calculus, floating kidney, local and general peritonitis, abdominal tumors, ulcer and stenosis of the duodenum, chronic intestinal obstruction and hernia of the linea alba; (*b*) diseases of the sexual organs of both sexes; (*c*) diseases of the ears, œsophagus, pharynx, and also of other organs.

4. Constitutional diseases (gout, uræmia, diabetes mellitus, Addison's disease, malaria, etc.).

5. Chronic intoxications: (*a*) Metallic (lead, copper, and zinc); (*b*) medical (alcohol, nicotine, etc.).

6. Entozoa.

**Symptomatology.**—The gastric attacks in all these affections evidence in general like phenomena, varying, however, in their detail manifestations according to the underlying disease.

As described in the literature, typical gastric crises have the following characteristics: a very sudden onset without prior digestive or other cause; severe pains in the abdomen which, after remaining for a while in this region, extend upward and forward along the sternum to the neck, or radiate upward and backward between the shoulder blades. Accompanying these very often are lancinating pains in the lower extremities, and also severe boring or stabbing pains in the back, radiating laterally. In addition to these pains the

patients suffer from eructations and a choking sensation, which symptoms are soon followed by repeated and uncontrollable vomiting. Before and after this vomiting there are thirst, a feeling of pressure and of fulness in the epigastrium, anorexia, salivation, profuse sweating, and rapid prostration. So intense is the suffering that the patients toss about on their beds, assuming often the most extraordinary positions. Vomiting brings but temporary relief. The intensity and duration of the attacks vary, the duration being generally from three to six days. The attack ceases in as unaccountable a manner as its onset occurs. The pains and vomiting diminish gradually in severity and frequency. The patients fall asleep, to awaken entirely free from suffering, until after days, weeks, months, or even years, a new attack seizes them.

There are, however, many variations from this typical picture. An attempt has been made to classify them. Charcot[19] has described six irregular forms occurring in addition to the typical attacks: (1) a form with quite a typical course, but with unusual prominence of one of its manifestations; (2) a form marked by unusual severity of the pains with absence of vomiting; (3) severe vomiting with absence of pain; (4) a quotidian form (short daily attacks); (5) attacks of unusual length (fifteen to twenty days, or even a month); (6) a form known as "vomissements noirs."

Fournier[20] describes a very peculiar variety which he has but once observed, and to which he has given the name "la variété flatulente de la colique gastrique." Here, without special cause, there occurred for periods of days and weeks loud eructations of odorless and tasteless gases, with no marked vomiting, however. His description reminds one very much of the "eructatio nervosa" of hysterical and neurasthenical persons, such as have been described by Oser,[21] Bouveret,[22] Boas,[23] and others. Fournier[20] has also described what he calls "anorexie tabétique," an ordinary type of gastric crisis, in which obstinate loss of appetite, defying all remedies, forms the most prominent symptom. The patients force themselves to take food to prevent collapse. He reports a case in which loss of appetite had existed for over nine months.

If we now pass to our own cases, and carefully analyze all the phenomena which they present, we can but come to the conclusion that a strict classification of gastric crisis, as just detailed, is not warranted. In conformity with the cases described at length in literature, we find even in the same patient the greatest variations regarding the duration, frequency, and other features of the attacks. The material which I have had the opportunity of observing and studying consists of twenty-two cases treated at various periods from 1892 to 1898 at the polyclinic of Dr. I. Boas, of Berlin, and of three cases from the polyclinic of Prof. H. Oppenheim, of Berlin, these cases being kindly placed at my disposal during my assistance at Dr. Boas' polyclinic. These patients are mostly of the laboring class, seventeen being men and eight women, a proportion of two to one. According to Friedrichsen,[24] who has carefully studied the statistics of tabes dorsalis abroad, among six hundred and seventy-six cases in the most prominent clinics of Berlin, the proportion of men to women was 4.4 to 1.

The majority—nineteen—of our patients were between thirty and forty years old, three being under thirty and three over forty. Rosenthal[25] calls attention to the preponderance of gastric crisis in the fourth and fifth decennium. It would seem that the puerile age enjoys freedom from these attacks. Hildebrandt,[26] who has studied all published cases of tabes in children, points out that in none of these have gastric crises occurred. On the other hand, we frequently meet with "juvenile vomiting" (v. Leyden), which consists of a series of dyspeptic symptoms in consequence of poor and deficient nourishment, intestinal parasites, hysteria, over-exertion at school, etc.

No history of heredity of the crises could be obtained from our cases, nor does syphilis appear to play any important etiological part. In only five cases could a positive history, and in three others a probable history, of a specific infection be obtained. Fournier[20] found among two hundred and twenty-four cases of tabes with distinct syphilitic infection only fifteen (six per cent.) with gastro-intestinal symptoms (exclusive of rectal cases) in the initial stage. This is very small indeed, for gastric crises occur far more frequently in the earlier stages of tabes than in the later. According to Roestel,[27] gastric crises occur in thirty per cent. of all cases of tabes.

Trauma could be considered as a possible etiological factor in but one case. This patient, a smith, had frequently to hold against his abdomen a piece of metal upon which blows were struck with a hammer. This procedure occurred once directly after eating. He immediately began to vomit, and since then, at intervals of several weeks, has been taken with unaccountable attacks of severe vomiting, sudden in their onset, and frequently associated with profuse diarrhœas (enteric crises?).

The majority of our patients stated that their attacks occurred suddenly and without any assignable direct cause. A few regarded them as a consequence of mental excitement, or of errors in diet. The latter cause does not seem plausible in view of the fact that their digestion before as well as after the attack appears to be normal: a conclusion drawn from the general good appearance before the attack, and the rapid convalescence thereafter.

It is a fact that gastric crises may continue until advanced life, or until the very last stages of tabes. Charcot,[19] Pitres,[28] Boas,[*] Kahler,[29] Rosenthal,[25] and others have published cases whose duration did not, however, exceed ten years; Buzzard[30] three cases of twelve, fifteen, and seventeen years respectively, while Gowers[31] reports in his book one of eighteen years' duration, which was still in the first stage of tabes. Our polyclinic material also presents striking examples, the shortest duration being one and one-half years, the longest nine and one-half, ten, and even fifteen years.

The length of the single attacks varies also within wide margins—from ten to twenty-four hours, up to three and to six weeks, the majority lasting from one to seven days. In five cases there were attacks of almost continuous vomiting and pains, extending over several months. In all cases except two (morphinists with atypical courses) the symptoms continued day and night. Only a very decided minority declared their symptoms worse at night.

The same patient at times manifested a remarkable regularity, at other times a striking irregularity, in the duration of the single attacks. For example, one patient, with a ten years' history of gastric crises, informed me that the first attack lasted three weeks uninterruptedly day and night; the second attack occurred after an eight weeks' cessation and lasted six weeks, with short daily remissions. After a brief time it was followed by short daily attacks for a period of two years; thereafter there was a short interval, followed by attacks lasting from two to five days. This last condition continues to the present date.

As a rule, the duration of the intervals between the attacks also varies very much. Patients frequently state that the attacks occur at regular intervals, but close inquiry into our cases, and analyses of those reported by others, reveal an entirely different condition. To illustrate, a railroad employé who had stated that his attacks had occurred at first tri-monthly, later in ten-weekly, and finally in six-weekly periods, noted carefully the dates upon which he had been excused

from duty because of the attacks; from these data it was clearly shown that there was an entire absence of any regularity in the frequency of the attacks. One case, the patient suffering ten years from gastric crisis, is worthy of note because the interval became gradually shorter (first one year, then half a year, and gradually a lesser interval; since two years a very irregular interval of from one day to two weeks). Another case displays just the contrary condition, at first daily, then weekly pauses. In two cases the attacks for years have occurred synchronously with the menses.

Furthermore, we find no unanimity regarding the degree of intensity with which the attacks begin. All patients stated that the attacks were ushered in unexpectedly. In twenty-one cases the intensity of the attack reached its height in a short time; while in only four cases the full development was gradual. Of these twenty-one with acute onset, thirteen began with severe pains in the abdomen, in the back, or in the side of the body; one began with cephalalgic symptoms such as accompany the so-called "crises ophthalmiques" of Pel[32]; seven began either with profuse diarrhœas accompanied by severe cramps in the abdomen or with symptoms of acute gastritis (nausea, epigastric pressure, loss of appetite, etc.). Three of the above four cases (*i.e.*, those with gradual development) began with gastric symptoms lasting from several hours to two or three days, while the fourth case began with peculiar prodromes to be described later.

If we now compare the relative intensity, duration, and frequency of the single attacks with reference to their increase, diminution, and stability in the progress of the disease, we find, with the exception of one uncontrollable case, the following relations:

| | Increased. | Diminished. | Stationary. |
|---|---|---|---|
| Intensity | 0 | 10 | 14 |
| Frequency | 8 | 8 | 8 |
| Duration | 1 | 6 | 17 |

Depending upon the frequency and intensity of the attacks and the stage of tabes to which they have advanced, the general condition of the patients varies very much during the intervals. If the gastric crises occur in the early stage of tabes, the general condition during the interval is, as Charcot[2] and other authors have declared, a comparatively good one; when occurring frequently and with great severity, we generally see a condition developed similar to chronic dyspepsia or chronic ulcer of the stomach (cibophobia). Such patients take very little food for fear of bringing on an attack, and chronic inanition accompanied by neurasthenic phenomena ensues. As a consequence we have noted very great loss in weight in some of our cases of severest gastric attack. For example, one patient, suffering two and one-half years, lost during the first four months sixty pounds, and during the entire period one hundred pounds; another, eighty pounds in one year and a quarter; another, seventy-five pounds in fifteen years. It seems that loss in weight progresses far more rapidly in corpulent persons. Two patients, sparsely nourished before their attacks began, had lost very little in weight, although suffering frequently and very severely during many years. When free intervals of comparative length exist, the patients seem to regain their loss in weight quite rapidly; thus, in one of our cases in which the attacks had ceased since March, 1898, the patient had gained twenty-seven pounds by January, 1899.

Charcot and the French school, as well as others, have pointed out that gastric crises generally begin with intense lancinating pains in the legs. It appeared to me of interest to verify this assertion, for Vulpian,[33] Charcot,[19] and Buzzard[30] have advanced the theory that both lancinating pains and gastric crises are occasioned by analogous anatomical changes;* the latter due to degeneration of the nucleus of the pneumogastric, the former to degeneration of the posterior spinal roots. Only in five of our cases did the attacks begin with lancinating pains in the lower extremities.

Charcot[19] taught that either pain or vomiting may be absent. In none of our cases was vomiting absent, and pain in but three. Pain, when at all present, formed the most prominent symptom of the entire attack, but seldom continued after the latter's subsidence. It manifested itself, however, differently in different cases. In only one case did the pain, analogous to the description of Charcot,[2] begin in the iliac region, extending from here upward over the abdomen, either fixing itself in the epigastrium or radiating toward the back. In other cases the localization of the pain was various. While in one instance it appeared as tearing and stabbing in character, located in the back and radiating around the sides to the front of the body, in others it began as a griping or burning in the epigastrium, extending through to the back or upward along the sternum into the neck. All these pains were intermittent and beneficially influenced, if only temporarily, by the vomiting. Many patients, again, complained of constant boring pains in the back or in the sides of the chest, which pains appeared as the first symptom of the gastric attack and were constantly present throughout. Occasionally in the beginning, a strong girdle-sensation, that subsided with the vomiting, would accompany the crisis. In some, different varieties of pains were present. Frequently a pain, beginning in the back, would later appear in the epigastrium and remain there constantly during the entire attack. In three cases it was not present in any of the above forms, but gave place to a constant feeling of pressure in the pit of the stomach, and an intense choking sensation in the chest, combined with extreme nausea and anxiety. In the majority, the vomiting either ameliorated the severity of the pain or even caused it to disappear entirely. The patients soon learned to recognize this, and resorted to various mechanical ways to bring about emesis.

The quantity of the vomited matter was, as a rule, enormous; I have repeatedly seen patients who had not taken fluids for two or three hours, vomit several litres.† The vomitus, which has been examined and described by many writers, consisted usually at first of macroscopically recognizable food remnants, later of acid stomach secretions mingled with mucus, and finally of tasteless, clear mucus, or of bile-colored fluid. When there was protracted vomiting, traces of blood could be occasionally observed. Vulpian[33] and Charcot[19] have described cases in which the vomitus had at first the usual characteristics, but later took on coffee-grounds appearance ("vomissements noirs"). I have never observed this condition in any of our patients.

Sahli's assumption[34] that the vomited matter contained a large amount of hydrochloric acid, and that this fact might prove of diagnostic value, appeared to be substantiated by the examinations of Kahler,[29] Simonin,[31] Rosenthal,[36] and Hoffmann[37]; but later was thoroughly refuted by other investigators, especially by von Noorden.[35] I contented myself, therefore, with the chemical examination of the vomitus in but five cases—in each instance at the height of an attack—and was convinced thereby that the assertions of the last-mentioned author were fully correct.

* *Cf.* Buzzard: British Medical Journal, March 5, 1881, p. 333, and The Lancet, September 24, 1881, p. 540.

† On the other hand, one patient who had suffered for six years from severe attacks of eighteen hours' duration, stated positively that he had never, excepting when he drank large quantities of fluid, vomited more than half a litre *in toto*.

In Case I. of these five, two examinations on the third day of the attack showed in the one instance neutral reaction with litmus, while the second, slightly acid with litmus, gave negative reaction with Congo paper (no free mineral acid); Case II. showed strongly positive reaction with Congo paper, and a total acidity of 42; Case III., Congo paper strongly +; total acidity, 60; Case IV., Congo +; total acidity, 45; while Case V. showed an acidity of but 25. The vomitus in a number of other cases was also tested with Congo paper, but the results obtained therewith were various, a positive reaction being frequently lacking. Repeated microscopical examinations showed nothing pathognomonic. In the beginning there were only food remnants, later leucocytes, and occasionally erythrocytes, squamous, cubical, and cylindrical epithelium; the latter was always increased proportionally to the duration of the attack, especially when there was a marked amount of bile in the vomitus. On the other hand, there never were any particles of mucous membrane or sarcinæ present. In vomited matter with HCl values we frequently observed "Jaworski bodies" (groups of cell nuclei alone without cell protoplasm) Once, on the third day of an attack, bodies insoluble in ether and very much like tyrosin crystals were seen.

Of our twenty-five patients, twenty-three suffered from absolute anorexia during their gastric crises. The remaining two, notwithstanding constant nausea and epigastric pressure, had a lively appetite throughout, but in spite of this refrained from eating, for everything would be immediately vomited. I expected to find high acid values in their vomitus, but this was never the case; the acidity was constantly within normal limits (40–60).

The condition of the abdomen is of importance in the differentiation between nervous vomiting and vomiting that accompanies acute inflammatory conditions of the abdominal organs. In moments of severe pain, during an attack, the abdomen was found more or less retracted, never protruding or tympanitic, while in comparatively painless moments it was soft and flat. In this connection I should like to emphasize that in no case did either palpation or percussion produce any pain whatever. On the contrary, patients even frequently resorted to frictions and stroking of the abdomen, believing thereby to obtain relief from their disagreeable symptoms.

In conformity with all other authors, I can state that I never found fever or a distinct chill at any time during the attack, though it is true a chilly sensation was an almost constant concomitant. The pulse, as Charcot [2] first taught, was rapid at the height of the attack (110–130), while in the quiet moments it would sink to 80 or 90. Rosenthal [22] has observed a pulse as low as 50–60 in one of his patients, an anomaly which I never discovered.

With the exception of one case the sensorium was always intact. This patient, presenting a classical picture of tabes, suffered from most typical crises of two to five days' duration, during which he repeatedly had attacks of syncope, analogous to the two cases published by Hoffmann.[27] I have frequently observed him during such attacks of syncope. They usually came upon him when the pains and the vomiting reached an acute stage, as follows: the face suddenly became very pale, the lips blue, and, without uttering a sound, the patient became unconscious; at the same time he was seized with tonic convulsions of the entire body and clonic twitchings of the fingers, the mouth being firmly closed and the eyes half open. There was total absence of pupil reflex, and no strabismus. The respiration became shallow and quiet, scarcely perceptible, the skin pale and cold, and the pulse very rapid (140–150). This condition lasted from five to ten minutes; the cheeks then became suddenly flushed, warm perspiration broke out over the body, and consciousness soon completely returned. After such an attack the patient complained of great fatigue, and was free from pains and vomiting for a long time. I have convinced myself of the total unconsciousness of our patient by mechanical irritations, etc. Formerly such attacks of syncope were followed by cessation of the crisis; the patient would recover very quickly and pursue his customary occupation. Of late, however, this was no longer the case; the symptoms of the crisis returned with usual severity after a few hours. Whereas formerly he had but one such attack of syncope, he now suffers from several (three, four, or five) during a crisis of from four to five days. Examination of the circulatory system showed marked arteriosclerosis, but no enlargement of the heart.

In the majority of cases the urine was markedly diminished and frequently darker than normal. In some however, normal quantities were passed during the attack. In one case complete anuria was noted, not followed, however, by unusually large quantities of urine as the attacks passed off (contrary, for example, to hysteria). A decided diminution in the quantity of the urine is to be expected when we consider what enormous quantities of fluids are vomited, and how little the patients drink during an attack. The urine was always normal, both chemically and microscopically; the specific gravity naturally was higher than normal.

During the gastric crisis, von Noorden[39] found acetone and diacetic acid almost constantly present in the urine. In three patients these bodies were present each time, but I did not enter more fully into the question because acetonuria is well known to be an accompanying symptom of inanition, and because von Noorden himself says he has found these bodies just as frequently in nervous vomiting from other causes as in that due to tabes.

A total change regarding the character of the attacks occurred in two cases. In the one case of ten years' duration, the attacks formerly began with epigastric pains, which ceased, however, as soon as vomiting took place. The latter continued for several days and formed the most prominent feature of the attack. After two years a change took place; the pains, no longer epigastric but dorsal, constituted the principal symptom. They would occasionally radiate around the sides toward the epigastrium, causing such painful girdle sensations that the greatest dyspnœa and anxiety on the part of the patient ensued. With but momentary remissions, the pains continued day and night, constantly increasing in severity. The attacks lasted about eight days, disappearing suddenly.

The second patient has suffered for fourteen years from typical gastric crises, with vomiting as the main symptom. About three years ago, during the free intervals, isolated pains occurred, at first in monthly periods, but since the beginning of 1898 in daily ones. The pains are as follows: (1) Severe stabbing pains in the dorsal region, which, lightning-like, radiate right and left around the sides toward the sternum and epigastrium; (2) a strong burning pain which encircles the body like a tight girdle. Both types begin usually in the morning, remaining till evening, when they suddenly disappear. Although the patient partakes of food, vomiting never occurs. At times, especially in winter and during bad weather, the attacks continue for several days. As accompanying symptoms the patient mentions anorexia, obstinate constipation, great anxiety, and depression. Personal observation confirms his statements. Notwithstanding the intense pains, the abdomen was soft, could be well palpated, was nowhere painful to the touch, nor could contracted coils of intestines be felt.

**Complications.**—The gastric crises in a number of our cases were complicated by other interesting conditions. Two patients suffered also from laryngeal crises (sudden attacks of choking with paroxysmal dry cough, frequently accompanied by severe sneezing, all of which lasted but a moment or two). One of these patients suffered from his laryngeal attacks seventeen years prior to the gastric, and the only other symptoms of tabes, when first seen by us, were lancinating pains in the extremities, and numbness in the fingers. Later typical symptoms of tabes developed. Two patients suffered from enteric crises appearing always simultaneously with their gastric crises, while a third had enteric attacks alternating with the gastric ones. The picture of tabes as presented by another patient was complicated by symptoms of dementia paralytica. I would like to report one case in detail, because complications of gastric crises, such as I cannot find elsewhere described, were here present.

N. K——, aged twenty-four years, formerly variety singer, married since 1895, suffers from typical gastric crises lasting eight to nine days, and occurring at first at intervals of one to two weeks, later of two to three months, but since 1897 of four to six weeks (frequently synchronously with menstruation). Toward the end of each attack, and for two or three days thereafter, without any pain whatsoever she passes, during defecation, large shreds of mucous membrane up to a foot and a half in length. At our express wish, patient paid special attention to this phenomenon, and reported that she never passes any mucous shreds excepting toward the end of an attack. Repeated rectal lavage during the interval between the crises seldom brought out even traces of mucus, and never pieces of membrane. When first observed (1896), the patient presented no other signs of tabes for many months. Syphilis was stoutly denied, although there was and still is a painless annular stricture of the rectum. The patient disappeared, but returned after a year. The crises had continued as before, but with more severity, and her general appearance was markedly worse, she having lost eighty pounds in weight. Examination now showed girdle sensation, absolute loss of pupil reflex, absence of patellar reflex, incontinence of the bladder, and paræsthesiæ of the face, between the shoulders, and in the calves of the legs. In June, 1897, sight began to diminish; to-day there is total blindness in consequence of optic atrophy.

From the study of our cases we see that, as has been already stated, the manifestations of the gastric crises are many and varied. An analysis of cases reported by others also serves to prove this point. Therefore it would be better perhaps to lay aside any tabulation based upon frequency, duration, and intensity of the attacks. For the purpose of simplification, and for a better comprehension of the various types, I would propose the following subdivisions: (1) Gastric crises with sudden onset. (2) Gastric crises with gradual onset. (3) Gastric crises with marked prominence of isolated manifestations, *e.g.*, "anorexie tabétique" (Fournier), "variété flatulante" (Fournier), "vomissements noirs" (Charcot), etc.

All these forms may be accompanied either by pain or vomiting, or by both.

**Diagnosis.**—The recognition of gastric crisis may be very difficult. If, however, the diagnosis of tabes itself be clear, and the case not complicated by any of those conditions which may give rise to attacks resembling gastric crisis (*vide supra*), the correct diagnosis should easily be made. In these cases mistakes can alone arise if the nervous system of the patient be insufficiently examined; an oversight which is by no means unlikely when symptoms from the digestive tract so fully occupy one's attention. The difficulty will be all the more enhanced if the gastric crisis occur as one of the very early symptoms, or if the clinical picture of tabes be an atypical one. Buzzard,[39] Pershing,[40] Wernei,[41] Charcot,[19] Vulpian,[33] Rosenthal,[25] and others have reported cases very strongly illustrating these points. In the following two patients, we see good examples of atypical cases of tabes in which the diagnosis can be made only through a careful examination of the nervous system:

Case I.—M. D——, widow, aged forty-four years, previously well, no hereditary history, was referred to us in June, 1897, as suffering from "some stomach trouble." The patient at that time stated that she had suffered for three years from severe attacks of periodic vomiting, always lasting about eight days, and that she felt perfectly well during the interim. Careful questioning elicited that she had had lancinating pains in the lower extremities for several years, frequent vertigo, a sensation at times as though walking upon needles, and, furthermore, that within a period of two weeks all her teeth excepting ten had fallen out without any pain or caries. Objective examination showed strongly increased patellar reflex, normal pupil reaction, and no ataxia or Romberg symptom. Posteriorly there was an area of anæsthesia extending from the left suprascapular region to the ninth dorsal vertebra; in addition hypalgesia in various parts of the body, especially about the shoulders and in the mucous membrane of the mouth. The diagnosis of tabes with gastric crises, then made by me, was confirmed by Professor Oppenheim of Berlin. Examination in August, 1898, showed absolutely no change in either objective or subjective symptoms.

Case II.—M. S——, teacher, aged thirty-eight years, no hereditary history, no previous illness excepting a slight attack of appendicitis, has suffered for eight years from periodic attacks of vomiting associated with severe pains. They occurred during the first two years every three to six weeks, but since then every eight to fourteen days. They invariably begin in the morning apparently without any assignable cause, and, after continuing from ten to twenty hours, disappear quite suddenly. The patient states that each attack has the following prodromes: uneasy sleep, early awakening, feverish and depressed feeling, inexplicable anxiety, heaviness of the extremities, and a rapacious appetite. This condition continues a few hours, and is succeeded by intense tearing pains along the spinal column, nausea, tasteless and odorless eructations, strong salivation, and such an irrepressible desire to vomit that the patient is finally forced to produce emesis by artificial means. The symptoms increase in severity very rapidly, and, with interruptions of from one to five minutes, continue until the attack suddenly ceases. The vomited matter is always abundant, but contains nothing of special diagnostic value. The urine is suppressed during the entire attack, but examinations made at other times show it to be normal. The case is, moreover, interesting, in that frequently in the beginning of an attack a scarlet, macular eruption appears upon the front and sometimes upon the sides of the thorax, disappearing shortly after vomiting occurs. Vulpian[42] describes a like phenomenon in his case of "vomissements noirs." The physician who had at first treated the patient found the right kidney dislocated to the second degree, and as repeated examinations failed to reveal further symptoms of tabes other than the Argyll-Robertson pupil and also inequality of the pupils, tabes was excluded and the condition of the kidney regarded as the cause of the attacks. The patient thereupon wore two different kinds of "kidney corsets" for a number of years. But despite these, his attacks continued, and he became very much emaciated. Soon after he was frequently seized, while at his meals, by paroxysms of coughing which threatened to choke him, but which disappeared very suddenly a

moment or two after their onset (laryngeal crises). The patient about this time consulted Professor Oppenheim, who made the diagnosis of locomotor ataxia. The gastric and laryngeal attacks continue with unabated severity to the present day. In addition to his other symptoms there are now anæsthesia of the skin and of the left breast, and of late also difficulty in urination. The patellar reflex is absolutely normal; there are no disturbances of co-ordination, no Romberg symptom, no lancinating pains, no girdle-sensation, nor in fact any other symptoms of tabes present. There can be no doubt, however, as to the correctness of the diagnosis, tabes, in this case. In the beginning it may have been justifiable to refer his attacks to the dislocated kidney, but with the onset of his laryngeal crises the diagnosis, according to Charcot,[19] admits of no further doubt.

Since, therefore, in cases in which a number of typical symptoms are present the diagnosis of locomotor ataxia is either overlooked or medical opinion is divided as to the diagnosis, how much more cause for error do those cases present in which gastric crises form the prominent symptom? This latter condition is by no means so rare as is generally believed. This fact is not sufficiently emphasized in text-books, but numerous examples are not wanting in literature. Charcot, Vulpian, Kahler, Pitres, Boas, von Leyden,[43] Rosenthal, and others have published instructive cases in which gastric crises constituted the only symptom for years, and which had been diagnosed as hysteria, neurasthenia, and not infrequently as atony, cancer, catarrh, or other disease of the stomach of which pain or vomiting forms an accompanying symptom.

If gastric crises be the only clinical manifestation, the diagnosis of locomotor ataxia cannot be made with certainty, for this requires the presence of at least two classical symptoms. Since typical gastric crises have well-defined characteristics, their recognition in time may at least serve to indicate the possible existence of the central nervous disease. These characteristics are: (1) Absence of symptoms of organic disease of the gastro-intestinal tract. (2) Sudden onset. (3) No initial chill. (4) Great intensity of symptoms, sometimes rapidly, sometimes gradually increasing in severity. (5) Rapid pulse with no fever. (6) Absence of any local condition in the region of the stomach, and absence also of other factors to explain the severity of the symptoms. (7) Absence of specific diagnostic features in the vomitus. (8) External circumstances have no influence upon the natural course of the attack (*cf.* remarks under "Treatment"). (9) Spontaneous cessation. (10) Rapid convalescence.

**Differential Diagnosis.**—It is not within the province of this article to enter into the differential diagnosis between locomotor ataxia and all those conditions which give rise to phenomena similar to the gastric crises (see above). It is assumed that when a physician is called to a case of vomiting or of gastralgia, he thinks of the possibility of a central nervous disease, and in this connection I would emphasize again that locomotor ataxia is especially to be thought of if the patient be in the fourth or fifth decennium of life.

The positive diagnosis of the genuine gastric crises rests naturally upon the diagnosis of locomotor ataxia itself. In conformity with most authorities we look upon the lancinating pains, diminution of sight, failure correctly to recognize difference in colors, Argyll-Robertson pupil, girdle sensation, and the absence of patellar reflex, as the most valuable signs of this disease.

I would like to dwell upon the points of differential diagnosis between genuine gastric crises and ulcer and cancer of the stomach, perigastritis, gastro-succorrhœa, functional nervous vomiting and gastralgias, duodenal ulcer, cholelithiasis, cerebral vomiting, and the vomiting of uræmia.

All the above conditions have much in common with gastric crises, *e.g.*, suddenness of onset, vomiting, pain, prostration, intense feeling of illness, periodicity with intervals in which the acute stomach symptoms diminish or entirely disappear, etc.; but each condition is marked besides by certain typical characteristics:

I. Differentiation from Ulcer of the Stomach: This affection, it seems, has caused errors in diagnosis more frequently than any other. However, the nature of the pain and the character of the vomiting ought to enable us to differentiate sharply in the majority of cases. Pain in ulcer of the stomach begins a short time (about one-half hour) after the ingestion of food, is of a burning, gnawing, or stabbing character, and is located at a fixed point in the epigastrium. It is markedly increased by even the slightest pressure, and may radiate to the back. There is a close connection between the time of ingestion of food and the vomiting, the latter taking place at the height of digestion. Emesis always ameliorates pain or causes it to cease entirely until after the next meal. The vomited matter in ulcer has in addition two characteristics of diagnostic value, viz., a large amount of free hydrochloric acid and the presence of blood. Of course these last two features may be absent; their presence alone is of positive diagnostic worth. Furthermore, the character of the food is of decided influence in the causation of the pain of ulcer; bland diet always brings relief. As we have already seen, all these points lose their diagnostic weight in gastric crises. In the latter, if relief at all follows emesis, it is but momentary.

The difficulty in diagnosis will arise rather in atypical forms of ulcer. It is well known that ulcers may exist for years without being diagnosed, until their presence is finally revealed through hemorrhage or through the development of sequelæ (perforation, dilatation, perigastritis, etc.). In the absence of tabetic symptoms other than the gastric crises themselves, it may frequently be impossible to differentiate the two conditions. By remembering the characteristics of the gastric crises as previously tabulated, we will, in many cases, be guarded from error in diagnosis. I would emphasize especially that gastric crises are typified by the absence of any directly assignable cause for their onset, by the absence of a local condition in the stomach to explain the severity of the symptoms, by the inconstant character of the vomitus, and by the absence of gastric symptoms between the attacks.

The quotidian form of gastric crisis is also likely to give rise to error, for here attacks are much milder than in the other forms, and the symptoms usually cease with the act of vomiting. The recognition of the true condition will not be at all difficult if we recall that the attacks in gastric crises occur independently of ingestion and character of the food; that there is no local condition of the stomach to explain the symptoms; that the symptoms characteristic of ulcer, viz., bulimia, distress and pressure after eating, sensitiveness to pressure of clothing, etc., are absent between the attacks, and that our patients are well nourished (for we have but to differentiate cases in the early stages of tabes).

Finally, we must remember that ulcer of the stomach occurs almost exclusively in young persons, while locomotor ataxia seldom begins before the twenty-fifth year.

II. Differentiation from Ulcer of the Duodenum: In this affection we meet with periodic vomiting and gastralgias, severe in character, and occurring often independently of the time of food ingestion. The history is here important. In chronic cases we learn of the

frequent occurrence of dyspeptic symptoms and of pain in the epigastric region, usually somewhat to the right of the median line, occurring two or three hours after meals and generally increased by external pressure. Frequently there is blood in the fæces, occasionally in the vomitus. The attack itself, however, forms the greatest point of differentiation. Vomiting—at all events continuous vomiting for several days—is quite infrequent in duodenal ulcer. Exquisite sensitiveness to pressure in the region of the duodenum, although not constant, when present is a sign of great importance. This pressure sensitiveness is said to be isolated in the right hypochondrium. Usually in gastric crises the abdomen is not sensitive to pressure, and in the few cases which are so this is not isolated, but occurs over the entire abdomen. In a number of cases of duodenal ulcer we find icterus present, which is a condition not at all found in gastric crisis.

III. Differentiation from Perigastritis: This sequela of ulcer of the stomach deserves a few words of special mention, since it may easily be mistaken for that form of gastric crisis characterized by pain without vomiting. Here the history is of the greatest importance. We should always inquire for a history of ulcer or its principal clinical manifestations. If our inquiry elicits no positive facts, then the diagnosis, perigastritis, may still be made with certainty, when pain is localized in the region of the stomach; is tearing or drawing in character; occurs after eating or drinking; and is very little or not at all increased by pressure. The pain in perigastritis is produced only in certain positions of the body (standing position, etc.), and is never so persistent as that of gastric crisis; it disappears with vomiting or toward the close of digestion.

IV. Differentiation from Cancer of the Stomach: Notwithstanding the frequency with which gastric crises have been mistaken for this condition, careful consideration should lead us to exclude easily all forms of gastric crises excepting those rare ones of "vomissements noirs."

In those advanced cases of locomotor ataxia in which emaciation and weakness are so extreme as to lead us to suspect cancer, the diagnostic symptoms of tabes must be so typically present that only neglect to make a general examination can produce an error in diagnosis. A suspicion of beginning cancer may arise, if in an individual between forty and sixty years of age, who had always been previously well, gastric crises should suddenly occur. Brief deliberation, however, would clear up the case, for the manifestations of gastric crises contrast markedly with those of beginning cancer. The latter develops usually as a chronic gastric catarrh, and, in contrast to the clinical picture of gastric crises, symptoms of an organic stomach disease are never absent.

A cancer may develop from a former ulcer, but the manifestations then would be decidedly those of the latter affection, and what I have already said regarding the differentiation between ulcer and gastric crises applies fully to cancer of this special class. The points which would here especially speak against gastric crises are the presence of an etiological factor (ulcer), a local condition of the stomach region sufficient to explain the symptoms present (tumor, pain on pressure, stenosis with or without dilatation), the presence of diagnostic factors in the vomited matter (lactic acid, blood, cancer cells), and finally, the influence of dietetic measures upon the course of the attack.

The reports by Charcot and Fournier of two cases of "vomissements noirs" are unaccompanied by chemical examinations. It is probable, however, that here, as well as in the ordinary gastric crises, no lactic acid was present. In the absence of local objective conditions in the stomach during such attacks of "vomissements noirs," and of other tabetic symptoms, and in the absence of a history of emaciation (which latter always develops in cancer), the future course of the disease alone can establish the correct diagnosis. In no instance, therefore, should careful chemical and microscopical examinations of the vomitus be neglected.

V. Differentiation from Gastro-succorrhœa: Mistakes should never arise in the continuous form (Reichmann[44]) of this affection; the history at once clears up the case. These patients suffer constantly day and night from stomach symptoms (rapacious appetite, especially for meat, pains most marked during the height of digestion but occurring also at night, excessive thirst, constipation, etc.). Symptoms like these always indicate increased secretory function of the stomach.

When gastric crises are the only symptoms of tabes present, and the vomitus contains large quantities of HCl, we might be tempted to think of the intermittent form of gastro-succorrhœa ("gastroxynsis"—Rossbach[45]). In a case which we observe for the first time and in which large amounts of HCl are present, it would be impossible to make a differential diagnosis, for not only is the clinical picture of both conditions, when fully developed, the same, but the prodromes (headache, fatigue, nausea, anorexia, etc.) are so likewise. The further history of the case must clear up the diagnosis, for tabetic crises are not at all influenced in their recurrence by treatment; the chemical qualities of the vomitus vary from attack to attack, and ultimately other symptoms of tabes develop. In the absence of an opportunity to examine the vomitus, we might draw valuable conclusions from what the patient tells us regarding its taste—if bitter, tasteless, or, as always in gastroxynsis, very sour.

VI. Differentiation from Cholelithiasis: The symptoms of a typical attack of gall stones are so well defined that there is scarcely any possibility of confounding it with gastric crisis. Mistakes may arise in atypical attacks, *i.e.*, those unaccompanied by icterus. This latter symptom is frequently absent in gall-stone colics, and the pains do not always manifest themselves in a typical manner. The pains of gall stones, like those of gastric crises, may also be localized in the epigastrium. Starting from this region or from the right hypochondrium, they may radiate toward the back or toward the right shoulder. They never, however, encircle the body as a girdle, nor do they arise in the iliac region to extend upward into the abdomen. Furthermore, the initial chill, the fever, and the frequently swollen spleen, so common to gall-stone attacks, are absent in gastric crisis. Examination of the liver itself is here a great aid to a correct diagnosis. The entire organ, or more frequently its right lobe, is swollen and tender during and after a gall-stone colic, and we usually find a much enlarged and very sensitive gall bladder as well. In the absence of this last symptom, the eliciting of pain by pressure upward behind the ribs in the region of the gall bladder is a sign of no little diagnostic value (Adler[46]). Boas'[47] "pressure-points," two to three fingers' breadth to the right of the spinal column at the level of the twelfth dorsal vertebra, may aid us in doubtful cases. The examination of the fæces, which should never be neglected in a supposed case of gall-stone colic, may be the only means of clearing up all doubt. Even if we should not find gall stones in the fæces, our suspicion of a gall-stone colic will be very much strengthened by a clay-colored appearance of the stools.

VII. Differentiation from attacks of vomiting and from gastralgias of functional (nervous) origin (hysterical, neurasthenical, and reflex): These attacks have much in common with the gastric crises of tabes, and here, as in the latter, the positive diagnosis requires

recognition of the underlying disease (hysteria, neurasthenia, and disease of other organs). The general characteristics of gastric crises, as already enumerated, may frequently guide us.

I wish to point out a few of the special features of hysterical vomiting and gastralgias, for these are more frequently mistaken for gastric crises than the other types of functional nervous attacks. Those which distinguish an hysterical attack from all others are: the extreme ease with which the vomiting occurs, frequently without any nausea; the striking influence of external conditions (*e.g.*, surroundings, excitement, personal danger, etc ) upon the course of the attack; the capriciousness with which some things are at times vomited, and at other times retained; and the marked contrast between obstinate vomiting and a good appetite. Furthermore, the attack is very liable to cease suddenly, and be succeeded by some other hysterical condition, *e.g.*, singultus, attacks of crying and laughing, dyspnœa without circulatory disturbances, paralysis, contractures, amaurosis, etc. All of these symptoms are in marked contrast with those of tabetic crises.

VIII. Differentiation from Cerebral Vomiting: I leave out of consideration those mixed forms in which tabes is complicated by cerebral and spinal processes, such as dementia paralytica, syphilis, multiple sclerosis, tumors, etc., for then the vomiting is seldom of a pure type. Purely cerebral vomiting resembles tabetic crises in so far as it occurs periodically, quite independently of food ingestion, and at any hour, and may continue day and night. Moreover, if no acute inflammatory processes be present, chills and fever are absent; furthermore, neither in the local condition of the stomach itself, nor in the character of the vomited matter do we find any specific diagnostic signs; and finally, cerebral vomiting is characterized by spontaneous cessation, followed, as a rule, by rapid convalescence and a period of freedom from all digestive disturbances. The points of differentiation are as follows: cerebral vomiting occurs more spontaneously, is seldom preceded by persistent nausea, is usually projectile in character and occurs with the greatest facility; while the vomiting of tabetic crises is seldom spontaneous, is usually forced, being produced artificially (irritation of the pharynx, drinking of large quantities of fluid, etc.), and is preceded by nausea, eructations, salivation, and much retching. Besides this, we find that cerebral vomiting occurs during unconsciousness, and is influenced by positions of the body (*e.g.*, raising of the head), while gastric crises are uninfluenced by this latter condition, and cease with unconsciousness. The boat-shaped abdomen is typical of cerebral vomiting; in tabetic crises the condition of the abdomen follows no rule—it may be drawn in, flat, or protruding. In cerebral conditions, the pulse is slow and frequently irregular; in gastric crises it is rapid, and, when unaccompanied by cardiac conditions, is regular. Finally, it is important to remember that gastric crises may constitute the only symptom of locomotor ataxia, whereas vomiting in cerebral conditions never occurs without other central symptoms.

IX. Differentiation from Uræmic Vomiting: Although acute uræmia is accompanied by uncontrollable vomiting, the entire clinical picture differs so markedly from that of tabetic gastric crises that the two conditons cannot well be confounded. It is quite different, however, with the chronic form of uræmia. Here we usually see the patient for the first time during a severe attack of vomiting, and chronic nephritis is not suspected. Special attention should be given to the previous existence of headaches, unaccountable attacks of dyspnœa with anxiety, symptoms of numbness and uneasiness, especially at night, and contractions of the face muscles and of the smaller muscles of the extremities (Strümpell[47]). The vomiting attacks have much in common with gastric crises: thus, sudden onset without explainable cause; independence of quality and quantity of food, as well as of the time of its ingestion; absence of initial and other chills; frequently no fever; diminution in quantity of urine; absence of local stomach symptoms; continuance of symptoms day and night, and spontaneous cessation. They differ, however, from gastric crises, in that the vomitus contains specific diagnostic characters, namely, carbonate of ammonia as well as unaltered urea (Strümpell[49]). The pulse is small, and in the majority of instances slow. The urine always contains albumin and casts. In addition we find pathological changes in the fundus of the eye.

**Prognosis.**—It is remarkable in what a comparatively short time the patients convalesce when the attacks do not follow each other frequently. Although we can find no record of a fatal termination of the attacks *per se*, still we can easily conceive that patients otherwise enfeebled should be further weakened by frequent and intense crises, until they ultimately die of asthenia or fall victims to phthisis. A large number of cases with the latter termination have been reported. When complicated with laryngeal crises the patients may die of asphyxia during such a laryngeal attack.

Gastric crises admit of no prognosis in regard to duration and frequency. Reports of complete cessation of the attacks are extremely rare. Von Leyden[6] declared he had seen two such cases. To this I can add two cases in which there have been no attacks for over three years. In this connection I would like to discuss the conclusion arrived at by Benedict in 1882 and 1887[90] and which I cannot find elsewhere quoted. He states that next to cases of locomotor ataxia with initial optic atrophy, those with initial gastric crises offer the best prognosis. He has seen the ataxic symptoms disappear in two-thirds of the latter class of cases which came under his treatment.

Unfortunately the extent of the tabes in our own cases was not sufficiently noted at the time of first observation; hence I can only report in this connection from my own personal notes. Briefly stated, of our twenty-five cases of from two to ten years' duration, fifteen with gastric crises as the initial symptom are still in the pre-ataxic stage of the disease. In five, Westphal's and Romberg's symptoms are absent; in four others Westphal's only is absent, while Romberg's is but slightly indicated. The remaining ten cases present complete symptoms of tabes; in nine of these the other tabetic symptoms developed later than the gastric crises; in one they occurred prior to the crises. Thus we find an apparent confirmation of Benedict's observation in our own cases; *i.e.*, two-thirds with gastric crises as initial symptoms are still in the pre-ataxic stage. Whether or not symptoms of tabes had ever been present and retrograded, I cannot now state.

Here I would again refer to the case mentioned by Gowers,[91] which was still in the first stage of tabes after eighteen years of gastric crises.

**Treatment.**—Treatment must be directed against two conditions, the attacks themselves and the intervening periods. During the attacks themselves, it must be our aim to give the patients relief from their great suffering, and in the protracted cases to provide for sufficient nutrition. The one sovereign remedy which answers the first of these indications is hypodermic injections of morphine. Such injections possess the advantages of easy administration and of rapid and, in the majority of cases, certain action. But they also have the great disadvantage, especially in chronic cases, of inducing morphinism and of necessitating

ever-increasing doses. The immediate administration of morphine is justifiable in the very severe cases, but by no means in mild ones. The list of remedies tried as a substitute for morphine is legion; it is useless to repeat them all here. A striking example is furnished us in the written communication of a patient, who has suffered for nine years from these gastric attacks. He says that the following remedies have been tried: change of climate, mineral springs and baths, cold packs, hot and cold douches, frictions, massage, electricity, divers teas, liquors, powders, pills, and plasters, morphine and opium suppositories, hypnotism, suggestion, "electro-homœopathy," vegetarianism, and the rest cure.

Recently Ostankow[51] reported surprisingly successful results from oxalate of cerium. Dr. Boas, having obtained good results with this remedy in a few cases which he himself had observed, and being desirous of further experiences, asked me to try it in our cases.

The remedy was given in eighteen cases. Treatment was begun as early as possible during the attack, the dose being 0.1 gm. (gr. iss.) every two to four hours according to the severity of the symptoms and the effect obtained. The remedy was continued between the attacks in doses of 0.06–0.1 gm. (gr. i.–iss.) three times a day. From the results obtained, I am led to conclude that oxalate of cerium has no influence whatever upon the pain, and is indicated to relieve nausea and vomiting.

The effect of two other remedies, antipyrin and nitrate of strychnine, was also studied. The employment of antipyrin in these attacks is not new (*cf.* Gowers,[31] Zippert,[52] etc.). Its great solubility in water renders it especially applicable. It was given in doses of 0.25 gm. (gr. iv.) repeated hourly. If the desired effect was not obtained in four hours, the dose was increased to 0.5 or even 1.0 gm. hourly (gr. viiss.–xv.), the effect upon the heart being carefully observed. Though given in all to eleven patients at various times, no disturbance of the circulation was observed. From the results obtained from antipyrin, I believe that it has no influence upon the vomiting *per se*, but at times acts as a general sedative, relieving those cases especially in which pain forms the most prominent symptom.

Nitrate of strychnine, given at the suggestion of Professor Oppenheim, was employed in doses of 0.002 gm. subcutaneously (gr. $\frac{1}{30}$). It was administered during five attacks only, in which both oxalate of cerium and antipyrin had been of no benefit whatever. In three cases there was no relief at all; in two others relief was almost immediate, the patients falling asleep soon after the injection, and awakening entirely free from symptoms. In one of these two cases this beneficial effect was obtained during two separate attacks.

The results derived from the employment of these three remedies will be best seen from the following summary:

| | Number of Crises | Symptoms Entirely Relieved. | Symptoms Partially Relieved. | Symptoms Not at All Relieved. |
|---|---|---|---|---|
| Oxalate of cerium .. | 18 | 2 | 3 | 13 |
| Antipyrin..... | 11 | 0 | 5 | 6 |
| Strychnine nitrate.. | 5 | 1 | 1 | 3 |

At the first glance these results may not appear very promising, but if we remember that, of all the other remedies heretofore employed, morphine (or opium) is the only one from which the patients derive more than temporary relief, I feel justified in believing that these three remedies will prove an important addition to the treatment.

The second indication, viz., providing for sufficient nourishment during an attack, may become a very earnest question. If the general nutrition is good and the attacks are short, it will scarcely have to be considered, for here it is best to withhold all food for the time being. The question becomes quite a different one, however, if the attacks are severe and protracted, especially if the patients are poorly nourished. Rest is the first indication in all seriously disturbed functions of an organ. But, since total abstinence will cause more harm than good in these severe protracted cases, we must employ all possible means to provide the patients with nourishment during an attack. While the symptoms are very acute it would be best to restrict our patients to fluid diet, beginning with teaspoon doses, half-hourly or hourly. The indication for the fluid diet is a threefold one: to relieve nausea and pain, to quench the intense thirst, and to give nutrition. There are a number of liquids which fulfil these three indications. To mention a few, we have black coffee, cognac, champagne, tea, lemonade, milk, koumiss, matzoon, also cloths saturated with ice-water placed over the mouth, cognac with cracked ice, etc. In this connection I might mention that a few drops of cocaine solution placed upon the tongue frequently relieve thirst and vomiting. The old remedy of a drop of tincture of iodine in a teaspoon of water, repeated hourly, may also be tried.

Where pain is the most distressing symptom it is better to give the fluids hot rather than cold. Boas[53] has suggested the employment of a morphine injection to permit of ingestion of food in the severer cases. I have seen this same result accomplished, however, by a suppository of opium and belladonna.

In very prolonged and severe cases we shall hardly succeed without rectal alimentation. This serves the purpose not only of supplying nourishment, but also of replacing the great loss in fluids and of relieving thirst. By the addition of alcoholics to the enemata we may stimulate the heart. In those severe cases which do not yield even to morphine, and in which, in spite of rectal alimentation, the condition of the patient becomes a most serious one, I believe the subcutaneous injections of oil, as suggested by v. Leube[54] in extreme inanition, would be in place. The technique is very simple; the danger, if carried out under proper aseptic precautions, is *nil*. Strauss[54] has constructed and described a very commendable apparatus for this purpose.

If no organic disease of the stomach be present, convalescence is marked by a very strong appetite, and the patients, if left to themselves, would frequently over-eat. In a paper read before the Hufeland Gesellschaft, Rosenheim[55] called attention to the occurrence of motor insufficiency of the stomach following the gastric crises of tabes. He had observed two patients himself in whom, after cessation of severe attacks, dyspeptic symptoms (pressure, distress, gnawing pains, etc.) appeared after each meal, and in whom he had found food remnants at the time when the stomach should have been empty. This is a very important observation, and teaches us the necessity of a careful diet during convalescence.

Since the nutrition of our patients is below par, it will be our first duty to increase it. The rules of diet and nutrition for exhaustive conditions occurring in chronic disease apply with full force to the convalescent state of gastric crisis. We begin with easily digested food, and as the general condition and especially that of the digestive organs permits, we increase as rapidly as possible to a more liberal diet. Our aim is always the combination of greatest digestibility with the highest amount of nourishment, and it is best not to limit the patients too much in the selection of food. At first food in fluid or semifluid form should be allowed, solids being withheld until all danger of motor weakness is past. Above all, fluids of slight

nutritive value are to be avoided, for these serve mainly as a cumbersome (or harmful) ballast to the stomach. During the first days of convalescence, milk, whenever well borne, should constitute the main article of diet. It should be tried at first in its natural form, preferably boiled. The addition of a little lime water will be useful if there be secretory or motor disturbances. The quantity of milk given at one time should not exceed one hundred grammes. The addition of a little coffee or of cacao deprived of its fat will sometimes prove a welcome change from milk. For those to whom milk as such is not acceptable, there is a long list of palatable and easily digestible milk preparations. I refer to milk-soups, kefir, koumiss, matzoon, custards, milk-punch, desiccated milk, etc. These preparations are not only in themselves highly nutritious, but also permit of the addition of other articles of food, thus enhancing their caloric value and increasing the dietary list. Such addenda are eggs, butter, sugar, cognac, zwieback, toast, crackers, rice, farina, hominy, corn starch, arrow root, and the like. Next in value to milk in the diet of early convalescence are eggs. These, too, admit of many modifications in their preparation.

Gradually we increase the diet list, during the first few weeks allowing the starchy carbohydrates (those comparatively poor in cellulose), *e.g.*, young carrots, cauliflower tops, and young spinach, all in mashed form, mashed potatoes with milk, and besides these butter, good meat broth with egg, finely minced or scraped beef, ham, white meat of chicken, young pigeon, sweetbread, calves' brains, boiled lean fish, jellies, apple sauce, and other compots not rich in cellulose. Caviar, a sardelle or two, ham, and some compots stimulate the appetite and are usually acceptable to the patient.

If food in its natural form is sufficiently partaken of, there is no reason to resort to artificial food preparations, since these latter are less nutritive and more expensive. They are useful, however, when the appetite is very poor, and too little natural food is partaken of. Owing to the high amount of extractives and salts contained in them, meat-juice preparations are useful to excite appetite. The cheaper food preparations, eucasin, nutrose, tropon, the various meat and vegetable powders, are especially valuable as additions to natural food preparations. In passing I would remark that home-made beef broths and beef teas accomplish the same purpose as the albuminoid preparations purchasable in the market, and furthermore, that it is easy to make efficient meat and egg powders one's self.

If no organic disease of the digestive organs exist, rapid progress may be made to full diet. Forced feeding—the Weir Mitchell or similar treatment—may accomplish much good if the patient be debilitated in consequence of cibophobia.

Medicinal treatment during convalescence must necessarily be a symptomatic one. The importance of an exact knowledge of the state of the digestive organs, especially as to secretory and motor functions, cannot be too strongly emphasized. It is also very important that the patients enjoy as much bodily and mental rest as possible. If these precautions be carried out, we not infrequently see longer intervals of freedom from attacks.

The general treatment of patients suffering from gastric crises is similar to that of other tabetic patients. Reference to cases published (Hoffmann,[37] Rosenthal,[29] etc.), as well as personal observations, lead me to conclude that anti-syphilitic treatment in cases with a preceding history of specific infection, exercises no beneficial influence whatever either upon the character of the gastric crises or upon the locomotor ataxia itself.

Since we know of no therapeutic measures which will cause either total disappearance of gastric crises or a diminution in their frequency, I would again emphasize that it is of paramount importance to raise and keep the general nutritive standard of these patients as high as possible.

In conclusion, I desire to express my sincere thanks to my former chief, Dr. Boas, as well as to Professor Oppenheim, for the material which they so kindly placed at my disposal, and for their valuable assistance to me during my study of the same.

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## VENTRAL FIXATION OF THE ROUND LIGAMENTS FOR RETROVERSION AND PROLAPSUS UTERI.

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It is unnecessary at this day to speak of the advantages or disadvantages of utero-ventral fixation, Alexander's, or other operations performed for the purpose of bringing the uterus into its anterior position. When the ligaments are strong and there are no other complications, shortening by traction through the inguinal canal must be acknowledged as the, so to speak, anatomical method, but when the ligaments are thin and weak, and when other complications exist with a retro- or prolapsed position of the uterus, the operation herein described is by far the easier. It can be more quickly performed, in every instance with success, and avoids all the difficulties which may arise through weak ligaments, in Alexander's operation, in utero-ventral or any other fixation. It leaves the uterus in its free position, and neither interferes with its physiological requirement nor changes to any material extent its relations with other organs.

The instruments required for the operation are: scalpel, scissors, a pair of long pincettes, a few artery forceps and small retractors, a long, straight needle with an eye near the point, a curved right-angular needle, and a repositor. The needle is curved at near a right angle, is straight from the point to the curve, and again from the curve to the eye, and can be used for a suture in a straight as well as in a curved direction. The point is sharp and flat, so as to be able to take up a thin, yet broad portion of tissue if required. I have termed it hernia needle, as I designed it for general use in hernial operations. The repositor is made in the form of a heavy uterine sound, and consists of a uterine portion, a vaginal portion, and a handle. The uterine portion is 5 cm. in length, and stands at an angle of about 105° with the vaginal portion. At the angle is a small shoulder about 2 cm. in diameter for the support of the uterus when held in position, making the piercing of a soft fundus impossible. The vaginal portion is slightly curved, and the handle stands at an angle with the vaginal portion. When the repositor is in the uterus and in proper position, the handle must be long enough to stand horizontally above the field of operation, to be manipulated by the operator or assistant without needing to put his fingers into the vagina.

The procedure for the operation is as follows: The patient is prepared for cœliotomy. If curettage is necessary it should, of course, be done first. The repositor is placed in the uterus, with its handle standing horizontally. After the operative field is made aseptic and proper dressing placed around it, an incision is made transversely from about 2 cm. inward of the point anatomically denoting the internal abdominal ring on one side, to the same point on the other side and about 2.5 cm. above the pubis. The incision is made through the skin and fascia, down to the aponeurosis of the external oblique; it should not be made funnel-shape and not higher up than stated. The integument is then drawn upward and downward, respectively, in order to lay the parts free for the second incision.

From this point I proceed differently in the various cases. The simplest method of all is the median incision, particularly so when there are adhesions or other internal encumbrances. In the latter case the incision has to be made of sufficient length to permit the necessary manipulations for correction. If there are no complications beyond the direct object of the operation, a short longitudinal opening is made through the linea alba and peritoneum. The uterus is then placed in position by means of the repositor, and the position of the ligaments and surroundings ascertained. A silkworm or kangaroo suture is then inserted with the hernia needle about 0.5 cm. inward from the outer angle of the incised skin, and passed horizontally, not through the skin, but through muscle, fascia, and peritoneum. While the outer end of the suture is held with forceps, the inner serves to indicate the place to which the ligaments should be attached. If the uterus is held in normal position with the repositor, the ligament can be picked up with pincettes almost opposite the suture, but before the needle is carried under it the exact place for the attachment should be measured. The needle is then carried under and around the round ligament at the required place, necessarily taking along the broad ligament covering it. The thread should be long enough to allow the suturing while the ligament is relaxed again.

The hernia needle is removed, and the eye-point needle is passed parallel with, but 1 cm. below, the place of entrance of the first or descending suture. The eye needle is then threaded with the ascending strand of the suture, which is drawn up and out of the abdomen, and held there with forceps (after a little practice all can be done with the hernia needle alone). A second suture is made through the abdomen and ligament in the same manner as the first and about 0.75 to 0.85 cm. inward from it. This may be done without measurement, but the distance between the sutures outside must be as nearly as possible the same as that between the sutures in the ligaments; a third suture is passed at the same distance from the second, giving in all an attachment of about 1.5 to 2 cm. The ends of the sutures should be held outside with forceps, and not be tied immediately, so that the ligament may remain relaxed, to serve as a comparative landmark for the other side.

While working on one side, I usually keep the other incised parts covered with a warm pad, and after changing the pad the opposite side is attended to in the same manner as the first.

When all the sutures are in and before the ligaments are drawn up to be tied, I abrade the portion of the ligament and peritoneum (by scraping with the scalpel or curette) along between the sutures, so that a union may readily take place and become more firm. After this the sutures on either side, beginning with the most outward one, are drawn up closely and tied firmly, but not too rigidly. The ends are cut short and buried under the skin and fascia, which are then closed, preferably by subcutaneous suture.

I prefer the transverse section of the skin, as it has many advantages: first, it permits the insertion and burying of the sutures without the necessity of detaching the skin from the large area; second, it opens a clear field of the abdominal muscles and fascia, and is a guide for the insertion of the sutures; and third, it gives a better union on account of the oblique and transverse vascular and nerve supply of the skin. The only vessel which may appear in the field of the skin and fascia incision is the superficial epigastric or several of its branches, which with care need not be incised, but may also be ligated. Some care is required not to go too close to the internal abdominal

ring, the needle for the most outward suture being inserted through muscle, fascia, and peritoneum, in order not to pierce the deep epigastric artery, the course of which, although quite close to the ring, sometimes in its upward course deviates a centimetre or two inwardly. It must also be considered that the measurements, although taken from average cases and cadavers, vary somewhat in different cases. But the points required can be readily recognized when the muscles and aponeurosis are laid free after the transverse incision of the integument. It is best to hold a small pad on forceps against the parietal peritoneum while a needle is passed through it.

If the operation is performed in Trendelenburg's position, and there are no adhesions or other previously existing complications, handling the tissues with the fingers directly is not necessary, all manipulations being better performed with the aid of necessary instruments, although, if any doubt exists in regard to the course of the deep epigastric, one finger would better be placed in the abdomen and pressed against the anterior wall in order to feel the beat of the vessels and be guided by it.

There are several other methods of procedure after the transverse incision through the skin and fascia has been made. They offer, however, little advantage and require some practice. Thus, for instance, I have made a small transverse incision through the aponeurosis of the external oblique, and separated the fibres of the internal and the transversalis in the same direction at the point mentioned above for the sutures. The object was to find out which of the operations could be performed most quickly and be of the greatest advantage. The deep fascia and the peritoneum in some places may also be cut transversely, but always with care, when near the inner boundary of the internal abdominal ring, in order to avoid the possibility of cutting through the deep epigastric vessels and other vascular supply, which in some cases may cause annoyance if carelessly incised.

After being assured that there is no encumbrance between the incision and the ligament external to it, the ligament is picked up with pincettes, the external portion (toward the ring) drawn up tightly, and the portion toward the uterus drawn up in accordance with its length and requirement. The ligament is then sewed up between the fibres of the two inner abdominal muscles, the needle being carried from above the incision through the internal oblique, transversalis, fascia, peritoneum, ligament, and back through the tissues below the incision. The aponeurosis of the external oblique is sewed over it, and the other side attended to in the same manner. When the operation is completed the skin and fascia are closed as before.

If the operation is performed with strict asepsis the patient is able to rise on the twelfth day, or perhaps before. Hernia could be the result only of errors in asepsis, or the course of the incision through the muscles. It must be remembered that at the point mentioned almost all the fibres and aponeuroses of the broad abdominal muscles run more or less in a transverse direction, although they are frequently pictured differently. In two of my cases, one by lateral and the other by central incision, pregnancy followed four and a half and six months respectively after the operation, without complications, and was carried to full term, the uterus remaining in its anatomical position after normal delivery.

I had never seen this operation performed, but the suggestion of attaching the round ligaments, instead of the fundus uteri, was made to me some years ago by Dr. T. Gaillard Thomas, and through an accident in which a very thin ligament tore during the progress of an Alexander operation I remembered the suggestion and proceeded with an incision through the internal ring. The recovery was so rapid and satisfactory that in most instances I have preferred the ventral fixation of the round ligaments to other operations performed for similar purposes, particularly so in cases in which Alexander's operation was not advisable.

## AN INTERESTING CASE OF HYDROCEPHALUS WITH PSEUDO-SPASTIC SPINAL PARALYSIS.

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The patient, Edith R——, now twenty-one years of age, was born in Hartford, Conn. The mother gives the following intelligent history of the case: that she has always been quite well herself, being, however, of an extremely nervous temperament; that she had a miscarriage of twins prior to the pregnancy with this child. When twenty years old she was confined by Dr. H——. The labor was normal and the presentation of the fœtal ovoid was cephalic. She noticed nothing abnormal with the child until the third month, when the infant was suddenly taken ill with the following symptoms: convulsions, fever, oscillation of the eyeballs, throwing back of the head, marked tympanites of the abdomen, and persistent crying. Doctor R—— attended the patient, and after twenty-seven hours' duration of the above symptoms, the child gradually recovered, except that the head began to increase in size. The infant was unable to use its lower extremities until the fifth year, despite its good development and nourishment. When eleven years old it acted like an idiot—laughing and crying alternately. Drs. F—— and L——, of Brooklyn, then saw the patient and applied a band of some material around the head, which had to be removed, as it caused stumbling and falling when the patient tried to stand or walk.

The patient presented herself at the hospital in 1893, and the following history was obtained: Head very much enlarged; height of body five feet one and three-fourths inches; weight one hundred and thirty-eight pounds; body symmetrically developed and well-nourished; appetite good, bowels regular, tongue uncoated; pulse 74; temperature in axilla 98.4° F.; condition of blood-vessels soft, compressible, and well filled; digestion good; liver outline, upon percussion, normal; heart sounds and chest normal. The reflexes of the lower extremities were markedly exaggerated; sensation was normal throughout. A spastic disturbance is observed in the gait of the patient with an uncertainty of equilibrium, the step being of a spastic type—the heel coming down suddenly and heavily on the floor. Muscular reaction of the lower extremities is normal to the primary or secondary direct or indirect faradic current. After careful study and investigation I concluded that this spastic condition was due chiefly to the hydrocephalic fluid gently compressing the lateral columns of the spinal cord in the cervical and lumbar regions, there being either a hydro-myelus, or syringo-myelus, or both, present. Shulz says: "Symptoms of almost the entire and pure type of spastic spinal paralysis were shown in a case, the autopsy on which disclosed a hydro-myelus with coexisting degeneration of the lateral columns."

It is clearly shown by the symptoms of this case that there is muscular irritation. I do not believe there is any degeneration in the lateral columns of the spinal cord, but think the symptoms are purely due to the cause mentioned. The reason that we do not have the same symptoms in the arms may be explained on the assumption that gravity may have something to do with

it, allowing the fluid to go to the most dependent portions. Strümpell says that "there are disturbances of mobility in the upper extremities also," but they are not present in this case. The exaggerated reflexes, with the spastic movements of the voluntary muscles and a limitation of the symptoms mostly to the motor sphere, lead me to call this case one of pseudo-spinal paralysis, dependent upon either hydro-myelus or syringo-myelus, or both, due to the pre-existing chronic hydrocephalus. Spastic movements are described by Shulz, Wood, Gowers, Aitken, Osler, Strümpell, Mills, and others, but I have failed to find any extensive articles on this subject. I introduce this case as one of great interest, especially to those interested in hydrocephalus. The patient is well educated, has a clear soprano voice, is of pleasant disposition, and has a fair penmanship. The measurements of her head are as follows, as compared with Dr. Frederick Peterson's measurements of the normal female cranium:

| | Average of Normal Female Skull. | Skull of E. R—. |
|---|---|---|
| Horizontal circumference | 50.0 cm. | 68.4. cm. |
| Anterior demi-circumference | .... | 38.5 |
| Posterior demi-circumference | .... | 30.1 |
| Naso-occipital arc | 31.0 | 46.2 |
| Binauricular arc | 31.0 | 41.9 |
| Antero-posterior diameter | 17.2 | 22.2 |
| Greatest transverse diameter | 14.0 | 19.5 |
| Binauricular diameter | 11.9 | 16.1 |
| Bizygomatic diameter | .... | 13.9 |
| Volume | 1,300 | 1,846.81 |
| Facial length | 12.37 | 12.37 |
| Length-breadth index | 83.8 | 87.8+ |

Type of skull, brachycephalic. Profile line (Kirchoff), orthognathous.

The cranial bones of the skull are entirely ossified, the sutures firm, etc. This head, as compared to other recorded cases, is an exceedingly interesting one. Cardinal, of the London Hospital, who died in his twentieth year in Guy's Hospital, had a head circumference of 33½ inches, and according to other authorities 32¼ inches. A head in the Cruikshank Museum measures 51 inches; another, in the Warren Museum, 27½ inches. The cranial bones of Cardinal were exceedingly thin and almost translucent. In Aitken's case of a child, whose head measured 29 inches in circumference, the child died early in life. Dr. Bondurant, of Alabama, mentions a case of a man (B. M. A.), whose head measured 29 inches, dying in his forty-eighth year, but who was much demented or idiotic from infancy. Other remarkable cases have been reported occasionally, measuring as high as 80 cm., but almost all died before, or became idiotic, melancholic, or insane after, puberty. Strümpell says that such persons living after five years of age are striking exceptions, and that the possibility of recovery has not been demonstrated. Mills says that "cases have been reported of even exceptional brightness, but that the development of the body is retarded and imperfect, few reaching an average mental capacity.

On June 16, 1893, Dr. W. B——, of Brooklyn, inserted an aspirating needle between the third and fourth dorsal vertebræ and through the membranes of the cord, succeeding in drawing off about one and one-half ounces of a clear, sparkling fluid, having the consistency and the light-refractive property of high-grade glycerin.

Prof. G. H. Bartley kindly made an analysis of the fluid for me with the following result: Quantity, 3.12; color, clear; odor, none; sediment, none; reaction, faintly alkaline; specific gravity, 1007.7; albumin, very slight trace. A precipitate is obtained by the addition of nitric acid, which is redissolved by heating, returning again on cooling. The proteids are also precipitated by the addition of a saturated solution of magnesium sulphate. Upon the addition of Fehling's solution to the fluid a light brownish-red precipitate is formed. The following analysis confirms the fact that the fluid drawn from the spinal column was hydrocephalic and of chronic nature. The wound caused by the aspirating needle healed readily under antiseptic dressings. The patient, however, showed little if any noticeable improvement in her walk. It may have been that all the fluid external to the cord was not drawn off, because of the bent condition of the body, necessary to facilitate the introduction of the needle, thus impeding the removal of the fluid because of unequal pressure exerted about the cord, or that the cord, having been in a compressed state for years due to the presence of the fluid, failed to respond to the space produced by the drawing off of the myelitic fluid, and allowed the same to fill up again. I agree that this is an exceptional case, and do not doubt that it will continue for years *in statu quo*, and that the patient will enjoy good health for such time. The disturbance in her gait has been much worse than now, and at present causes but little difficulty.

The above paper was written over six years ago, and, although of great interest, was never forwarded to the medical press; in fact it might never have been published had not the patient communicated with me quite recently. Although I did not see the patient personally, I learned she was feeling very well, had been able to work for the last four and one-half years, and that gradually after the operation the spastic condition in her limbs had improved but never entirely disappeared. She was employed as a waitress in a country hotel at the time of sending me these facts. These later developments increased my personal interest in the case. This accounts for the late publication of the data.

2 Willow Street.

## Progress of Medical Science.

**Splenectomy for Floating Spleen with Twisted Pedicle.**—In the *Annals of Surgery*, vol. xxx., No. 3, 1899, Stone reports the case of an unmarried woman, thirty-five years old, with unilateral salpingo-oöphoritis, who presented what was thought to be a pelvic tumor, but which proved on operation to be a floating spleen, not greatly, if at all, enlarged. The operation was undertaken for the relief of menorrhagia and dysmenorrhœa, and the spleen was mistaken for a subperitonal fibroid. As the displaced spleen had not caused constitutional, or indeed any, symptoms, it was thought best not to subject the patient to an additional operation of considerable danger, and, accordingly, the spleen was allowed to remain. So far as the patient's symptoms were concerned, she had complete relief from her former troubles, and remained well for six years. At the end of this time she was suffering from acute pain extending over the left side and lower half of the abdomen. The abdomen was exquisitely tender to touch, and it was not difficult to find the tumor, whose most prominent portion presented to the left side and rather below the umbilicus. Owing to the very great sensitiveness and nervousness of the patient, it was difficult to make a careful study of the situation and of the relations of the tumor to other organs. The patient presented the symptoms usually observed in patients having an ovarian cyst with a twisted pedicle. Her pulse was quick, and her temperature rose in the evening to 102° F. The tumor was easily decided to be the spleen, and

the sudden onset of pain and the fever were attributed to a possible inflammation of the organ. After careful consideration splenectomy was undertaken. The abdomen was opened in the median line over the middle third. A dark tumor at once presented, which was enveloped by the omentum and the intestines for the most part, although there were some adhesions to the abdominal parietes. After removal of the omentum it was not difficult to remove the spleen, which was greatly enlarged, quite soft, and of very dark color in part, due to extravasation of blood, and was adherent throughout its entire surface. The mesentery in this case was very long, and the spleen was rotated six times on its axis. The twisting of the pedicle served somewhat to shorten its length, and hence the spleen was elevated from the pelvis, its former abode, to the position described. The veins of the mesentery were very large, in consequence of extreme distention from stasis, and they were filled with blood-clot. This clot was so extensive as to cause anxiety lest it prove a hindrance to recovery. The greatly distended vessels could be felt as far as the hand could reach under the stomach and along the course of the vessels supplying the stomach, the pancreas, and the spleen. No unusual symptoms, however, appeared to prevent the patient's recovery, which seemed beyond question five weeks after the operation. The specimen weighed almost five pounds.

**The Treatment of Exophthalmic Goitre with Bile Administered by the Mouth and by Hypodermic and Intrathyroid Injection.**—Allan reports in *The Lancet*, August 26, 1899, the case of a tall, sallow, and nervous married woman, fifty years old, who had for ten years been subject to occasional attacks of what was believed to be exophthalmic goitre, but whose thyroid gland was never sufficiently enlarged to be noticeable except on examination. On the second day of an attack of influenza acute enlargement of the thyroid gland was noticed, the pulse rate being 160. For several days dyspnœa, almost incessant cough, great nervousness, diarrhœa, vomiting, and delirium, with a temperature varying from 104° F. downward, were among the most prominent symptoms. The symptoms varied from day to day, and finally exophthalmos and Stellwag's and Graefe's signs appeared, with pigmentation around the eyes. Paretic dilatation of the abdominal aorta was also very persistent. A peculiar feature was an absence of bile from the dejecta and an abundance of pale urine, notwithstanding the sweating, which was mostly unilateral. Upon the assumption of a paresis of the secretory function of the liver-cell, sodium salicylate and sodium phosphate were administered, but, failing to influence the secretion of bile, bile itself was given, and with almost direct benefit, especially with regard to the diarrhœa and the vomiting. The equivalent of from 1,500 to 2,250 grains was administered daily. After the third week administration by the mouth was supplemented by hypodermic injection, the equivalent of 360 grains of bile being injected between the shoulder blades. Intense reaction followed, but the untoward symptoms were relieved by the administration of antipyrin. The equivalent of 120 grains of bile was now injected twice daily, the amount being gradually increased to 360 grains twice daily, and being given with 15 grains of antipyrin in whiskey and soda. Some of the injections were made directly into the thyroid gland. The improvement that followed was so satisfactory that after some time only 120 grains were administered twice weekly by the mouth, and this was continued for three months. At the end of six months the patient had gained twenty-eight pounds in weight and expressed herself as feeling better than she had in twenty years. Of the more persistent symptoms, the exophthalmos disappeared quite unnoticed, then the tachycardia, and then the tremors. The thyroid enlargement subsided slowly. Many weeks elapsed before bile appeared in the dejecta.

**Total Laryngectomy for Epithelioma.**—At a recent meeting of the New York Surgical Society Dr. Brewer (*Annals of Surgery*, vol. xxx., No. 3) reported the case of a woman who nine months previously had noticed gradually increasing hoarseness, with spasmodic irritating cough. Examination disclosed the presence of a small growth just above the anterior commissure of the vocal bands, which, after a certain amount of preliminary treatment, was completely removed. The patient was entirely relieved as the result of the operation, and remained well for two or three months. Later, however, the symptoms returned, and they increased rapidly. On examination by competent pathologists the original growth proved to be an epithelioma. When examined again the laryngeal growth presented the appearance of a typical papilloma. It was about the size of a small pea, was situated in the anterior angle formed by the vocal bands, and was not associated with any thickening or evidence of infiltration of the surrounding tissues. Operation having been decided upon, after preliminary tracheotomy an incision was made into the larynx, extending from the hyoid bone to the first ring of the trachea. The growth was removed, together with the vocal bands and the anterior third of each thyroid cartilage. The wounds were packed, and the patient made a satisfactory recovery, being dismissed after the lapse of fourteen days. She remained well for about two months, when the growth reappeared, and it now increased with great rapidity, in about six weeks from its first appearance nearly filling the cavity of the larynx, and rendering breathing difficult. Operation was again undertaken, an incision being made under chloroform anæsthesia in the median line from the body of the hyoid bone to the suprasternal notch. The trachea was opened below the isthmus of the thyroid gland, the upper segment of the tube plugged with sponge, and the cannula introduced. From the upper extremity of the incision two additional incisions were made extending obliquely upward toward the angles of the jaw. The two superior thyroid arteries were found and ligated, and, although no enlarged glands were discovered, the areolar tissue surrounding the vessel was removed. The larynx and the upper part of the trachea were then cleaned and separated from their muscular attachments. The trachea was divided, and the posterior surface of the thyroid cartilage carefully dissected from the œsophagus. The pharynx was not opened until the larynx had been entirely freed from its attachment to all surrounding structures. The two were then separated, the resulting pharyngeal wound completely united with catgut, the trachea sutured to the skin, and the incision partly closed and packed. During the next ten days gauze pads soaked in hot boric-acid solution were kept constantly over the opening of the tracheal tube. The wound was dressed frequently and healed promptly. The patient swallowed water on the second day, and took milk and other liquid food freely after the third day. On the tenth day, as the result of a violent attack of coughing a small leak occurred in the pharyngeal wound. This healed spontaneously, and caused the patient no inconvenience. She sat up on the fifteenth day, and was thereafter well.

**Hæmaturia Attending Tuberculosis of the Kidney.**—Newman (*Lancet*, August 26, 1899) points out that hemorrhage from the kidney occurs: (1) in consequence of injury, independently of any pre-existing tuberculous lesion, the effused blood or injured tis-

sues forming a nidus for tuberculous infection; (2) as a premonitory symptom of tuberculous disease long antecedent to the development of a gross renal lesion; and (3) in consequence of destructive tuberculous processes in the pelvis or the parenchyma of the kidney. He reports cases illustrative of each of these varieties of hæmaturia. The following method for detecting tubercle bacilli in suspected urine is recommended: A quantity of urine is permitted to stand in a conical glass in a cold place for not more than six hours, and from the deposit a small quantity of débris is selected and placed in a glass of 0.75 per cent. salt solution. The deposit is, however, obtained more rapidly and more reliably by centrifugation, which should always be resorted to when the number of bacilli is supposed to be small or when the urine contains much mucus or blood. When the mucus is considerable it may be necessary first to render the urine slightly alkaline. A small amount of the sediment is placed on a cover slip and spread in a thin layer by pressure through a second cover slip. The slips are dried in the air, and they may be more firmly fixed over a spirit lamp or in front of a fire. They are then placed in, or floated, face downward, upon a solution of aniline magenta or of gentian violet. Decolorization is effected by passing the cover slip through a twenty-five-per-cent. solution of nitric acid, and then washing in water. Tubercle bacilli are cultivable from urine only with difficulty. Their presence may further be demonstrated by animal inoculation. When the existence of tuberculosis has been demonstrated it is important to determine whether one or both kidneys are affected. This may be done by catheterization of each ureter separately, and an individual study of the secretion from the corresponding organ.

**An External Application to Lessen the Dangers from Desquamation in Scarlet Fever.**—To prevent the dissemination of the scales thrown off from the skin in the sequence of scarlet fever, Williams recommends the application of a mixture of one part of glycerin to seven parts of a ten-volume solution of hydrogen dioxide containing a small amount of free hydrochloric acid. It has further been found that if the patient is rubbed all over with a similar solution, but without the hydrochloric acid, the period of desquamation may be materially shortened and removal of the layer of epithelium hastened.—*Boston Medical and Surgical Journal*, September 14, 1899.

**Successful Splenectomy for Rupture.**—Heaton reports the case of a boy, nine years old, who presented symptoms of severe intra-abdominal hemorrhage, probably from rupture of the liver or of the spleen, as a result of being knocked down and run over by a heavy cart. Abdominal section was performed five and a half hours after the accident; a rupture of the spleen was found, and the organ was removed. Recovery ensued without untoward complication. Examination of the blood disclosed the presence of a marked pathological leucocytosis greater than in any case hitherto reported; a proportionate diminution in the number of lymphocytes, notwithstanding the slight hyperplasia of the lymphatic glands; a proportionate and large actual increase in the large mononucleated forms; an abnormal number of the so-called transitional cells, exhibiting changes in their nuclei and protoplasms as in the transformation of large mononucleated cells into finely granular oxyphiles; and a remarkable want of interference with the ordinary red blood cells. Altogether seven cases of splenectomy for rupture have been reported, and a study of these leads to the conclusion that a marked leucocytosis follows removal of the spleen, appearing immediately after the operation and gradually declining, although it exists in less degree for six months or more. The various forms of leucocytes are increased in number in various proportions, and they do not bear the same ratio to each other as in normal blood. The anæmia induced by the accident is but slowly recovered from after the removal of the spleen. In three of the seven cases the removal of the spleen was followed at an interval of from ten days to three weeks by a train of symptoms characterized by pyrexia, wasting, extreme weakness, anæmia, frequent pulse, pallor, thirst, and headache, which last for a varying period, and are slowly recovered from. The external lymphatic glands undergo enlargement, and in some cases a marked hyperplasia.—*British Medical Journal*, August 19, 1899.

**A New Operation for Inguinal Hernia.**—In order to diminish the chances of recurrence, Beck has employed the following modification of the Bassini operation for inguinal hernia: The incision is made down to the internal surface of Poupart's ligament, alongside the outer margin of the rectus muscle, exposing its lower third, down to the shelving portion of Poupart's ligament. The sac is isolated from the cord, and ligated and cut off within the internal ring. While the cord is held away the cut aponeuroses are dissected backward, and an oblique incision is made which divides the lateral fibres of the rectus muscle transversely to the extent of about one-third of its width, a little below the lower third of the muscle. The incised fibres are then so far severed from the remainder of the muscle that their upper portion, when turned downward, will reach Poupart's ligament without any considerable tension. This turned flap is now fastened to the conjoined tendon at one side, and to Poupart's ligament on the other, with formalin catgut, after the cord has been placed upon it so that the cord rides, as it were, on the muscular flap. The gap caused by the resection of the flap is now covered by uniting the outer margin of the rectus muscle with the broad abdominal muscles. The aponeuroses are united above the cord by continuous suture, thus forming a very strong muscular wall, which may be of importance in the case of large and direct hernias. It is possible that the removal of the sac may thus be rendered unnecessary in the case of small hernias.—*Medical News*, September 16, 1899.

**Acute Suppurative Cholecystitis, with Isolation of the Typhoid Bacillus Eighteen Years after an Attack of Typhoid Fever.**—Hunner (*Bulletin of the Johns Hopkins Hospital*, August–September, 1899) has reported the case of a woman, fifty-four years old, who sought treatment for a large abdominal tumor. She gave a history of remittent fever at the age of thirty-six years, which kept her in bed for two weeks, after which she insisted on getting up, although her illness continued for two months. Typhoid fever existed in the neighborhood at the time. The enlargement of the abdomen had been noticed three and a half years previously, after a serious illness of six weeks' duration. This illness began suddenly as a severe pain in the right side, radiating down into the right inguinal region. The pain became intermittent in character, the attacks lasting half an hour or more, and leaving the patient nauseated and with abdominal tenderness. There were no vomiting and no jaundice, but there had been several attacks of diarrhœa. For two years subsequently the patient was well, though suffering occasionally with slight pains and soreness in the right side. She also observed a small movable mass in the right lower quadrant of the abdomen. Eighteen months before she came under observation the attacks of pain increased in frequency and severity, and often after a paroxysm the woman could not bear the weight

of her clothing. Recently she had been confined to bed for short periods and had lost weight and strength. On physical examination a large cyst was found springing from the left ovarian region. The right ovary was represented by a hard movable mass, of the size of a fist, lying high in the lower right abdominal quadrant. Operation was undertaken, both tubes and ovaries, with the ovarian cyst, being removed. Numerous adhesions to the intestines and omentum were severed or torn apart, and an adherent appendix was removed. The period of early convalescence was without special interest, the abdominal wound being found healed on the tenth day. On the fourteenth day the patient complained of nausea, and she vomited several times duringt he afternoon and evening. There were no distention and no particular tenderness. She was more comfortable on the following day, there being no nausea or vomiting. The temperature reached 100.3° F., and the epigastrium was somewhat sensitive. On the sixteenth day she suddenly began again to complain of great pain in the epigastrium. Her expression was anxious, and there was profuse perspiration. In the epigastrium peristaltic waves from the distended stomach were visible, and at the right costal margin a sensitive tumor, dull on percussion, could be palpated. On the seventeenth day her condition became very critical. A visible tumor, exquisitely tender, projected from the costal border in the right hypochondrium, and the gastric distention was even more marked than before. The leucocytes numbered 29,000. A second operation was now undertaken, and cholecystostomy was performed, with evacuation of the contents of the greatly distended gall-bladder and the establishment of permanent drainage. No stone was found at the operation, but a pea-sized calculus was discharged a week later. The patient made an uneventful recovery, constantly secreting large quantities of bile until the spontaneous closure of the fistula a month later. Cultures and glass-slide smears were taken from the peritoneal exudate outside the bladder and from both the mucoid fluid and the pus within the bladder. Both culture and smear from the peritoneum were negative with regard to micro-organisms, whereas in both the mucoid fluid and the pus bacilli were found that conformed in general with typhoid bacilli, though differing somewhat in morphological appearance.

**Cultures from the Blood in Septicæmia, Pneumonia, Meningitis, and Chronic Diseases.**—As the result of a study of the literature, in conjunction with personal experiments, White (*Journal of Experimental Medicine*, vol. iv., Nos. 3 and 4) has reached the following conclusions: (1) Blood for bacteriological examination during life should be taken directly from a vein and in considerable quantity. (2) Absorption of toxins is the most important feature in cases of septicæmia; pyogenic bacteria invade the general circulation in a rather small proportion even of severe cases, and as a rule late in the course of the disease. (3) General infection by the pneumococcus can be demonstrated occasionally in the late stages of acute lobar pneumonia. (4) The value of blood-cultures as a means of diagnosis in obscure cases of septicæmia is limited by the fact that invasion of the blood by the specific organism cannot be demonstrated during life in the majority of cases. Positive cultures are highly valuable, but negative cultures do not exclude local septic infection. (5) The detection of specific bacteria in the blood in cases of septicæmia and of pneumonia is ground for a very unfavorable prognosis in most instances. (6) General terminal infections with pyogenic cocci occasionally occur as an immediate cause of death in cases of chronic disease. Local infectious processes play this part more frequently. (7) So far as experiments have gone, invasion of the blood by bacteria during the death agony, with subsequent distribution of the germs to the organs by way of the circulation, is a rather uncommon occurrence. (8) Owing to the relative infrequency of agonal invasion, it may be concluded that in the majority of cases in which the autopsy is performed promptly after death the bacteria that are found in the organs have succeeded in reaching these organs previously to the death agony and are associated with the course of the disease. (9) The presence of bacteria in the organs when autopsies are performed late is due in many cases to post-mortem extension from one organ to another, and in some cases to the post-mortem growth of small numbers of germs that were distributed through the organs by means of the circulation.

**Molluscum Fibrosum.**—In the *Wiener klin. Wochenschrift*, August 17th, Dr. P. Merken takes the ground that molluscum fibrosum is to be regarded as a congenital deformity of progressive nature similar to nævus. It is a neoplasm of benign growth in general, but with a slight tendency to malignancy. Seventeen cases have been put on record as undoubtedly congenital in origin, and the writer finds that many others show the influence of heredity. On this fact, and also that the majority of instances develop in early life, is based the claim that these fibromata are congenital. The frequency of coexisting mental defect is also pointed out.

**Cocainization of the Spinal Cord.**—Bier (*Wiener medizinische Blätter*, August 17, 1899) cocainized the spinal cord in six patients, a healthy colleague, and himself in the following manner: With a very thin needle he performed a typical spinal puncture, and then injected into the cord small doses of cocaine (0.005—0.01—0.015), at the same time taking care that the cerebro-spinal fluid did not gain an exit. This was followed by complete loss of sensation, which even with the smallest dose (0.005) embraced two-thirds of the entire body; this loss of sensation began in from five to eight minutes at the lower extremities and gradually ascended to the sternum. In larger doses the loss of sensation spread over the entire body with the exception of the head. The anæsthesia lasted about forty-five minutes with 0.005 of cocaine. In the six patients, the following operations were performed without any pain whatsoever: (1) Resection of a tuberculous ankle-joint; (2) sequestrotomy in an old osteomyelitis of the tibia; (3) resection of an ankylosed knee-joint; (4) curettage of a tuberculous area in the sacrum; (5) osteotomy for osteomyelitis. In three instances disagreeable after-effects were entirely absent or present to but a slight degree. In the remaining three instances, as well as in the two physicians, disagreeable after-effects such as are seen in general narcosis—vomiting and headache—did occur. These were in fact more violent and lasted much longer than is generally observed in chloroform anæsthesia. These bad effects occurred after a few hours, so that they could not be attributed to the toxic effect of the cocaine, but must be due to a direct irritation of the central nervous system. This anæsthesia is very likely produced by a direct effect of the cocaine upon the non-medullated nerve fibres, perhaps upon the ganglia. The sensation of pain disappears first, whereas the sensation of touch is diminished or disappears only after a long time and with larger doses of cocaine. Sensations of warmth and cold remain intact, but the pain produced by contact with hot substances is very much diminished. On account of these disagreeable after-effects, Bier has given up this cocainization of the spinal cord; still his method may be of value in instances in which general anæsthesia is contraindicated and the Schleich method is inadequate.

**Huntington's Chorea.**—Cases of Huntington's chorea have not been very numerously reported upon from Germany, hence Lewenfeld's communication (*Centralblatt fur Nervenheilkunde und Psychiatrie*, June, 1899) is of interest, especially since there was little mental degeneration; nor was there any marked psychical change in an uncle of the patient, who was also affected by the disease. This, with other observations of the author, inclines him to oppose the use of the term "dementia choreica," as generally applied to this disease.

**Tetanoid Seizures in Epilepsy.**—Tonic or tetanoid epilepsy, L. P. Clarke (*American Journal of Insanity*, No. 55, 1899) holds, judging from literature and his experience at Craig Colony, to be a comparatively rare condition, though he is not disposed to make a special type of epilepsy of such tetanoid seizures. The history of a patient is presented, who, prior to the time of the observations, had had grand-mal seizures. In the tetanoid seizures the head was first slightly rotated to the right and then decidedly to the left. Then the spasm passed rapidly over the entire body, apparently bilaterally, from head to foot in a wavelike manner. All the muscles were in tonic rigidity each time for fifteen to twenty seconds. The back was well arched as in tetanus; the muscular rigidity being so great that the body could be raised from the floor by lifting the ankles, the occiput supporting the upper end. These tonic spasms occurred for a period of three hours, and were not intermingled with those of a clonic nature.

**Headache, Deafness, and Tinnitus Aurium.**—A novel treatment by application of hot air is suggested by Dr. E. L. Vansant (*The Philadelphia Medical Journal*, September 9th). The hot-air syringe consists of a small chamber containing either a piece of carbon or several diaphragms of metal. This is held over a flame until heated. Coming off of the chamber, anteriorly, is a nozzle with adjustable tips. The air enters the chamber from behind and is heated while passing through. The instrument is small in size and is held by a handle placed at a convenient angle. The air to be heated is obtained from the usual air-condenser. The amount of heat produced may be varied at will, from a mild warmth to a burning degree, and depends upon how hot the chamber is heated, how close the nozzle is held, etc. The nasal accessory sinuses are syringed by the stream of hot dry air thus obtained. In preparing the nasal chambers for treatment, the mucosa is first shrunken by applications of cocaine or eucaine, used alone or followed by watery solutions of the suprarenal capsule of the sheep. The hot air is directed against the openings of the sinuses, or, if necessary, a small catheter is used. When the middle ear is treated, the air is passed through a Eustachian catheter. The treatment, when properly carried out, is not painful, but is rather agreeable to the patient.

**Effect of Quinine upon the Malarial Plasmodium.**—Lo Monaco and Panichi (*Deutsche Medizinal-Zeitung*, August 14, 1899) state that if the blood containing young plasmodia is placed under the microscope and a few drops of a watery solution of sulphate of quinine (1:5,000) are added, it is observed that the parasites contract themselves by means of their pseudopodia and the contained pigment tends to accumulate in the centre. In about fifteen minutes the parasite again stretches itself, the pigment particles return to the periphery, and finally the plasmodium assumes once more its slow movement. In young but more developed forms, which occupy about two-thirds of the erythrocyte and contain much more pigment, quinine pulls together the plasmodium, and draws in the pseudopodia, so that the parasite attempts to assume a circular form; the pigment particles, which are found in large numbers at the periphery, become actively motile. Following this, all pigment particles gather in the periphery of the micro-organism, which assumes a round form. Soon after we notice that the pigment particles move about and the plasmodium emerges from the red blood cell and lies at its side. In the pre-febrile stage, the plasmodia, which practically fill the entire erythrocyte, do not emerge therefrom when in contact with quinine, but rather draw themselves together and then again stretch out, and finally assume a circular form, thus appearing much smaller. The movement of the pigment becomes very active, and it wanders from the periphery to the centre of the plasmodium. When this movement has reached its acme, some of the pigment particles leave the parasite and deposit themselves at a greater or less distance from it. From these observations it is seen that on account of the quinine the plasmodia leave the red blood cells and thus undergo degeneration. Furthermore, they sanction the clinical rule that quinine is to be given always before the attack, and never during it.

**Constipation and Diarrhœa.**—R. Schütz (*Wiener medicinische Blätter*, August 17, 1899) says that the abnormal function of the intestines may be due to three factors, namely, a pathological condition of the muscular apparatus, unusual irritation, and obstruction to the passage. The muscular apparatus may be congenitally atrophic (hypoplasia), it may become atrophic, or it may be normal but react very weakly (atony). According to Lesshaft, abnormal conditions of the abdominal muscles also influence intestinal peristalsis. Unusual irritation is caused by food stuffs, the central nervous system, the blood, or external agencies. Thus a diminution of free hydrochloric acid causes fermentation of the carbohydrates and decomposition of fats with irritation of the small intestines and diarrhœa, just as in gastric carcinoma, on account of the diminution of food ingested, constipation occurs. Constipation with increased hydrochloric acid is caused, according to Fleiner, by the bactericidal action of the hydrochloric acid, with resulting diminution of fermentation and peristalsis. This hypothesis is rendered doubtful by the fact that the stomach has a tendency rapidly to pass along fluid and semifluid substances. It is also very questionable whether the intestines contain sufficient bacteria to continue the process of decomposition. Experiments of Schütz have proven negative in this direction. Therefore he believes that constipation in such instances as gastric ulcer depends upon the fear of the patients of pain and the selection of their food stuffs. Under this heading comes the constipation due to increased excretion of water. For diagnostic purposes examination of the stools is necessary. An admixture of mucus, provided it does not look like a coat of varnish, always speaks for catarrh except when a laxative has been administered. A differentiation is also to be made between mucous colic and membranous enteritis, the former occurring periodically and being of nervous origin, the latter usually being a catarrh. Nothnagel prefers to call the former mucous colic, the latter chronic colitis. Otherwise, mucus always speaks for catarrh (in a constipated stool). In diarrhœal conditions microscopic examinations must often be made in order to determine whether the condition is of a dyspeptic or nervous origin. Pure mucus without fæces, or very little of it, indicates catarrh of the lower bowel; mucus with fæces, catarrh of the small intestines or upper part of the large. Particles of muscle and mucus point to catarrh of the small gut. In chronic colitis the stools often have a sandy consistency. Small masses, frequently evacuated, point to inflammatory process of the lower bowel, but are frequently a nervous symptom. In a normal stool undigested vegetable particles are often found.

MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 51 Fifth Avenue.

New York, October 14, 1899.

## A STUDY OF ANGER.

THE manifestation of the feeling of anger is one of great importance for moral and physical education, but there has hitherto been upon it little literature worth reading. A paragraph in a text-book, linking it with the emotions of love and fear and hate, is generally all the notice it receives. In medical works it is regarded as a symptom of epilepsy and insanity, and a possible cause of other diseases, while novelists describe the passion of anger with a fine liberality of imagination, ranging all the way from the horrors and tortures of savagery and warfare to the climax of hatred and revenge in the murder of a Nancy or a Tito.

But anger as a daily universal experience, with a distinct physical reaction, has not been so widely studied. The child who screams and bites his nurse when carried off to bed, the schoolboy who fights another who sticks out his tongue at him, and the business man who damns an employee for stupidity, are all material for study, as well as the extreme cases that lead to crime or are the manifestations of paranoiac suspicion and rage.

That all anger is primarily a physical and secondarily a moral manifestation, is well shown by the very suggestive bit of work published by G. Stanley Hall, in the *Psychological Review*, vol. 9, 1899. In "A Study of Anger," Mr. Hall has departed from the material of literary and world-famous pages, of which, however, he gives a very interesting review, and depends on original material which he has been collecting from reliable observers for several years.

The human tendency to rage seems greater the nearer man is to the savage and animal type, and the more he is obliged to struggle for his food. "Primitive man had no regularity of meals, working-hours, or occupations, but days and weeks of idleness, alternated with, and prepared for, by periods of excessive strain in hunting and migration and warfare. Into such life rhythms, criminals and degenerates tend to lapse." On the other hand, the term "gentleman" is held by some to imply a command over one's passion of anger above all others.

In Mr. Hall's collection of experiences, coming from some two thousand cases, we find confessions of very trivial causes of irritation and vexation. Some people have personal antipathies to certain physical characteristics in others, freckles, red hair, bad teeth, a peculiar laugh; while others feel decided aversion to personal habits, such as smoking, or eating in a slovenly way. Others are made furiously angry by being thwarted or denied their freedom, others by being slighted or gossiped about or contradicted. Jealousy, injustice, overwork, teasing, ridicule, mocking provoke others to rage.

In all cases there were physical sensations accompanying the mental sense of anger, but these differed greatly with the individual. Eighty-seven per cent. describe flushing, and twenty-seven per cent. describe pallor as characteristic of anger. The heart bounds or beats rapidly, and several cases of death due to cardiac lesion are ascribed to anger. Some people have peculiar feelings in the throat and mouth, others become dizzy or faint; thirty-five per cent. of the cases report tears, and in twenty cases attacks called bilious are ascribed to anger. Salivation is generally more copious; the frequent swallowing of it probably causes the nausea which some mention as a concomitant of their anger; and blowing it in bubbles with a panting breath is undoubtedly the "frothing at the mouth" that is sometimes described. We agree with Mr. Hall that "it is a long cry to associate the salivation of anger with primitive anticipation of savory food," but when it comes to ascribing the abhorrence of spitting which is common in children and primitive people to a long experience of contagion of morbific germs through saliva, and saying that we have here "an instinctive prophylaxis against contagion," we feel that the conclusion is a little far-fetched.

The sounds indicative of anger are interesting, as passing from the monotonous cry of infancy, through the animal-like noises of childhood, to the threats and oaths of adult life. In many cases, paralysis of the throat is reported, and inability to speak above a whisper, or without crying or trembling, but in the greater number making a noise seems to be a natural expression of anger. The very close connection between intense muscular tension and loud phonation is shown in the characteristic cry of epilepsy, which resembles the battle-cry of various savage tribes, while college yells at athletic contests are, according to Mr. Hall, "toned-down cries of defiance."

The tendency to bump and butt with the head, so noticeable in childish fits of temper, he thinks, may be related to a previous phyletic experience, when early vertebrates, both aquatic and terrestrial, accumulated an ancestral experience of moving head first, breaking their way through water and obstacles.

Biting and scratching as a relic of animal hatred is common in childhood, and a strong jaw is considered a sign of force, compared to the weak, passionless character of a person with a weak jaw.

In general, temper decreases in the violence and frequency of its outbursts as the child approaches adolescence, but, if uncontrolled, develops into great irascibility with old age. The expansion of the mind and the reason, the work of the day, conscience and religion seem to tone down the violence with which the body seeks to relieve itself of its tension by giving vent to anger.

The study of reaction, and whether or not it is accompanied by humiliation, penitence, and atonement, is an interesting topic which the physical and moral healer could work out to advantage. The training of youth to self-control has hitherto been left to the individual mother and teacher, for discussion on the ethics of the upbringing of children generally degenerates into a sentimental dissertation on the rod. According to the temperament and environment of the child different means may be used to help him to self-control: a mirror to reflect facial contortions, a joke, the repetition of a text or prayer serve some by breaking for a moment the tension, while in over-indulged children Dr. Hall advocates "a vigorous application of Dr. Spankster's tonic," as working wondrous and sudden cures. Isolation from social intercourse helps; plain, unvarnished rebuke, the natural consequences of a tearing, smashing temper, and seeing the disagreeable effect of other ill-tempered children, are means often heplful to self-control, while some boys can work out their salvation only by a certain amount of fighting.

The state called irritability is due to loss of inhibition. Fatigue and loss of sleep are often responsible for it, and the irritability of convalescence is a sign that the lower reflexes are restored before the higher. Some forms of insanity consist essentially in the loss of this higher power of self-restraint; and not only anger but mania, acute and chronic melancholy, and suicide are thus explained. Good health, plenty of sleep, and removal of irritating causes, with occupation and amusement, seem to sum up the natural methods of cultivating self-control, without which crime and suffering are engendered.

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## SOME FURTHER REMARKS ON CHRISTIAN SCIENCE.

In the August number of the *North American Review* Mr. W. A. Purrington continues his consideration of the case against Christian Science. Taking as his text the proposition that "Publicity will destroy the cult far more quickly than legislation," he proceeds to lay bare the absurdities inherent in Mrs. Eddy's teaching by quotations from her writings. The fact that after a curriculum of only three weeks and on the payment of a fee of $300 the title of doctor of science was granted at Mrs. Eddy's college to those desirous of receiving that degree and willing to part with the money for that purpose should, if nothing else will, open the eyes of the public both to the ridiculous and the nefarious aspects of the question. Undoubtedly, however, the point that especially appeals to the masses in regard to Christian Science is the ingenious mingling of religion with the mundane art of healing. Unfortunately religion is and always will be made the cloak for humbug of every description. The conclusions arrived at by Mr. Purrington are as follows:

First: As a mere religious or philosophic theory Christian Science never would have had any vogue. Its fascination lies in its pretended cures. No one suggests taking action to restrain it as a form of worship. The most that has been suggested in regard to it has been that its ignorant votaries should not be allowed to trifle with the life and health of adults, children, and the entire community by assuming the treatment of all classes of disease, including surgical cases and contagious and infectious maladies. To say that it is an infringement of religious liberty to require the same skill and knowledge of Christian Scientists engaging in the business of curing the sick for hire as is required of Presbyterians or Catholics in the same business, shows ignorance of the constitutional doctrine of the Mormon cases, or carelessness of statement, or such wilful misstatement as Mrs. Eddy personally was guilty of when she said infringement of copyright is theft, punishable criminally.

Second: Christian Science has no healing power peculiar to itself, as distinguished from faith cure or any other method of diverting the mind from the ills of the body. If it had such divine power, its application would be universal; it would be effective in surgery as in physic. . . .

Third: Why is it then that Christian Science is credited with these marvellous cures, if its foremost professors cannot bring forward any better proofs of them than are afforded by certificates no better in manner and degree than those accompanying every quack nostrum that is advertised? The explanation is simple. In perhaps the majority of cases to which physicians are called nothing more is needed than regimen and the mental stimulus that comes to the patient with the knowledge that he is under skilled care. If a physician falls ill, he calls another to attend him chiefly for the sake of this mental stimulus and to eliminate the personal factor. . . . In all self-limited or feigned cases whatever removes the mental tension may be beneficial. Many patients would get well without any attendance at all. To take an illustration: Childbirth, in which Christian Scientists profess great success, is not a disease, but the operation of a normal function. In the absence of complications, attendance is not necessary, although it may be desirable. But in the presence of certain complications the very highest skill is necessary to save life. Will any sane person say that because in the vast majority of cases children may be brought into the world safely under the attendance of a Christian Scientist, such a person is to be pardoned who undertakes such a complication as that of placenta prævia with neither medical skill nor knowledge? Will any parent be willing, in case a child's artery is severed, to call a Christian Scientist rather than a surgeon? Upon the answers to these questions depends the acceptance by reasoning persons of Mrs. Eddy's theory and claim that her followers can cure all forms of human maladies and injuries, and that they should be allowed to treat medical and surgical cases without the responsibility for malpractice that rests upon "medical men." *The Outlook* has these pertinent remarks in regard to the danger of calling in Christian Science aid to the sick: "Suppose a Mormon were to set up as a pilot, claim divine guidance, and insist on his right to take steamships in and out of New York harbor on the strength of his proficiency in the Book of Mormon, would it be a violation of the liberty of the individual to prohibit

and put him in jail if he persisted? Yet the danger to the community from incompetent pilotage of an ocean steamer would not be so great as the peril from incompetent treatment of certain contagious diseases." When those members of the public who are apt to believe in the efficacy of Christian Science treatment can be made thoroughly to understand that a course of three weeks' training is not sufficiently long to render a person, even with spiritual aid, qualified to treat injuries and diseases, and that by employing such practitioners in many instances not only are they endangering their own lives, but also those of their neighbors, perhaps they will pause and ponder.

In the mean time strong measures should be taken to prevent parents and guardians from employing unskilled advice for their children or wards.

## THE FALL MANURING OF CENTRAL PARK.

The season has arrived for the annual spreading of manure over the greenswards of Central Park. At least, that which they spread, just as the carriage population begins to return to the city each year, the gentlemen of the park department are pleased to designate as manure. What it is and where they get it, and how they treat it to give it so horrible an odor, they alone know. A little of that consideration for the olfactories which the lady showed when she poured cologne into the sample of morning urine the doctor had ordered sent to his office, would be appreciated by thousands of lovers of the beauties of nature.

If the eye must be offended by this black mantle shutting out the green until the snows fall in their pity and hide with a pure covering of white this uninviting prospect, let the nose, at least, be spared. The manure should be scented, or, at least, disinfected. If interviewed in this connection the park gentlemen will tell you that the odor of manure is healthy. Be this as it may—we are prepared to accede the point and grant to those who seek health by inhalations of this nature the privilege of continuing. We reserve, however, for those others who do not feel the need of the manure treatment the right to resist an enforced application of it. When the older scientists put forth the proposition that the ammoniacal odors arising from the dung-hill were salubrious, they had in mind the real old-fashioned country article. If they could come back to earth one of these glorious autumn afternoons, and smell the fraudulent, adulterated article which the department is attempting to foist upon a gullible public as "just as good as the original," they would be glad to go back again—no matter whence they came.

**Transactions of the Moscow Congress.**—It is announced that the first four volumes of the Proceedings of the Twelfth International Medical Congress, held in Moscow, will be ready for publication in the course of the present month. The remaining three volumes will, it is said, be ready by the end of the year.

## News of the Week.

**The Hospital Ship "Solace"** arrived in San Francisco from Manila on October 7th.

**Dr. William H. Howell,** professor of physiology, has been made dean of the Johns Hopkins Hospital in place of Dr. Osler, resigned.

**Smallpox in an Orphan Asylum.**—There has been an epidemic of smallpox at the Orphans' Home in Dayton, Ohio, thirty-three cases having occurred there up to October 5th.

**The British Red Cross.**—The president of the British Red Cross Society, Lord Wantage, has issued an appeal for contributions to aid in the work of the society, which, he says, will provide two hospital railway trains and a hospital ship.

**Inspection of Emigrants.**—Health Officer Doty of this port has gone to Europe to visit the principal Continental ports, where he will consult with the authorities and steamship agents in relation to the detention at the port of embarkation of certain emigrants previous to their leaving for this country. This detention is to cover the incubation period of the ordinary infectious diseases, especially smallpox.

**The Yellow-Fever Situation** at Key West remains practically unchanged, the number of new cases reported being from twenty to twenty-five a day. This number is less than it was two weeks ago, however, and it is believed that the worst of the epidemic is now over. In New Orleans there are but few cases, and those generally of a mild nature. In Havana only three new cases were reported during the first ten days of October, and the sanitary authorities believe that hereafter there will be only a few sporadic cases, the danger of an epidemic being practically past.

**The Health of American Troops in Cuba.**—Dr. Havard, chief surgeon of the department of Santiago and Puerto Principe, has recently made a trip through the two provinces with General Wood. He reports the health of the men at the various posts to be surprisingly good, the percentage of sick seldom being more than five, the diseases being chiefly malarial. He says that the question of taking care of American troops in a tropical climate will always be a serious one and difficult of solution. He thinks the number of troops from this country should be reduced to the minimum, native regiments, partly officered by Americans, being organized to take their place in the army of occupation.

**Milk Dealers Punished.**—The inspectors of the New York board of health recently caused the arrest of a number of dealers on the east side for selling adulterated milk. On trial three were found guilty and were fined amounts varying from $15 to $100.

**The Plague in Russia** is reported to be of the pneumonic type, and great fears are entertained that it will spread from the southern provinces all over the empire

and thence make its way to western Europe. The insanitary condition of the huts of the Russian peasantry, especially in winter, is such as to make the suppression of a disease such as the plague a most difficult, if not impossible, task.

**The Study of Tropical Diseases.**—The Liverpool School of Tropical Diseases sent an invitation to the United States government to attach an official delegate to the malarial commission of the school now working in West Africa. The invitation was, however, received too late to permit of a medical officer being detailed by the government to accompany the expedition.

**Congress of Italian Alienists.**—The tenth congress of Italian alienists was held in Naples from the 10th to the 14th of October, under the presidency of Professor Tamburini. The following were the subjects discussed: (1) Practical methods of individual psychological investigation in asylums and clinics; (2) the light which has been, and may be, thrown by anatomical data on normal and pathological psychology; (3) psychiatry and the study of the individual and his activity in social relations; and (4) intoxications and infections in the pathogenesis of mental diseases and neuropathies.

**A Discussion on Typhoid Fever.**—At the meeting of the New York State Medical Association, to be held in this city October 24th–26th, the following papers are promised for the discussion on typhoid fever: "The Advance in Our Knowledge of Typhoid Fever," by Dr. Herman N. Biggs, of New York; "The Bacteriology of Typhoid Fever," by Dr. W. H. Park, of New York; "The Clinical Diagnosis of Typhoid Fever," by Dr. William Osler, of Baltimore; "Statistics of Typhoid Fever at the Roosevelt Hospital for Ten Years," by Dr. W. H. Thomson, of New York; "Typhoid Fever in the Massachusetts General Hospital during the Past Fifty Years," by Dr. Reginald Fitz, of Boston; "Some Phases of Typhoid Fever as seen in Bellevue Hospital," by Dr. A. A. Smith, of New York; a paper (title not given) by Dr. E. G. Janeway, of New York; "Typhoid Fever in Children," by Dr. Abraham Jacobi, of New York; "The Local (non-surgical) Treatment of the Intestinal Tract in Typhoid Fever," by Dr. De Lancy Rochester, of Buffalo; "The Treatment of Perforation of the Bowel in Typhoid Fever," by Dr. W. W. Keen, of Philadelphia; and "Eye Complications in Typhoid Fever," by Dr. A. Hubbell, of Buffalo.

**Dr. John G. Clarke,** associate in gynæcology in the Johns Hopkins Medical School, has been elected professor of the same subject in the University of Pennsylvania, to succeed Dr. Penrose.

**Tuberculosis Cures.**—Italy is prolific of "cures" for tuberculosis, the latest being announced by Dr. Ruata, of Perugia. This consists in the inhalation of a mixture of alcohol, creosote, and chloroform in suitable proportions.

**Dr. J. G. Wishard Honored.**—The shah of Persia has conferred upon Dr. J. G. Wishard, medical director of the American Presbyterian Hospital in Teheran, the decoration of the Lion and the Sun. The shah has repeatedly shown his good will toward the work of the American medical missionaries in Persia.

**The Mississippi Valley Medical Association.**—The meeting of this society last week in Chicago, a report of which will be found in another column, was a very successful one. There were about six hundred members in attendance, and one hundred and sixty-four new members were elected. The next meeting will be held in Nashville, Tenn.

**The Johns Hopkins Medical School** has opened with thirty-five women in the school, six of whom are freshmen, with fourteen in the graduating class. In the first class that graduated there was one woman. Seven women in all have taken their degree from this school, and nearly every one now holds the position of resident physician in some well-known hospital in some part of the country.

**College of Physicians of Philadelphia.**—At a stated meeting, held October 4th, Dr. David L. Edsall read a paper entitled "The Relations of Water to Metabolism," in which he pointed out that excessive ingestion of water caused increased elimination (and diminished retention) of nitrogen, but that no appreciable effect is induced upon absorptive activity. Dr. W. Joseph Hearn read a report of "A Case of Arterio-Venous Aneurism in Scarpa's Triangle." The patient was a young colored man, without a history of syphilis, the lesion being attributed to pressure upon the vessels by the use of a spade in digging. The condition was thought to be an aneurism and the external iliac artery was ligated, but as the sac failed to diminish in size it was incised, when furious hemorrhage occurred. Ligation of the femoral artery and vein above and below the aneurismal dilatation, and of an additional large vessel, was eventually required. The patient recovered without complication, in the course of a few weeks. At a stated meeting of the Section on General Medicine, held October 7th, Dr. A. A. Eshner exhibited a case of probable syphilitic osteitis in a colored man who presented a painful swelling of the right humerus and in slighter degree likewise of the left and some pain also in the legs. The patient had been rachitic in childhood, and in diagnosis ossifying myositis, deforming ostitis, and osteosarcoma were excluded. Improvement ensued upon specific treatment, although a syphilitic history was not clear. Dr. S. McC. Hamill exhibited "An Interesting Heart Case," in a man presenting a loud, high-pitched, musical systolic murmur heard all over the chest, though best in the mitral area, and a less marked diastolic murmur, heard best in the course of the sternum. Dr. A. Stengel reported a case of hysterical dyspnœa occurring in a colored girl, whose respiratory frequency ran up to fifty per minute, without corresponding acceleration of pulse or elevation of temperature. There was, besides, some hæmoptysis, but without physical evidence of visceral disease. The condition ensued upon fright and ceased upon suggestive treatment. Drs. J. H. Musser and J. D. Steele

presented a communication entitled "Some Cases of Dilatation of the Stomach," reporting five cases in male students between the ages of twenty and thirty years in which the diagnosis was made by physical methods, including distention with water and air, lavage, percussion, palpation, and auscultation, and a study of the gastric chemistry.

**Quarantine against Tuberculosis Not to be Established.**—The State board of health has decided not to quarantine California against the consumptives of other States. It has adopted a resolution, however, recommending that in all State institutions those inmates afflicted with tuberculosis be kept apart from the others.

**A Busy Doctor.**—There is much sickness prevailing among the Doukhobors in the Northwest at the present time. Their medical adviser, Dr. Vera Welistchkina, is described as a tiny, slender, dark-eyed woman, who, after having taken her degree of M.D. in Switzerland, followed these people to their adopted homes. Besides being a physician, she acts as nurse and interpreter and guide to many hundred souls. At present writing she must more than have her hands full.—*Journal of the American Medical Association.*

**Navy Department,** Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending September 30, 1899. September 25th.—Passed Assistant Surgeon C. E. Riggs detached from the *New York* and ordered home to wait orders. Passed Assistant Surgeon E. S. Bogert ordered to the *New York* October 3d. September 26th.—Passed Assistant Surgeon C. P. Kindleberger detached from the Philadelphia naval hospital and ordered to the *Iowa*. Passed Assistant Surgeon M. S. Guest detached from the *Wabash* and ordered to the Philadelphia naval hospital. Passed Assistant Surgeon R. P. Crandall detached from the *Iowa* and upon relief to proceed home and wait orders. September 27th.—Assistant Surgeon B. L. Wright ordered to additional duty on board the *Monterey*. September 28th.—Surgeon T. A. Berryhill detached from the *Panther* when out of commission and ordered to the *Monongahela*.

**Reciprocity in Medical Licensing.**—It is an anomalous condition that exists at present in the United States in respect of the laws regulating medical practice. A physician of no matter how many years' practice, upon changing his residence to another State must in most cases go before a board of examiners and satisfy them as to his attainments before he can earn a living in the practice of his profession. Many have advocated the recognition by the authorities of one State of a license granted by another State, but, of course, a necessary preliminary to this reciprocity in licensing is the establishment of uniform requirements for the license to practise throughout the United States. The Wayne County (Mich.) Medical Society has taken steps looking to this very desirable result, and has sent out a circular to the authorities in the different States and Territories asking their views in the matter. The replies thus far received have been in the main satisfactory, and the committee having the matter in charge is encouraged to continue its labors. They are also endeavoring to obtain the co-operation of other medical societies and of individuals in the furtherance of the work. Information as to the work already accomplished may be obtained of the secretary of the committee, Dr. E. Amberg, 32 West Adams Street, Detroit, Mich.

**Dr. Jules Simon,** of Paris, physician to the Hôpital des Enfants Malades, died recently from heart disease following influenza.

**Dr. Fernando Gonzalez del Valle,** the oldest physician in Cuba, died in Havana on August 14th, at the age of ninety-eight years. He was graduated in medicine in 1823, and had practised from that date up to within a short time of his death in that city. He held for many years the chairs of pathology and of clinical surgery at the University of Havana.

**Death of a Physician from Strychnine Poisoning.**—A medical practitioner in London gave a patient a bottle of tonic medicine which the patient complained made her ill. In order to assure her that it was not poisonous, the doctor took several swallows of it. When he arrived home he had a convulsion and died not long afterward. Analysis showed that the bottle contained a large amount of strychnine, the doctor in compounding the medicine having used a solution of strychnine by mistake for chloroform water.

**Obituary Notes.**—Dr. Joseph H. Smith died at Plattsburg, N. Y., on September 30th, at the age of seventy-eight years. He was a graduate of the Albany Medical College in the class of 1846. He was once physician at Sing Sing prison, and later at Dannemora.—Dr. Frederick Olin White, of New Haven, died on October 5th of apoplexy. He was born forty-seven years ago in Seymour, Conn., and was graduated from the Yale Medical School in the class of 1877.—Dr. Pedro Jiménez died suddenly in this city on September 30th. He was a resident of Porto Rico, but came to New York some years ago to study medicine, and after his graduation served a term on the house staff of the Columbus Hospital. He was about to return to Porto Rico to begin practice.—Dr. Henry J. Lee, of Lydia, S. C., was shot by his son, also a physician, and died on October 5th. Dr. Lee was a graduate of the Medical College of the State of South Carolina in the class of 1854.—Dr. Edward E. Lloyd was found dead on October 3d, on the steps leading to his office at Tamaqua, Pa. He was for eight years a surgeon in the United States army. Two sons are physicians in practice at Scranton.—Dr. John H. Brownlow, of Ogdensburg, N. Y., died suddenly on October 10th, in an attack of angina pectoris. He had just finished reading a paper at the annual meeting of the Medical Association of Northern New York. He was sixty-five years old, and was a graduate of the Medical Department of the University of Georgetown, Washington, in the class of 1865. A widow and two sons survive him.

# Reviews and Notices.

PYORRHŒA ALVEOLARIS AND ITS RELATIONS TO GENERAL MEDICINE. By JOHN FITZGERALD, L.D.S., R.C.S.I. Pages 57. London: The Medical Publishing Company, Limited.

THE condition known also under the name of interstitial gingivitis is here briefly described. Some of the writer's statements are rather sweeping and unsupported by sufficient scientific data to make them fully trustworthy. The work is intended, however, as an outline of present knowledge and methods of treatment, and as such has been well constructed.

GENERAL PATHOLOGY, or the Science of the Cause, Nature, and Course of the Pathological Disturbances which occur in the Living Subject. By DR. ERNST ZIEGLER, Professor of Pathological Anatomy and of General Pathology at the University of Freiburg in Breisgau. Translated from the ninth revised German edition by Drs. Theo. Dunham, E. M. Foote, Philip H. Hiss, Jr., Walter B. James, William G. Le Boutillier, and Matthias Nicoll, Jr., of New York; Dr. B. Mead Bolton, of Philadelphia, Pa.; and Drs. Leonard Woolsey Bacon, Jr., John S. Ely, and R. A. McDonnell, of New Haven, Conn. Editor, DR. ALBERT H. BUCK, of New York. New York: William Wood and Company. 1899.

THIS new edition of Ziegler's Pathology consists of a volume of six hundred and twenty-one pages, profusely illustrated by five hundred and forty-four wood engravings in black and colors, and one lithographic plate, the latter representing various cultures of pathogenic bacteria on agar-agar, gelatin, blood-serum, and potato.

There is little to say of this ninth edition that has not already been said of the eighth. Ziegler's Pathology is acknowledged by all to be *the* authority of the end of the nineteenth century, and no words of praise or of criticism from a reviewer could shake this supremacy. This is not a simple reprint of the eighth edition but an actual revision, the number of illustrations being materially increased and many portions of the work rewritten. The most radical changes are in the chapters on degenerations and on tumors. The author's views on inflammation are well known, and, while not yet universally accepted, are gaining more and more adherents. These are stated here even more explicitly than before, and in a way that ought to force conviction upon any unbiassed student.

ON THE RELATION OF THE NERVOUS SYSTEM TO DISEASE AND DISORDER IN THE VISCERA. Being the Morison Lectures delivered before the Royal College of Physicians in Edinburgh in 1897 and 1898. By ALEXANDER MORISON, M.D. (Edin.). Fellow of the College; Member of the Royal College of Physicians in London; Physician in Charge of Out-Patients to the Great Northern Central Hospital and the Children's Hospital, Paddington Green; Physician to the Saint Marylebone General Dispensary. Edinburgh and London: Young J. Pentland. 1899.

IT may be accepted as an axiom that all bodily structure and function are under the domination of the nervous system, directly or indirectly, and it cannot, therefore, occasion wonder that deranged innervation should induce alteration in function and also in structure, and, conversely, that disease of structure and disorder of function should give rise to manifestations of nervous perturbation. The subject is a most extensive as well as a most attractive one, and its study can be pursued with much profit and practical advantage. Dr. Morison has devoted himself with fidelity and industry to his assigned task, and he has provided us with a bounteous repast of mental pabulum deserving of thorough digestion and careful assimilation.

In these admirable lectures, commendable alike for their scientific character and their practical value, the following order of discussion is pursued: the anatomy, the physiology, and the pathology of visceral innervation, disorders of visceral sensibility and motility, and body and mind; and in an appendix the subject of innervation of intracranial blood-vessels is discussed. It is quite impossible within the limits of a review even to mention the many topics discussed, and we can only commend the volume for careful study at the hands of those at all interested in the matters with which it deals. The book is well printed on heavy paper, is generously illustrated and substantially bound.

TRANSACTIONS OF THE AMERICAN MICROSCOPICAL SOCIETY. Edited by the Secretary. Twenty-first Annual Meeting, held at Syracuse, N. Y., August 30, 31, and September 1, 1898. Vol. xx. Lincoln, Neb. Issued May, 1899.

THIS well-prepared report of three hundred and seventy pages reflects decided credit upon the members and their editor. The papers are as a rule of high scientific merit, and as such contribute to the advances being made in this field.

THE GROSS AND MINUTE ANATOMY OF THE CENTRAL NERVOUS SYSTEM. By H. C. GORDINIER, A.M., M.D., Professor of Physiology and of the Anatomy of the Nervous System in the Albany Medical College; Member of the American Neurological Association. Philadelphia: P. Blakiston's Son & Co. 1899.

THIS is an excellent book on a fascinating subject, and the author deserves the thanks of the English-speaking medical world for his labor in getting it up. There are works enough on general anatomy, and dry enough they are, as we all remember only too well; but the anatomy of the nervous system alone is another matter entirely, for it is one of the most interesting of all subjects of medical study at the same time that it is one of the most difficult. For both of these reasons the subject is deserving of a treatise by itself, and should not be briefly discussed in a few pages of a general work on anatomy or in an introductory chapter of a treatise on diseases of the nervous system. The opening chapter is concerned with the minute anatomy of the nervous system, our ideas of which have been so changed by the comparatively recent labors of Cajal and Golgi. Then follow chapters on the cord, the medulla, the cerebellum, and the different parts of the cerebrum. The vessels of the brain are described in a special chapter, as are also the meninges—two important subjects which usually receive such inadequate consideration in ordinary text-books of anatomy. Some fifty pages are devoted to cerebral localization, and as many more to the embryology of the central nervous system. The closing chapter is on the technique of the macro- and microscopical examination of the brain and cord. The illustrations, which number two hundred and seventy-one, are remarkably good, many being in colors and others reproductions of microphotographs. Some of the pictures are taken from other works on anatomy, but very many of them are new. The index is satisfactory.

A TEXT-BOOK OF PHARMACOLOGY AND THERAPEUTICS, or the Action of Drugs in Health and Disease. For the use of Students and Practitioners of Medicine. By ARTHUR R. CUSHNY, M.A., M.D. Aberd., Professor of Materia Medica and Therapeutics in the University of Michigan Medical Department, Ann Arbor; formerly Thompson Fellow in the University of Aberdeen and Assistant in the Pharmacological Institute of the University of Strassburg. Philadelphia and New York: Lea Brothers & Co. 1899.

THE author of a new book on the action of drugs in health and disease must have more than the usual excuse of a "long-felt want" to justify him in publishing his work, for the want, as regards the profession at large, has been long since met. However, a teacher of materia medica, if he is at all original in his methods, cannot be entirely satisfied to put any existing text-book in his pupils' hands, for none can treat of the subject in just the way the lecturer handles it, and so he writes his book for the use of his students. But the work has been so well done that the study of it will not be confined to Professor Cushny's students, and its excellence will place it at once in the front rank of treatises on pharmacology. The physiological action of the various drugs is first studied, and then their therapeutic uses are indicated. Each chapter contains a very full bibliography. The utility of the work to the busy practitioner would have been greatly enhanced by the addition of a therapeutic index.

# Society Reports.

## NEW YORK ACADEMY OF MEDICINE.

*Stated Meeting, October 5, 1899.*

WILLIAM H. THOMSON, M.D., PRESIDENT.

**Certain Aspects of Bone and Joint Diseases of Interest to the General Practitioner.**—DR. VIRGIL P. GIBNEY presented a paper with this title. Speaking of anterior poliomyelitis, and the occasional outbreaks of this disease in certain localities, he said that there seemed to be good reason for believing that this disease was infectious in its nature. Much could be accomplished by early and appropriate treatment, particularly by securing rest and protection for the limbs, and forestalling the subluxations and other deformities which prove so rebellious to later treatment. He did not agree with those who recommended stimulation and exercise of the affected parts. Some of the most distressing spinal curvatures encountered by the orthopedic surgeon had had their origin in an empyema. As a rule there was no tenderness when the bodies of the vertebræ were diseased, although exceptions to this rule were met with, particularly among adults. It was most important in examining the vertebral column for disease to determine whether or not the normal flexibility of the column was present. The age of the patient often afforded a useful clew to the differential diagnosis between malignant and tuberculous disease of the spinal column. The absence of deformity, diminished flexibility of the column, and the effort made by the patient in every movement to prevent concussion of the spine were the chief diagnostic features of interest to the general practitioner. Some years ago he had described "the typhoid spine," a condition occasionally observed during convalescence from typhoid fever. It might lead to errors in diagnosis, but it should be remembered that in these singular cases there was exquisite tenderness without deformity. The history and the rapidity of improvement would usually serve to distinguish these cases from tuberculous spinal disease. It was unfortunate that the general practitioner so seldom made a diagnosis of Pott's disease until the kyphos had already appeared. One common error was to diagnosticate as Pott's disease cases of rachitic deformity. A type of lateral curvature of the spine was not uncommonly met with in cases of Pott's disease occurring in young children, but this should be sharply differentiated from the true rotary lateral curvature, a disease met with, for the most part, in adolescence and adult life. In tuberculous disease of the hip or knee reflex spasm was almost pathognomonic, and the occurrence of lameness at certain times, with exacerbations of increasing severity, was also quite characteristic. The existence of reflex spasm was best detected by carefully moving both the sound and the affected limb in all directions through the full arcs of motion, and comparing the behavior of the two limbs during this examination.

DR. A. JACOBI pointed out that there was almost a sensation of semi-fluctuation present in sarcoma. Referring to infantile scurvy he said that it was sometimes confounded with acute rheumatism and with anterior poliomyelitis. As regards the latter, it should not be difficult to ascertain whether the failure to move the limbs was due to pain or to paralysis. As a rule, the painful subperiosteal hemorrhages observed in scurvy were not in the joints, but situated in the shafts of the long bones. The deformities following rachitis were numerous and important. Few of the important internal organs escaped its pernicious influence. Thus, the aorta might be bent upon itself, and the circulation impeded by reason of the rachitic narrowing of the thorax. The spleen and liver were generally enlarged in rachitic children, and the kidneys were sometimes displaced. It was evident, therefore, that the treatment should be begun as early as the disease was recognized.

DR. JOSEPH D. BRYANT recalled instances in which apparently insignificant injuries had been followed by necrosis of bone, or by sarcomatous change. The rheumatism which sometimes followed injuries to bones and joints he was inclined to regard as rather the result of the attendant long confinement. Attention was called to a class of cases in which necrosis of the lower and posterior aspect of the shaft of the femur was apt to be diagnosticated as rheumatism. If diagnoses were made earlier in diseases of the kind under discussion, involvement of joints and deformities would often be prevented.

DR. CHARLES N. DOWD said that the laity quite commonly believed that traumatism was a very potent factor in the production of disease of the ankle and knee. Most cases of joint disease began with inflammation in the epiphysis, and at this stage a characteristic tenderness could be elicited.

DR. JOHN B. WALKER spoke of cases of detachment of the semilunar cartilages of the knee joint, and the harm resulting from the all-too-common practice of allowing these cases to go on without treatment until an arthritis had been set up. If the diagnosis were made early, and the parts put at rest and maintained in their normal position, a cure could be readily effected. The lateral motion must be restricted, but it was not necessary to interfere with the to-and-fro movements of the joint.

DR. S. A. KNOPF spoke of the great prevalence of chronic tuberculous disorders in children, and instanced the fact that a recent examination by Neumann in the public schools of Berlin had shown that out of one hundred and twenty-five boys and one hundred and thirty-two girls who were unable to attend school regularly, one hundred and fourteen boys and one hundred and fifteen girls had some form of tuberculous disease. He asked if Dr. Gibney had had much experience with Bier's treatment of joint tuberculosis by means of the elastic bandage so applied as to produce local venous hyperæmia. The method, he said, had proved very successful in the hands of some surgeons, and so different had been the behavior of tuberculous and other forms of joint disease that some even claimed for the method a diagnostic value. In conclusion, he alluded to the great value of seaside sanatoria in the treatment of tuberculous children, and stated that in these sanatoria in Belgium and France it had been claimed that seventy to eighty per cent. of cures had been secured, while in Germany there had been fifty per cent. and in Italy thirty-five per cent. of cures reported.

DR. ANREW H. SMITH said regarding bone lesions following typhoid fever that he had seen in hospital practice a case in which a subperiosteal abscess had developed on each tibial crest, and had been followed by superficial exfoliation of bone. He also reported a case bearing on the development of sarcoma after comparatively slight traumatisms.

DR. A. ERNEST GALLANT remarked that the pseudo-fluctuation, which one of the speakers had insisted was so characteristic of sarcoma, was present in several other conditions. He expressed the belief that some cases of joint disease occurred after sprains because physicians still persisted in treating sprains by the old plan of first immobilizing the part and subsequently subjecting it to massage, instead of following the more modern treatment, viz., immediate massage. This latter method, he said, had been used very extensively by

the late Dr. Van Arsdale and by himself, and they had found that the time of treatment could thus be very greatly reduced.

Dr. Edward H. M. Sell said that he had seen one case in which, during convalescence from typhoid fever, a femoral abscess had developed, and he had been told that a cousin of this lady had had a large number of abscesses under the same circumstances.

Dr. Gibney, in closing the discussion, said that he believed that the traumatisms often thought to be the cause were, in reality, the result of bone and joint disease. In the incipient stages of such disease, and before it had been recognized, these children were prone to fall, as he believed, because of the local lesion. The Bier treatment had never appealed to him very strongly, and hence he had not given it a very extended trial. There could be no doubt about the great value of seaside sanatoria, or hospitals anywhere in the rural districts, for the treatment of tuberculous children.

## MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

*Proceedings of the Twenty-Fifth Annual Meeting, Held in Chicago, October 3, 4, 5, and 6, 1899.*

### GENERAL SESSION.

The association met in Handel Hall, and was called to order at 10:45 A.M. by Dr. Harold N. Moyer, of Chicago, chairman of the committee of arrangements. Rev. H. W. Thomas invoked divine blessing.

Dr. Moyer introduced Judge Cavanaugh of the superior court, who, in the absence of Mayor Harrison, delivered an eloquent address on behalf of the city and State.

Dr. Frank Billings, of Chicago, followed with an address of welcome on behalf of the profession of Chicago, after which the president, Dr. Duncan Eve, of Nashville, took the chair.

The report of the secretary, by Dr. Henry E. Tuley, of Louisville, was read, which stated, among other things, that but few deaths had occurred during the year. There were three hundred members on the roll at present. Provision had been made for the issuance of a volume of Transactions this year.

The treasurer's report, by Dr. Dudley S. Reynolds, of Louisville, was also read, which showed a balance in the treasury of $133 96.

Both reports were accepted and referred for publication.

The committee on credentials, Dr. C. S. Stanton chairman, reported forty-one new members.

At this juncture, the first vice-president, Dr. A. J. Ochsner, of Chicago, took the chair, and Dr. Eve delivered his address as president, as follows:

**Malpractice and the Damage Suit.**—Strange as it may appear, he said, no systematic work gave a formal or technical definition of malpractice. He therefore had to quote from a well-known jurist on this subject: "Malpractice was the unskilful or negligent treatment of a patient by a physician or surgeon, or some one undertaking to act as such, resulting in injury to the patient." To constitute malpractice, unskilfulness and injury, or negligence and injury, to the patient must concur. The inquiry is natural, "What was meant by unskilfulness?" It was the want or absence of learning and experience in medical science. How much skill was required? The answer was "ordinary skill." What was ordinary skill? Such skill as was usually possessed by the profession at the time and place when and where the patient was treated. This was what the law termed reasonable and competent skill in medicine. The speaker said that what was ordinary skill now would have been extraordinary, wonderful, incredible skill half a century ago. In evidence of skill the practitioner had the right to prove that he was a graduate of a reputable school and to have his reputation and standing established by the evidence of his professional brethren. If a person undertook to act as a physician or surgeon, though he was neither, he was held accountable for any injury he thus caused. A patient was compelled to co-operate with his physician in the treatment of the case. He must obey instructions, no matter if to do so was painful or whatever the excuse; the physician could not be made responsible for injuries resulting from such disobedience on the part of the patient. In cases of doubt and uncertainty, in which the profession and authorities were not agreed as to treatment, the medical attendant must exercise his own best judgment. A physician could decline to attend a patient for reasons satisfactory to himself, nor was he required to give his reasons therefor. Having accepted a case, however, he must continue treatment until recovery or death terminated the relation, or the patient discharged him. Pauper patients required the same skill and diligence as pay patients. A well-known authority declared that two-thirds of the cases in which malpractice was charged arose from fractures and dislocations. Deformity was the result of many fractures and could not be prevented. Patients who had had the very best treatment for fractured collar-bones, Colles' fractures, etc., consulted with doctors until they found one who expressed an unfavorable opinion as to the plan of treatment adopted, or at least suggested that a better result could have been obtained. With this opinion, patients advised with lawyers, and a suit for malpractice was instituted. Unfortunately, enmity, jealousy, and rivalry were too often the cause of damage suits. A doctor was usually "at the bottom of it." The consent of a patient to an operation did not absolve the surgeon from responsibility; his duties and relations remained unaltered thereby. When he possessed the necessary qualifications and performed the duties required, he was not held responsible for mere errors of judgment; nor was he liable for declining professional assistance or consultation. By prescribing certain qualifications and attainments as conditions precedent to admission into the medical profession, and by defining the duties and obligations, the rights and privileges of its members, much good could be accomplished by the law-making power of the country. With this assistance the profession could the more easily establish and maintain honorable medicine, rebuke the ignorant pretender, repress empiricism, and bring to justice the presumptuous charlatan, while resisting cruel and wanton attacks upon meritorious members of the profession, and defeating vexatious and oppressive actions instituted by reckless and unscrupulous parties for purposes of speculation and persecution. Finally, the speaker urged in a forcible manner that the profession should stand as a unit by the innocent victim when unjustly attacked, as if it was a matter of personal concern to each, who should remember that when one member suffered, the reflex action was felt by all.

### SURGICAL SECTION.

**Vesico-Rectal Anastomosis.**—Dr Jacob Frank, of Chicago, read this paper. Experiments had been conducted by him on the implantation of the ureters into the rectum, which justified the conclusion that in every instance there was an ascending infection of the ureters, which terminated in the kidney. Since this was an established fact, as verified by both microscop-

ical and macroscopical study of the dogs operated on, he had every reason to believe that no better result could be attained in the human being, and from this circumstance alone the implantation of one or both ureters could never become popular. Various operators had devised different methods for the relief of exstrophy of the bladder, but Maydl's was the safest and best because, according to his technique, the ureteral openings were not anatomically interfered with; hence it was a fortification against ascending infection. Why should the ureters be cut away from a healthy bladder when it was possible for the viscus to be left almost untouched, and still accomplish the desired results? As some of the lower animals and birds had the bladder and rectum as one cloaca, the question arose, Why could not human beings live comfortably in the same condition? It was his object to place the unfortunate individual requiring this operation in the embryological state by combining the bladder and rectum into one common receptacle, from which the fæces and the urine passed. The operation consisted of anastomosing the bladder to the rectum with his decalcified bone coupler, a description of which could be found in the Medical Record, October 3, 1896, the *Journal of the American Medical Association*, June 19, 1897, and in *Medicine*, January, 1897. The technique was as follows: In a male dog the incision was made in the groin, and in a bitch in the median line. Generally the bladder was found distended, and was emptied by squeezing it gently with the hand, when the urine escaped through the natural channel. The rectum was next picked up and freed of its contents, as in any intestinal operation. The bladder and rectum were then brought forward and placed in position for anastomosis. Two or three interrupted Lembert sutures were now taken about half an inch below the lower ends of the incisions determined upon in the bladder and rectum, care being exercised in selecting them that the coupler, when it was inserted, would not encroach upon the ureteral openings. A longitudinal incision was then made in the bladder large enough for the coupler selected, and a puckering string applied over and over the cut margin. The rectum was next opened in its long axis and a puckering string similarly applied. The suture should be taken so that the free ends lay uppermost, thus facilitating easy tying. The operator now slipped the coupler into the bladder opening, at the same time gently spreading the collars apart, while an assistant made one knot and drew down on the puckering string until the rubber tubing was felt; another knot was made and the ligature cut off short. The other half of the coupler was then slipped into the rectal opening and likewise tied and cut off. Several interrupted Lembert sutures were taken around the borders to make the work more secure. The operation was simple and could be accomplished in ten or fifteen minutes. He had not yet had an opportunity of trying this new method on the human being, although it was tried on the cadaver and the technique carried out nicely. Of the fifteen dogs operated upon, ten recovered and five died. In the first two experiments the technique was imperfect and a great deal of unnecessary work was done, which undoubtedly contributed largely to the failures. As a rule, the dogs were quite sick for the first few days, and showed signs of pain, with rise of temperature. For a week after the operation urine and fæces were voided oftener than after this period. Dogs raised their legs as though in the act of urinating, without accomplishing anything, and finally squatted down and micturated from the rectum. The animals that had been kept accustomed themselves to their condition and urinated periodically. The fæces were passed in a liquid form, being softened by the urine. He believed that vesico-rectal anastomosis would not only become popular for exstrophy, but would be resorted to for other diseased conditions of the bladder, especially when a suprapubic or perineal section was performed merely for temporary relief. The field for vesico-rectal anastomosis was much larger than that for gastro-enterostomy, and the results of the former operation would be more permanent than those of the latter. One great advantage that the human being would have over the lower animal was in irrigation, as the operated parts could be kept clean with antiseptic solutions at will, thus limiting the unavoidable, but only temporary, cystitis. Another point was that the human being was kept quiet on the back after the operation; hence fæces were less liable to get into the bladder. The reverse was true of dogs. In exstrophy of the bladder the anastomosis should be made first, and the plastic operation later. Two of the dogs which were operated upon about six months ago were still alive and in good health. The result of the microscopical and bacteriological study of vesico-rectal anastomosis was much more gratifying than that of implantation of the ureters into the rectum. Dr. M. Herzog, professor of pathology in the Chicago Polyclinic, made for the essayist a number of post-mortem examinations, including a bacteriological and histological study of the material obtained from several of the dogs operated upon by the above-described method, and furnished a short abstract of his detailed report, which accompanied the paper. A uniformly striking feature of the histological examination in all cases was the very complete and firm union of the vesical and rectal tissue at the site of the anastomosis. From the report it would be noted that in only one experiment was there any macroscopical evidence of a change from the normal. If, then, the careful microscopical work had not been carried out in his series of experiments, a complete recovery could be claimed in every instance, so far as the behavior of the dog prior to the post-mortem and the appearance of the organs at the time of the post-mortem were concerned, with the exception already noted. In all his experiments of ureteral implantation an infection of the kidney resulted, and this fact led him to devise the new operation. Of all the literature accessible on ureteral implantation, few contained a microscopical report, and therefore were absolutely worthless as to kidney infection. Two points were clearly observed: First, that the recovery of the dog and the macroscopical appearance of the tissues did not necessarily signify absence of infection; second, that in the dogs killed thus far, the operation of vesico-rectal anastomosis could be performed without a resulting kidney infection.

Dr. H. O. Walker, of Detroit, commended the paper for its originality. His experience with ureteral implantation had been limited, but having read the literature on the subject, he was impressed with the practicability of the operation described by the essayist, believing that it would do away with implantation of the ureter into the rectum.

Dr. Thomas Charles Martin, of Cleveland, said that the essayist was less enthusiastic than he was justified in being, for it seemed to him that in a human subject with exstrophy of the bladder this new operation could be performed without opening the peritoneal cavity.

**Some Complications Met with Before and After Operations for Hemorrhoids; their Causes, Prevention, and Treatment.**—Dr. John L. Jelks, of Memphis, Tenn., read this paper. He reported several instructive cases. He said a surgeon sometimes in dealing with a simple rectal trouble encountered serious disease of the uterus and its adnexæ. This was particularly true when the patient was hysterical. Without the entire relief of both or all conditions, the patient would probably feel that little benefit had been

given her. Syphilis and gonorrhœa might be and often were causes of rectal troubles. When a patient with hemorrhoids had gonorrhœal infection, the latter became a serious complication, and the treatment of one or both conditions was varied by the circumstances of the case. As to tumors and pregnancy, while the latter amounted to a complication and often caused hemorrhoids, he thought as a rule only palliative treatment should be instituted. Stricture of the urethra, like cystitis, was a grave complication of hemorrhoids, or might be the cause of their development.

Dr. Joseph M. Mathews, of Louisville, believed that no intelligent surgeon to-day used carbolic acid for the treatment of internal hemorrhoids. In operating the clamp and cautery may be used, or the ligature. The former method of operating was not so liable to be followed by the complications referred to by the essayist. He would operate on hemorrhoid regardless of complications, such as pregnancy, a displaced uterus, etc.

Dr. J. R. Pennington, of Chicago, stated that hemorrhage after an operation for hemorrhoids was slight, provided the operation was thoroughly done. He disagreed with the essayist that the use of the tampon in rectal operations was a source of infection.

Dr. C. Lester Hall, of Kansas City, Mo., had never been able to devise a tampon for rectal use which did not prove a source of irritation and great pain to the patient.

Dr. Vincent J. Hawkins, of St. Paul, said the ligature method caused considerable pain in many cases, even when properly applied, and he had had to give patients hypodermics of morphine to relieve suffering.

Dr. S. B. Taylor, of Columbus, agreed with Dr. Mathews that hemorrhoids should be removed when complicating pregnancy.

Dr. H. O. Walker, of Detroit, believed that the day of the ligature had passed. He saw no reason why a surgeon should not operate for hemorrhoids the same as he did for any other condition.

Dr. Thomas Charles Martin, of Cleveland, concurred in the remarks of Dr. Walker, that the ligature, as a method of operating, should be abolished. Hemorrhoids could be removed with clamp and cautery without general anæsthesia, if the operation was properly executed.

Dr. Jelks, in closing, spoke of the value of the rectal tubular speculum devised by Dr. Pennington. He did not believe, however, that a severe hemorrhage could be controlled by a tampon during a rectal operation. Dilatation of the sphincter at the time of the operation was necessary. When he failed to divulse the sphincter or to dilate thoroughly the rectum, the patient always suffered more or less pain.

**The Mastoid Operation.**—This paper was read by Dr. George F. Keiper, of Lafayette, Ind. He reported several cases. He directed attention to the possible injury of the facial nerve in operative work either upon the mastoid or the middle ear. He believed that surgeons had been reckless in this regard and patients had suffered in consequence. If the facial nerve is wounded or cut off, all authorities were agreed that it could not be regenerated in less time than from twelve months to two years, if regenerated at all; hence the importance of taking due notice of its presence in operative work. Wounding of the facial nerve was liable to take place, notwithstanding every precaution that might be taken. A case operated upon by the essayist showed partial facial paralysis because, he believed, the facial nerve was misplaced.

Dr. William L. Ballenger, of Chicago, condemned the use of the trephine for beginning a mastoid operation. He considered the chisel a better instrument, or the dental engine with a bur, or the Russian perforator.

**Modern Surgical Treatment of Hemorrhoids.**—Dr. Gustavus M. Blech, of Chicago, contributed this paper. Since a hemorrhoidal tumor was but the result of an inflammatory process, the author believed that germ infection must be the main etiological factor. A locus minoris resistentiæ was produced by certain mechanical influences, which, however, in the light of modern pathology could be considered only as predisposing causes. In this class belonged straining during defecation, obstruction of the portal vessels from liver disease and abdominal tumors, pressure produced by the gravid uterus, pressure on the veins from impacted fæces, etc. That germs were primary factors in the production of hemorrhoids, the author was satisfied from observations in his practice. Coming to the treatment, he said that in the earlier years of his professional career he was in the habit of removing internal and external hemorrhoids with the écraseur. His objection at present to this method was that the wire of the instrument was very apt to break, leaving the operator in a dilemma, especially when the operation was half done. Secondly, the cut surface was neither accurate nor could it be regulated. No matter how close the wires were kept down to the base, the écraseur cut as it pleased, and not as the surgeon desired it. Thirdly, it frequently happened that, after the operation was completed, complete separation of the tissues did not take place, and if the screw was tightened some tissue was drawn into the stem, and if the tightening was continued the stem was apt to bore itself into the rectal wall. The author did not favor the Whitehead operation. His method of operating for internal hemorrhoids differed but little from the one in vogue by most surgeons. If he had to remove but one tumor of large size, he simply threw around its base a temporary ligature, cut off the entire tumor, and then sewed the wound in the direction of the axis of the rectum with interrupted sutures

Dr. F. F. Bryan, of Georgetown, Ky., said that he operated with clamp and cautery, and with the ligature, but considered the former a more popular method, and he advised its use in every instance in which there was no contraindication. He had not met with a case in which there were contraindications to its use.

Dr. Jelks, of Memphis, said there was no more pain after the use of the clamp and cautery than after the ligature. He seldom encountered hemorrhage after the application of the ligature.

Dr. Blech, in closing, agreed with Dr. Jelks as to the painlessness of the ligature method in treating hemorrhoids. He had known patients to complain bitterly after treatment with the thermo-cautery, so that it was necessary to give rectal suppositories of morphine, etc., to afford relief.

**Beta-Eucaine as an Anæsthetic in Eye, Nose, and Throat Work.**—Dr. William H. Poole, of Detroit, read this paper, in which, after reporting a series of cases in which this agent was used, he drew the following conclusions: (1) Eucaine was decidedly less toxic than cocaine, therefore it was superior to it. (2) Its aqueous solutions kept well and could be sterilized by boiling without destroying the activity of the drug. (3) It produced anæsthesia equally well and sometimes better than cocaine. (4) It was superior to cocaine, in that it caused no heart depression or other unpleasant systemic effect. (5) It caused no mydriasis, and no disturbance of accommodation, which was an advantage in some cases. (6) It was less dangerous to the cornea than cocaine, inasmuch as it did not cause a desquamation of the superficial epithelium.

**Intolerant Ulceration of the Rectum.**—A paper on this subject was read by Dr. Sterling B. Taylor

of Columbus, Ohio, in which the author reviewed the surgical anatomy of the anal portion of the rectum at considerable length. In the early stages of intolerant ulceration, physicians were inclined to discredit the presence of any severe pain, inasmuch as in its incipiency it was merely a rent or tear in the mucous membrane. This was prevented from healing by the lodgment of small particles of fecal matter, which produced irritation and inflammation and eventually painful ulceration. The extreme pain made its appearance with the unhealthy granulations. Pain was not the only disagreeable accompaniment, as there was often annoying and sometimes dangerous hemorrhage, especially if the ulcer was located high. The usual seat of the ulcer was at the posterior commissure, and it was here that it was most painful. The anterior commissure was the next favorite seat of the ulcer. In the treatment, the essayist recommended the method practised by Martin, which he considered simple and effective. No general anæsthesia was required, but simply infiltration anæsthesia, which was effected by the injection of a few drops of a one-tenth of one per cent. solution of eucaine or cocaine around the ulcer. A slight incision was then made through the membrane and integument down to, but not through, the sphincter. The operator then packed with a small piece of iodoform gauze. The bowels should be kept open with some laxative, preferably a mineral water. Apenta water was both pleasant and efficacious. Several cases were reported in which the Martin method of treatment was resorted to. Dr. Taylor held that rectal ulcers could be excised under eucaine anæsthesia without pain.

**Address in Medicine.**—This was delivered by Dr. J. A. Witherspoon, of Nashville, Tenn. He selected for his subject typhoid fever. In this day of progressive medicine, when the whole profession were anxious to elucidate the etiology of disease and its prevention, no field had been so thoroughly gone over, and no trials or hardships had been so difficult as the study of the plain, old-fashioned disease—typhoid fever. While the laboratories with their facilities for studying pathogenic micro-organisms, developed in the last few years, had made wonderful progress, the speaker belonged to that school which believed that, while the diagnosis should be made with the assistance of the bacteriologist, more importance should be attached to making it clinically at the bedside. In other words, the speaker was absolutely opposed to doing away with the good, old-fashioned methods of examining the patient, and to relegating the system of the fathers to the rear and making diagnoses purely in the laboratory. Typhoid fever was a specific toxæmia, it being produced by the typho-toxins elaborated in the system from the bacillus of Eberth. The speaker then dwelt at length upon the differential diagnosis of typhoid fever and what he called toxo-enteric fever. In speaking of the treatment of these diseases, he stated that the man had never lived who could get up prescription number one and formula number two, etc., have them made in Detroit or any other city, and tell him how to treat a case of typhoid fever in the active stage of the disease. He was unalterably opposed to any man putting up prescriptions for him.

**Obstructive Growths of the Pylorus.**—This was the title of a paper by Dr. J. E. Allaben, of Rockford, Ill., in which the author reported a successful and interesting case of pylorectomy, after which he drew the following deductions: (1) Cancer was one of the most potent factors in the causation of death, with a tendency to increase constantly in frequency of occurrence. (2) Gastric cancer occurred in about one-fifth of all primary cases. (3) In gastric cancer the pyloric region was affected in sixty per cent. of the cases. (4) The treatment of gastric cancer directed toward a permanent cure was, in the present state of our knowledge, limited wholly to surgical methods. (5) As early total extirpation of malignant growths with the hope of permanent cure was the goal toward which we were constantly striving, and as these growths in gastric cancer occurred at the pyloric region in sixty per cent. of the cases, it would seem to follow as a natural conclusion that pylorectomy would be the treatment most frequently prescribed for the cure of this malady. (6) Inasmuch as early diagnosis was the greatest requisite for directing proper radical treatment, the internalist and the surgeon should turn their best efforts in this direction. (7) If the operation of pylorectomy was performed before obstructive symptoms manifested themselves, and before the occurrence of metastasis, the immediate results would be as favorable as in any other abdominal work, and the remote results as good as in extirpation of carcinoma of the breast.

Dr. J. L. Boogher, of St. Louis, Mo., read a paper in which he dwelt principally upon the value of prostatic examination in the treatment of associated affections.

**What Becomes of the Medicinally Treated Cases of Appendicitis?**—This paper was read by Dr. Lewis Schooler, of Des Moines, Ia. The author predicted that the facts, as disclosed by greater observation and the increasing experience of medical practitioners, would inevitably show that the present position occupied by them was untenable. Patients who were treated only by means of medicine either died under such treatment or were later cured by operation. To the above there should be noted a single exception, namely, those cases which were spontaneously cured. This occurred by rupture into the bowel, vagina, bladder, or externally. Instances of this method of cure were familiar to all. It was therefore singular that, in view of such familiar occurrences, medical gentlemen did not take the hint that nature was so persistently urging upon them, and comprehended more clearly the fact that removal of the offending cause, organ and product, was the only rational procedure. It was the only one that was approved by nature, pathology, observation, and science.

Dr. Hal C. Wyman, of Detroit, Mich., followed with a paper in which he dwelt upon the surgical features of appendicitis.

In the discussion, Dr. J. A. Allaben, of Rockford, cited a case which showed the folly of delay in surgical intervention.

Dr. F. F. Bryan, of Georgetown, Ky., narrated four cases which emphasized the points brought out by the essayists.

Dr. J. O. Malsbury, of Peru, Ind., referred to the importance of more careful diagnosis on the part of internalists, so that cases suitable for operation should be referred to the surgeon without delay. He classified cases of appendicitis as inflammatory and mechanical.

Dr. N. Mover, of Chicago, said that he formerly regarded this disease as a surgical one, and that when a case was diagnosticated as such it should at once go to the surgeon. He believed now that many cases belonged to the internalist. Indiscriminate operations, in his opinion, for appendicitis were followed by a greater mortality than occurred in those cases treated medically.

Dr. J. N. Bartholomew, of Chicago, said he looked upon appendicitis as a surgical affection from beginning to end, and as the result of germ infection. He favored early operative intervention.

Dr. C. K. Brunner, of Greenfield, Ind., was firmly convinced that he saw many cases of appendicitis that never became surgical, and these, when properly treated medically, resulted in recovery.

Dr. J. Humphrey, of Henderson, Ky., said that the surgeon and physician should work hand-in-hand in cases of this disease. They should discriminate between medical and surgical cases.

Dr. T. A. Lancaster, of North Manchester, Ind., quoted the opinions of Keen, Morris, and others in regard to this disease, and said they were undergoing material changes, in that these men were not operating so hastily as they had been doing heretofore.

Dr. V. J. Hawkins, of St. Paul, Minn., said he thought many cases of the disease could be treated medically, while others required operation.

The discussion was further participated in by Drs. Charles B. Brown, of Sycamore, Ill.; R. E. Haughton, of Richmond, Ind.; J. Henry Carstens, of Detroit, Mich.; S. K. Crawford, of Chicago; James B. Bullitt, of Louisville, Ky.; A. H. Cordier, of Kansas City, Mo.; Frederick C. Schaefer, of Chicago; Emory Lanphear, of St. Louis. The discussion was closed by the essayists.

**Intestinal Obstruction from Biliary Calculi.**—Dr. J. Wesley Bovee, of Washington, D. C., read a paper with this title, in which he stated that intestinal obstruction from biliary calculi was very uncommon. Brinton found in five hundred cases of intestinal obstruction but twenty-four due to gall stones, and Leichtenstern found but forty-one in fifteen hundred and forty-four cases of bowel occlusion. In Manchester Royal Infirmary but one case in fifty thousand patients treated for all troubles was found. As it was a condition practically limited to late life, its rarity was to be expected. The author then dwelt upon the varieties of obstruction, the location, causes, symptoms, and prognosis. In considering the treatment he stated that Hippocrates and later others recommended the injection of air into the bowel. Tobacco smoke and infusion and different gases had been thus employed. Purgatives were positively harmful. Morphine and belladonna were the best two drugs for use in this condition. Of couse, electricity had not been omitted. With medical treatment nearly half the patients recovered, but was that a sufficiently large proportion? In 1672 Barbette recommended laparotomy for acute intestinal obstruction, and as abdominal surgery was now practised its use in acute obstruction of the bowel from biliary calculi should give brilliant results. Medical treatment might be used for a short time, and, failing, should be superseded by laparotomy, with a careful exploration of the abdominal and pelvic contents. The seat of obstruction being found, the condition of the patient and the degree of mobility of the stone in the bowel would guide the operator in the subsequent steps. The plan of Tait, of passing a strong needle obliquely through the bowel wall into the stone to break it up, might first be tried, the puncture wound being closed by a Lembert stitch. This failing, the stone should, if possible, be pushed higher in the bowel and a longitudinal enterotomy be done with extraction of the stone. Gangrenous bowel, perforation, or localized peritonitis, with or without pus, should be treated *secundum artem*. It was always well to look for a second obstruction, as this had caused death in some cases. The deaths following laparatomy for this condition were nearly always from shock or sepsis, which was a strong argument for early operation. It would not seem improbable that early laparotomy in these cases should have a mortality of less than ten per cent.

**Address in Surgery.**—This was delivered by Dr. Lewis S. McMurtry, of Louisville, Ky. He selected for his subject "The Essential Requirements of a Modern Operative Procedure." In the past fifteen years the province of surgery and its scope had been greatly enlarged. Many diseases and injuries that were formerly treated on the expectant plan and by palliative measures, with little hope of permanent relief or cure, were now cured by judicious surgical intervention. Notwithstanding the increase in hospital facilities in cities and towns, many important surgical cases must receive immediate attention at the hands of the family physician, from the very nature and urgency of the disease or accident. Such cases were classified as emergencies, and they included many major as well as minor injuries. When a major or minor surgical operation was to be done, certain fundamental principles of asepsis should be observed, and yet it was comparatively exceptional in private homes for minor surgical procedures to be carried out without the presence of pus following the operation. The speaker said that there were three important steps to be observed. The first was the administration of the anæsthetic. This required skill, which could be acquired only by practice; hence medical students should receive practical instruction in the administration of anæsthetics. The second element of a surgical procedure consisted in the control of hemorrhage. In the early days of abdominal surgery it was common to disregard the question of hemorrhage. All those present would remember the days when the drainage tube was more frequently used than it was now, and that within forty-eight hours after an operation it was customary to pump out considerable quantities of blood as the result of oozing from small vessels that were ignored in the operation. Nowadays, when more attention is given to hæmostasis, hemorrhage was lessened on account of attention being directed to the small vessels. A third indication, and one to which the speaker devoted the remainder of his remarks, was the important one of asepsis.

**Treatment of Nasal Stenosis due to Deflections of the Nasal Septum, With or Without Thickening of the Convex Side.**—Dr. John J. Kyle, of Indianapolis, Ind., read a paper on this subject. In his opinion the most frequent cause of deflection was trauma. Ulceration of the septum or inflammation within it, as noted in a child suffering with congenital syphilis, and hypertrophy of the turbinates, were causative factors. A strumous or uric-acid diathesis might predispose to perichondritis and subsequent deflection. The author showed different forms of deflection, by passing around diagrams. Speaking of the surgical treatment, he mentioned the operation of Asch as being the most popular, and said he believed it would bring about a positive result.

**Removal of the Cervical Sympathetic for Epilepsy, Exophthalmic Goitre, and Glaucoma.**—Dr. Emory Lanphear, of St. Louis, Mo., contributed this paper. He mentioned the work of Jonnesco and other surgeons along this line, saying that this field of surgery was worthy of further study and investigation.

**Surgery of the Turbinated Bones.**—The author of this paper was Dr. J. A. Stucky, Lexington, Ky. He did not discuss operative procedures on the turbinated bodies, nor on any of the soft tissues covering the bone, but rather the bone itself. While it was true that the tissues covering the bone were far more frequently found in a pathological condition and required surgical treatment, it was was also true that the bone itself in many instances was at fault. When this was the case, the mucous membrane and turbinated bodies might be entirely obliterated by chemical and electric cautery, or by scissors, forceps, and snare, and the latter condition of the patient would be worse than the former, because of the remaining cicatricial tissue and unnatural dryness of the parts. Dr. Stucky then called attention to what he considered the best method of removing a part or whole of the bone. The first and most important desideratum in all intranasal operations was to remove only just as much tissue as was absolutely necessary.

The crushing or punch forceps, spoke-shave, and snare should be used only in exceptional cases. In removing a part or whole of the middle turbinate, correctly shaped scissors were the only instrument needed. For this purpose he had found none equal to those devised by Dr. C. R. Holmes, of Cincinnati, one for each turbinate, right and left. For turbinectomy or turbinotomy of the lower bone, the narrow-bladed scalpel, saw, and strong, straight scissors were needed. An incision through the soft tissues was made along the edge of the bone, this was peeled back with the back of the scalpel, and the bone exposed. Should this be too firm to be cut with the scissors, a narrow, thin saw was used. In cases in which the knife, saw, and scissors could not be used to complete the operation on account of the size, depth, and conformation of the nasal chambers, the snare was used to complete the removal of the posterior portion. Little or no dressing was needed after the operation, except when the lower turbinate had been entirely removed; then strips of gauze placed smoothly over the wound were allowed to remain twenty-four or thirty-six hours, and then carefully removed, after thoroughly softening with fifty per cent. hydrogen dioxide. The subsequent treatment consisted of keeping the parts clean until union was complete.

**Mammoth Ovarian Tumors: Report of a Cyst Weighing Two Hundred and Forty-Five Pounds.**—This was the title of a paper read by Dr. James B. Bullitt, of Louisville. Only growths weighing one hundred pounds or more had been regarded as mammoth tumors. A search through literature had developed reports of twenty-three such tumors. Brief summaries of these cases were given. The largest of the tumors weighed two hundred and two pounds. The essayist added a twenty-fourth case by reporting in detail the case operated on by Dr. A. M. Cartledge, of Louisville, in May, 1897. The tumor, sac, and contents together weighed two hundred and forty-five pounds. There were a great many adhesions encountered, and the operation was prolonged. The woman rallied from the shock and was in good condition at the end of five days, when obstruction of the bowel became manifest, the patient dying on the seventh day. In considering the twenty-four cases it was observed that twenty-one cases were operated upon. Of the fifteen in which recovery took place the average tumor weight was one hundred and twenty-nine pounds; while of the six in which operation was followed by death the average weight was one hundred and eighty-one pounds. There were manifestly but three methods of dealing with these tumors: (1) Immediate extirpation, (2) preliminary tapping followed in a short time by extirpation, (3) tapping repeated as often as necessary to relieve uncomfortable distention. To illustrate that life may be long sustained by constant tapping and withdrawal of fluid, the case of Dr. Ap. M. Vance was cited, in which the woman was tapped one hundred and seventy-nine times between the ages of thirty-four and eighty years, it being computed that in this time twenty-one thousand four hundred and eighty pounds of fluid were withdrawn. In so far as any conclusions could be drawn from the study of these twenty-four cases the following were submitted: (1) The fatality from such tumors was directly proportioned to the size of the tumor. (2) Extensive adhesions to the parietes and viscera militated against successful operations, but were second in importance to the size of the tumor. (3) Preliminary aspiration followed by extirpation in a few days was apparently no safer than immediate operation. (4) Marsupialization was contraindicated in tumors of mammoth proportions. (5) Successive tappings were sometimes tolerated over a long period of years, but led ordinarily to exhaustion and death in a comparatively short time, a few years. (6) When death occurred after operation it was most apt to be immediate, or within a few hours, as the result of shock. If this first danger was passed safely, the fatal issue was apt to be the result of obstruction of the bowel, especially in those cases in which extensive adhesions were present.

Dr. A. H. Cordier, of Kansas City, Mo., mentioned the case of a woman, colored, forty-three years of age, who had carried an ovarian cyst for eleven years. The cyst with its contents weighed one hundred and sixty pounds. The patient died on the ninth day following the operation, from exhaustion.

Dr. S. L. Kilmer, of South Bend, Ind., reported an interesting and instructive case of an arm saved after being run over by a railroad locomotive and badly crushed. The case was cited as a plea for greater conservatism in such injuries.

Dr. George W. Crile, of Cleveland, Ohio, followed with a paper in which he detailed his observations on the surgery of the brain, which were based on clinical and experimental evidence.

**Obstipation and Its Radical Treatment.**—Dr. Thomas Charles Martin, of Cleveland, Ohio, read a paper with this title. He said that the rectal valve was an individual anatomic organ in itself, and must now be reckoned with in studying the operations of the integral mechanism of defecation. When the muscular elements were relaxed and the gut was either greatly dilated or else was even in a lesser measure distended, the valve was passively supported by its fibrous band across the channel to resist the hurried or uncontrolled descent of the fæces. The presence of the band of fibrous tissue under the free margin of the valve provided a control to receive or retain a bolus, or it may be said the several valves received a series of boluses till a sufficient pressure was made to stimulate the complex involuntary mechanism of defecation to further propulsion of the fæces, or to a reversed peristalsis. The presence of the fæces or the involuntary movements incident to their presence signalled the consciousness to co-operative voluntary expulsory effort, or gave warning of the necessity of voluntary resistance. The valvular arrangement of the rectum provided for the minimum expenditure of energy on the part of the voluntary forces, for the reason that the gut's contents were collected on the surface of the unyielding sacrum and steadied there to receive the pressure of the really expulsory voluntary effort. Such an arrangement of the fæces further facilitated defecation for the reason that the entire contents of the rectum were not rushed upon the anus at once. If it was the function of the normal rectal valve to retard beneficently the descent of the fæces, it was obviously true that it might be the especial property of the valve, in certain other than normal conditions, to obstruct maliciously the descent of the fæces. The symptoms of obstipation were the following: The patient was the subject of more or less chronic irregularity of defecation. He on some days made frequent partially successful attempts to evacuate the rectum, but might experience an unrequited desire for stool. The patient acquired the reprehensible physic habit. In time the periods of obstipation were interrupted by diarrhœa. There was commonly an ineffectual straining at stool except for fluid fæces. The writer described a method for division of the obstructing valve, and presented cases.

Dr. James T. Jelks, of Hot Springs, Ark., reported a unique case of appendicitis, and made some remarks on the treatment of this affection.

Dr. I. N. Love, of St. Louis, read a paper on the same subject from a medical standpoint.

Both papers were discussed at length, but nothing new was advanced.

Dr. Augustus Schachner, of Louisville, read a paper on the modern small-bore projectile.

**Surgical Tolerance and Results.**—This paper was read by Dr. F. F. Bryan, of Georgetown, Ky. The essayist concluded that tolerance was due (1) to individuality of the subject; (2) to the vital resistance furnished by organs capable of performing their functions; (3) by the immediate necessity for the part by the body as a whole, for the aid of the part operated upon, in carrying on life; (4) by preventing or limiting shock; (5) by limiting hemorrhage; (6) by preventing or limiting sepsis and removing the same. Results will depend on: (*a*) Refusing operation to a hopeless class of patients; (*b*) by painstaking care to make the procedure thorough; (*c*) by demanding sufficient time for thorough convalescence and adaptation of the patient to the changes that have been wrought.

The following officers were elected for the ensuing year: *President*, Dr. Harold N. Moyer, of Chicago; *Vice-Presidents*, Drs. A. H. Cordier, of Kansas City, Mo., and S. P. Collins, of Hot Springs, Ark.; *Secretary*, Dr. Henry E. Tuley, of Louisville, Ky.; *Treasurer*, Dr. Dudley S. Reynolds, of Louisville.

The next place of meeting will be Asheville, N. C., on October 4, 1900.

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## Correspondence.

### OUR LONDON LETTER.

(From our Special Correspondent.)

BRITISH ASSOCIATION—TYPHOID OUTBREAKS—AUTUMNAL DIARRHŒA—MANCHESTER MEDICAL GUILD—DEFYING THE LOCAL GOVERNMENT BOARD—DEATHS OF MESSRS. LITHGOW, BUDD, AND KEIGHLEY.

London, September 22, 1899.

The British Association has completed its annual output of papers and speeches, and the members have dispersed. A memorable feature of this year's gathering has been the interchange of civilities between this and the French association, which may be thought the most interesting of the daughter societies. The Frenchmen came over in force to meet us on Wednesday at Canterbury, and gave every indication that they enjoyed the visit. I am sorry to say their pleasure must have been discounted by the unpleasant experience of their return voyage. Their steamer was damaged in a storm, and they had a terrible crossing of the Channel. At Boulogne there was difficulty again, and they were not landed until three o'clock yesterday morning.

Far more fortunate were the members of the British Association, who to the number of about two hundred and fifty went yesterday to Boulogne and were warmly received by the French association. At luncheon the mayor dwelt on the reunion as representing the co-operation of Anglo-Saxon, Celt, and Gaul in the service of science and humanity. M. Brouardel in his speech ventured the calculation that Lord Lister's work had saved two hundred thousand lives.

Special commemoration medals were presented by the French association to the mayor of Boulogne and Sir Michael Foster. In the afternoon a monument was unveiled to Dr. Duchesne, and also a plaque commemorative of our poet, Thomas Campbell, who died at Boulogne.

The meeting for next year is to be held at Bradford, and the president-elect is Sir William Turner.

Typhoid seems always with us in some form. If not close at hand we are sure to hear of an outbreak somewhere not far off. I have lately reported some of these. I may add another at Ashford, Kent, in a range of cottages by the side of the river (Stour), which should cause the local authorities to question themselves. There is another in Buck's, at High Wycombe, a town of fifteen thousand inhabitants about thirty-five miles from London, and named "High" perhaps on the *lucus a non lucendo* principle, for it is quite down in its valley. More than twenty notifications were made in a short time, and the medical officer of health at once reported to the town council his recommendations. The cases are mostly in a locality inviting the disease by water. There are open gullies near the cottages, where all sorts of pollution occur, and where the children will drink when thirsty in spite of parental warning. Parasites are therefore pretty sure to attack them, and there is always the chance of the typhoid poison being conveyed.

The mortality returns are showing the extent of the prevalence of autumnal diarrhœa. The usual seasonal increase of this disease has been above the average, and London has had a full share of its incidence. There is more than the average among adults, although, of course, children have suffered most. The aged, too, are numerous among the victims. The long drought has had its effect on the water supply, which no doubt is to some extent responsible and requires as much vigilance as the milk supply. But the great heat has probably been a more active general cause, though water or milk will account for more localized outbreaks.

The Manchester Medical Guild proposes an important step toward the organization of the profession, viz., a conference of delegates elected *ad hoc* by all the associations of general practitioners in the kingdom. Each delegate would thus represent a number of his fellows, and although at first the conference, or at any rate the preliminaries for it, must be organized locally, the intention is for it to be national in character and extent. If the suggestion "catches on," and the conference meets, it will be further proposed by the Guild for it to elect a central committee whose business it would be to perpetuate the work and perfect the organization of the profession. There would follow, I suppose, an annual conference to deal with the many questions affecting the interests of the profession or at any rate of the general practitioners, and as these constitute the masses it is well they should have a voice in a society where the classes would not overwhelm them. Scientific and even clinical discussions must consequently be excluded, but we have a plethora of associations for them. This scheme is therefore distinctive, and may perhaps become effective, but when one looks back on the many efforts at organization which have failed the prospect is none too exhilarating.

As an objection the cry is sure to be raised in some quarters that it is an invitation of trades unions. But if so, what then? Is it not still laudable to learn from the enemy; and why should Satan have all the best tunes?

The St. Olive's district board is contumacious, and on the 19th inst. resolved: "That the local government board be informed that this board declines to remove the suspension of the medical officer of health (Dr. Bond), and again asks the local government board to hold a public inquiry into the whole matter." You will remember the matter relates to the removal of human remains from the crypt of a church, done according to law by the bishop with the aid of the medical officer. The next move is for the local government board. Will it suffer open defiance as in the case of anti-vacs?

*The Medical Press and Circular* claims to have originated the phrase "stamp-lickers' tongue," and says it "was created and evolved in our own office and thence issued to the world at large." It appears, too, that the

"world at large" has appropriated this creation and evolution, for your contemporary adds: "The phrase has evidently taken a place in the English language, for last week we saw it in a prominent position in one of the London daily newspapers, to wit, *The Daily Chronicle*." I should scarcely have set up *The Chronicle* as a standard of literary taste; but let that pass. *The Press and Circular* has enriched the English language with such an elegant phrase! *Palmam qui meruit ferat.*

The deaths are announced of: Surgeon-Major S. A. Lithgow, C.B., on the 20th inst., aged sixty-six years. He had a distinguished career in the army, and in 1892 occupied the position of medical superintendent of the Edinburgh Royal Infirmary. S. P. Budd, M.R.C.S., of Bath. He was one of a family of the West of England which has had many distinguished doctors in its number for many years past. He died on the 11th inst., aged fifty-five years, of malignant disease. He was much esteemed by his brethren. Robert D. Keighley, J.P., consulting surgeon of the Batler Hospital, in his eightieth year.

## THE TREATMENT OF TYPHOID FEVER.

To the Editor of the Medical Record.

Sir: The Medical Record for September 16th publishes a paper from the pen of Dr. Basil M. Taylor, who attempts to instruct the many readers of the Record how to treat, or not to treat, typhoid fever. The young man—who says he has practised medicine seven years—prefaces his remarks with the statement that we know little or nothing about treating typhoid fever, though much has been written on this disease. If his thesis were to be taken as a fair representative of what had been said before, we should most fully agree with the young doctor. He starts out by telling us that typhoid fever is a self-limited disease which we cannot abort or even cure. Then, we ask, must we pretend to treat it so as to get a fee to which we are in no way entitled? But the doctor goes on and tells us many things; among them, not to give stimulants, whiskey, quinine, etc. He also tells us to give nourishment three times daily only, and if the stomach is nauseated stop all food for twenty-four hours. He says: "Don't give milk; don't stimulate a weak heart in any case." We do not at all wonder that he lost several patients, whose taking off was due, he says, to bad nursing. Of course starvation and lack of stimulation in typhoid fever did no wrong; it was the nurse who was to blame for this sudden taking away. The doctor claims that some of his patients who had typhoid fever actually got well; which is another exemplification of the old saw, that some patients will get well in spite of the disease and the doctor. This doctor in one instance—though he objects to stimulants; he probably did not know it would stimulate—came very near recommending a very good remedy in typhoid fever. This was when he said, give turpentine in a capsule; a little acts very well, as do bismuth, carbolic acid, and chloral. A doctor who objects to milk in typhoid fever and prescribes chloral should go back to his preceptor awhile. We presume the doctor never heard that turpentine should be given in an emollient, and when given thus it is a stimulant antiseptic and is healing to the ulcerating Peyer's glands, and is therefore an excellent remedy in typhoid fever and pneumonia also.

We have practised medicine only about thirty years and do not claim to be as well posted as many of our older practitioners who have had greater experience. But in the treatment of typhoid fever we in some instances gave cathartics—which Dr. Taylor says never give—and our patients got well. In other cases we did not use cathartics, and these patients got well also. Our sheet-anchor in typhoid fever always has been good, judicious feeding, with antiseptics, sedatives, and stimulants when the heart was weak—brandy usually, especially so when there was delirium. We prescribe hot milk for food, and if not relished by the patient we give it cold sometimes; for obvious reasons we add a little lime-water to the milk; and the nurses do not cause the death of our patients, as the latter get well in ninety-eight per cent. of the cases. We do not remember ever having seen hemorrhage from the bowels of one of our patients when we had used a good emulsion of turpentine from the start. In typhoid we usually give five to six drops of turpentine to the drachm of emollient once in three to four hours, as the case may in our judgment demand. Again, the doctor in his thesis appears to think that a coating of the tongue is absolutely necessary in typhoid fever. In the severest cases of this disease we ever treated the patients had a smooth, dark red tongue. This showed to us a critical condition indicating an arrest of function of both stomach and small intestines, requiring dilute muriatic acid with quinine, and turpentine inunctions over the stomach, and small doses of strychnine for a stimulant to the nervous system. Again, we have the rough, red tongue demanding the mineral acids also; and again the dark-brown coated tongue with black sordes on the teeth calls for the acid treatment. The tongue in nearly every instance in typhoid is red and demands acids, yet we have cases in which in the beginning the alkalies are the proper antidote; the tongue being light in color with a dirty, sticky coloring indicating sulphites of soda as the remedy. The condition of the mucous membranes and the pulsation of the heart are the best guides to treatment. We never give quinine unless the skin is moist, but with a moist tongue and skin the cinchona extracts are good. We have no uniform mode of treating typhoid. We treat conditions as they indicate the antidote, etc. But there are some general rules that cannot be safely omitted in any case of typhoid, and stimulation is one of them.

Floyd Clendenen, M.D.

La Salle, Ill.

## THE CONVERSION OF CENTIGRADE TO FAHRENHEIT.

To the Editor of the Medical Record.

Sir: I wish to call the attention of the profession to a simplification of the "Rules for converting degrees Centigrade into degrees Fahrenheit and the reverse." Every one realizes that it takes time to do this example after the usual method. For fifteen years I have used the following method for converting from one scale to the other. The operation is mental and requires no consideration of the freezing-point of water, or 0° F.

For converting F. into C. (mentally) subtract 32; to the result add $\frac{1}{9}$ of this remainder; divide this sum by 2, as per following formula: F. $- 32 + \frac{1}{9} \div 2 =$ C. Example: 212° F. $- 32 + 20 \div 2 = 100°$ C. For converting C. into F. multiply by 2, subtract $\frac{1}{10}$, add 32, as per following formula: C. $\times 2 - \frac{1}{10} + 32 =$ F. Example: 100° C. $\times 2 - 20 + 32 = 212°$ F.

A. M. Whiton, M.D.

South Byron, N. Y.

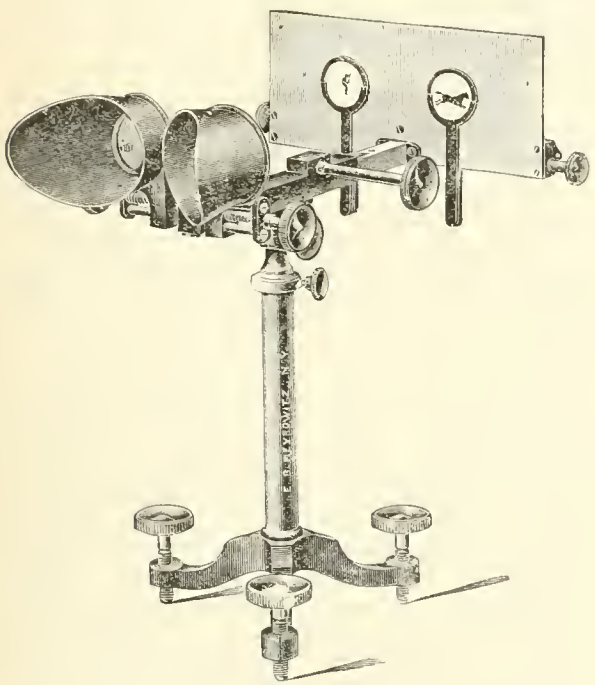
**Fistula in Ano and Phthisis.**—In incipient phthisis, operate; in rapid progressing fistula, operate whether cough exists or not; if much cough exists, do not operate unless the fistula is rapidly progressive; in the last stages of phthisis, do not operate.—Matthews.

# New Instruments.

## MODIFICATION OF THE STEREOSCOPE.[1]

By RICHARD H DERBY, M.D,
NEW YORK

The usefulness of the stereoscope in the exercise of the ocular muscles has been recognized by many writers. Albrecht von Graefe used in the ordinary Holmes stereoscope a card divided by vertical and horizontal lines into regular spaces. Broad-headed brass pins, such as draughtsmen use, were substituted



for the half pictures, and the position of these pins was changed according to the needs of the internal and external recti muscles. This device was resorted to constantly after tenotomy, and it was an aphorism of von Graefe that the mathematical proof of a successful squint operation was the establishment of stereoscopic vision. The ingenious cards of Dr. John Green,[2] the series of Kroll and Perlia,[3] those of Dahlfeld,[4] and more recently those of Javal,[5] all served a like purpose. The Javal cards presented the half-pictures in a series of increasing distance from the middle line, in the interest of faulty convergence and divergence.

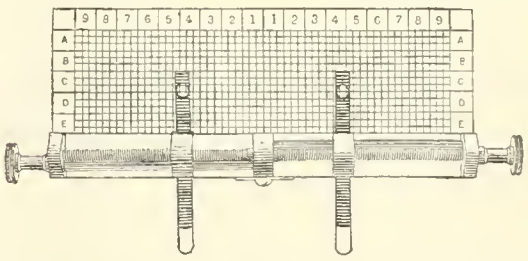
The writer of the present paper long felt the need of some mechanical device, by means of which the half-pictures could be readily displaced upon the surface of a fixed card, and this not alone in a horizontal but in a vertical direction. To attain this end the present instrument was devised, and some description of its earlier form was published in the Transactions of the New York Eye and Ear Infirmary.[6] Since this publication certain changes have been made, and the author believes that in its present form it possesses advantages over other instruments now in use.

To meet varying pupillary distance the convex prisms in the eyepiece may be separated or approached by means of a screw at the will of the patient, frames being provided to carry both spherical and cylindrical lenses. The object card, made of metal, is placed on a firm shaft, and by a screw adjustment may be moved to any required distance from the eyes of the patient. On the back of this card vertical and horizontal lines have been engraved, at a distance of 1 cm. the one from the other. The horizontal interspaces are marked by letters of the alphabet and the vertical by numbers. Along the lower margin of the object card an endless screw moves the carrier of the half-pictures in either the lateral or vertical direction, and its position may be read and recorded through an opening in the back of the carrier, on the engraved object card. In the case of eyes where there is dynamical equilibrium, the centre of the half-pictures is ordinarily 4.5 cm each from the middle line, and they are centred on the same horizontal line. Should the patient, in order to obtain stereoscopic vision, turn the screw and place one half picture higher than the other, insufficiency of superior or inferior rectus or of an oblique muscle is indicated. In the same way if the half-pictures are approached to a distance of 3.5 cm. or separated to a distance of 5.5 cm., insufficiency of externi or interni respectively may be inferred.

It is, however, not alone as an instrument for the detection of muscular imbalance that the stereoscope has yielded to the writer the best results. In orthoptic exercise much advantage may be gained from the use. While it would be too much to claim that with it alone strabismus, either real or dynamical, can be relieved, still experience has shown that systematic exercise with it is most advantageous in both classes of cases.

The following notes from the author's case-book illustrate the range of usefulness of the instrument:

Case I.—Paresis of external rectus. Mrs. E. D——, aged forty years. The day before the patient was seen, she awoke with a distressing diplopia. There was a nearly complete paresis of the left external rectus. Refraction was normal. With the stereoscope only the closest possible approximation of the half-pictures gave binocular vision, and then only for a moment Daily stereoscopic exercise was enjoined. The half-pictures were gradually brought farther and farther apart until within ten days they could be seen at the normal distance of 4.5 cm. So soon as the paretic externus began to regain its tone, the patient received the series of Kroll's cards for use at home, and they in turn were gradually mastered. The ordinary period of convalescence seemed here to be materially




shortened, and the patient derived much encouragement from the daily gain in muscular power.

Case II.—Convergent strabismus. R. G——, aged seven. The right eye is strabismic to the extent that by fixation of near objects with the left the inner margin of the cornea stands opposite the punctum lacrymale. There is good central fixation of the squinting eye, which shows a hypermetropic astigmatism of 3 D, and has a vision of 0.1. The left eye is slightly hypermetropic, and has normal vision. The closest possible approximation of the half-pictures does not give stereoscopic vision. The little patient received a

[1] Instrument shown at the thirty-fifth annual meeting of the American Ophthalmological Society.

[2] Transactions Am Ophth Soc.

[3] Kroll. "Stereoskopische Bilder für Schielende." Verlag von Leopold Voss, in Hamburg.

[4] Dahlfeld "Bilder für stereoskopische Uebungen." Verlag von Ferdinand Enke, in Stuttgart.

[5] Javal, E.: "Manuel de Strabisme." Paris: G. Masson, Éditeur.

[6] New York Eye and Ear Infirmary Reports, January, 1898.

complete correction of the refraction. For a fortnight daily instillation of atropine was made, and she was directed to exercise the strabismic eye two hours each day, always with the fellow eye closed. With a Holmes stereoscope, and a special card having an L and an F in closest apposition, the patient was soon able to fuse the two letters into an E. Now the exercises with the movable half-pictures were undertaken and a gradual separation of the figures attained in the interest of binocular vision, until at last, when they were placed each at 4.5 cm. from the middle line, the two could for a moment be superimposed. With this daily exercise the vision of the squinting eye was increased to 4. When last seen the patient could see for the most part all of the Kroll and Dahlfeld cards correctly. While it is not improbable that a tenotomy must yet be made in this case, still the stereoscopic exercise has made the final results more sure.

Case III.—Diplopia, the result of several tenotomies. Mrs. S. M. C——, an artist, aged thirty-four years. Since the age of ten she has been myopic. October 7, 1896, an examination showed O.D., M. 4 D, A.M. .50 D. O.S., M. 4.5 D; A.M. .50 D. Each eye has a vision of G. The patient has recently submitted to four successive tenotomies, and has a distressing operative diplopia, which is always present. In reading and at her work she wears O.D. — 4 D, combined with a prism of 5° (base in); O.S.—4 D, combined with a prism of 4° (base up), but asthenopic symptoms soon occur after any continuous work.

The patient was now directed every morning to use the stereoscope, adjusting the half-pictures both vertically and horizontally, so that they appeared superimposed. After a half-hour of such exercise a record was made of the position of the half-picture.

[In these notes which follow it will be remembered that the letters A, B, C, etc., indicate the vertical, and the numbers 4, 5, etc., the horizontal distance of each in centimetres from the middle line.]

The patient wore at these exercises no correcting lenses, spherical, cylindric, or prismatic.

The record was:

| | O.D. | O.S. |
|---|---|---|
| October 6th | A | B |
| | 4.5 | 4.5 |
| October 10th | C | A |
| | 6.5 | 6.5 |
| October 12th | A | B |
| | 4 | 4.5 |
| October 20th | B | B |
| | 6.5 | 5 |
| October 24th | B | B |
| | 4 | 4 |
| November 7th | B | B |
| | 4 | 4 |

This last record, which shows nearly muscular equilibrium, remained unchanged, and the patient received for reading and painting O.U. + .5 O. D.C. (180°). The diplopia was no longer present and the asthenopia had disappeared.

**Hemorrhage in the New-Born.**—When the hemorrhage is from the umbilicus, we should begin by loosening the dressings and trying different methods of ligature, but in some cases all seem to be absolutely useless. In case of gastro-intestinal hemorrhage the infant should be placed in an incubator at a temperature of 37° C., or in warm cotton. Three times daily it should have mustard baths, followed by friction with alcohol, hot baths, hot-water bags to the abdomen, hot whiskey, and subcutaneous injections of a solution of sodium chloride 7 : 100, in amounts of from 10 to 15 gm., repeated four or five times daily.—H. Brooker Mills.

# Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending October 7, 1899:

| | Cases. | Deaths. |
|---|---|---|
| Tuberculosis | 130 | 143 |
| Typhoid fever | 61 | 20 |
| Scarlet fever | 76 | 2 |
| Smallpox | 1 | 0 |
| Measles | 71 | 5 |
| Diphtheria | 151 | 23 |
| Laryngeal diphtheria (croup) | 7 | 3 |
| Cerebro-spinal meningitis | 0 | 5 |
| Chicken-pox | 4 | 0 |

**The Buffalo Fresh-Air Mission.**—The Buffalo Fresh-Air Mission has adopted some unique methods of advertising. Among others it has fitted up a street-piano to resemble a cradle. It is advertised to play fresh airs only. It has frequently taken in $20 to $25 a day, the proceeds going to Cradle Beach, a farm of forty-seven acres on Lake Erie, where five hundred children have spent the summer.—*American Public Opinion.*

**London Statistics.**—The annual report of statistics relating to London has just been published. Taking the increase of population between 1891 and 1896 as a basis, the population of London in April, 1897, would be estimated at 4,474,330, an increase of 41,312, equivalent to 0.932 per cent. in the year. With respect to births, marriages, and deaths, the statistics quoted stop at 1896 with births for that year: males, legitimate, 65,928, illegitimate, 2,552; females, legitimate, 62,862; illegitimate, 2,481; making a total of 133,833, showing a decrease of 322 over the previous year. Of the 79,744 people married in London in 1896, 35,754 were bachelors, 36,755 spinsters; 43,118 widowers, and 3,117 widows. The provision of healthy dwellings for the working classes was now recognized as one of the most important of municipal duties. Dealing with the principal zymotic diseases the medical officer of health reported that with regard to smallpox, the neglect of vaccination in London of recent years appeared to be already manifesting itself in an increase in the proportion which deaths of children from smallpox bore to deaths from this disease at all ages. The number of London children in reformatory and industrial schools at the end of 1897 was 1,208 boys and 116 girls under the London County Council, and 2,963 boys and 888 girls under the London School Board. The total number of lunatics belonging to the county of London, including imbeciles in workhouses, on January 1, 1898, was 20,482, ranging from 1.9 per 1,000 in Penge and Hampstead, to 11 per 1,000 in the Strand, while the average for the county was 4.6. The proportion of recoveries to admissions seemed to be increasing, and the proportion of hereditary causes of insanity was notably large.

**Instruction in Cookery for Medical Men.**—A well-known professor of medicine in Berlin used to say, in his clinical lectures, that a medical man ought to be at home not only in the laboratory but in the kitchen—a dictum the truth of which is occasionally apparent when practitioners in prescribing diets for patients are embarrassed by questions relative to the method of cooking. The great majority of medical men are unable to give precise instructions to a cook, while, on the other hand, many unqualified practitioners impress the public mind by their careful directions as to the prep-

aration of their patients' food. Some medical men, as, for instance, Professor Ewald, in an article in the "Handbuch der Ernährungstherapie," have referred to this fact, and have expressed a wish that medical men had opportunities of learning the rudiments of cookery. The *Berliner klinische Wochenschrift* now informs the medical profession that two ladies, superintendents of schools of cookery for girls, have arranged to give special courses for medical men. It is not said in the advertisement whether the medical pupils of these ladies will have to do practical work by grilling chops, cooking potatoes, or boiling vegetables, or whether they will only have to listen to the verbal explanations of their instructors. The offer of the ladies to open cookery classes for medical men will be heartily welcomed by those who think that medical training ought to be much more practical than has hitherto been the case.—*The Lancet.*

**The Influence of Environment and Heredity.**—The two great factors that determine our existence are heredity and environment. They also affect our moral life. Environment includes all those elements that influence us after birth, of which example and education are the most powerful. There is, then, first the criminal by heredity. There may be either a direct transmission of criminal tendencies or merely a transmission of degenerative traits, which may develop into criminality in the children, even though the parents were otherwise defective.—M. P. E. Groszmann.

**Miscegenation.**—The marriage of an educated white woman with one of the Zulus on show in London has deeply stirred the British public, and has once again brought into prominence the fact that the aversion displayed by the Anglo-Saxon race to such unions is as strong as ever it was. The *Spectator*, referring to the matter, says: "The extreme dislike of Englishmen and Americans for the half-caste races is intelligible, for it is founded on a wide though imperfect experience. That the majority of modern half-castes are inferior in several respects to both the races which produce them may be true enough—though it is often quite false—and is to be expected, for they are the progeny of illicit connections and brought up under circumstances which take the bone out of the character. But that a half-caste nation would be necessarily a base nation either in intelligence or character is by no means proved. The verdict of history is rather the other way. It is as certain as any fact of the kind can be that the Brahmins of India and the clans of Rajpootana descend from white invaders, who, crossing the passes, left their wives behind, and settling in India intermarried with the dark races of the plain. No people on earth can claim to be more intelligent than the Brahmins, and hardly any exhibits a finer character than the Rajpoot, who is moreover in physique one of the superior races of mankind. The mixture of colors cannot, therefore, be pronounced injurious to the world, though as a rule it is injurious to the individual family."

**The Influence of Self-Assurance on Conduct.**—Dr. Harry Campbell read a paper at the psychological section of the British Association, taking as his text the above title. After claiming that a belief in one's qualities, either mental or bodily, when carried to extreme lengths is a condition of disease, he writes as follows on the help that the possession of self-conceit is in the battle of life: "Self-assurance is a very useful attribute. It is helpful in every walk of life. The self-confident man steps to the front, while his brother, much more highly gifted perhaps, but lacking his self-assurance, is left behind. Who does not know of men who have achieved success through sheer cheek, and of others whose reserve and diffidence have prevented them from attaining the position to which their abilities entitled them? Doubtless the success of the self-assured man is largely the outcome of the sense of well-being and exuberant energy accompanying it. These attributes run well in harness; the energy impels a man to be up and doing, while the self-confidence gives promise of victory. How powerfully the two attributes—energy and self-assurance—make for success is well shown by what occasionally happens in the early stage of general paralysis of the insane, before the intellect is disturbed, when, indeed, its activities may be heightened in consequence of the general exaltation of nervous function."

**Meeting of Vegetarians.**—A vegetarian conference has recently been held in London, at which several American upholders of this doctrine were present. One enthusiastic propagator of the doctrine declared that although the average life of a man is but forty-eight years, he saw no reason why people who ate vegetables and fruits instead of the enormous quantities of meat now consumed should not live to an average of at least ninety-four years, while one hundred and twenty would be no uncommon age. Dr. Loretto Kress, an American woman doctor, argued that the flesh of animals tainted the blood of human beings and injuriously affected the nervous system and mind. Professor Bronson Alcott, of Concord, said that if a man ate pig he became pigified, if he ate an ox he became oxified, and so on. That was to say, that the nature of man assimilated that of the animals upon the flesh of which he subsisted.

**Care of Consumptive Sailors.**—Passed Assistant Surgeon J. O. Cobb writes in the annual report of the Marine-Hospital service for 1898 on what is to be done in the way of treatment with the consumptive sailor, and from his own experience draws the following conclusions: "The mortality of the consumptive sailor, as shown by the annual reports, is 21 4 per cent. The actual mortality, if it was possible to obtain correct data, would probably be forty per cent. The eventual mortality is probably one hundred per cent. The results obtained to-day are no better than were obtained twenty years ago if we are to rely upon statistics—*i.e.*, relative mortality, 1873 to 1877, 21.5 per cent; relative mortality now, 1890 to 1895, 23 per cent. The results obtained to-day are not better than were obtained ten years ago, *i.e.*, mortality from 1880 to 1885, 22 9 per cent.; now 23 per cent. The improvements made in our hospitals have not lowered the mortality. The present methods of treatment have not lowered the mortality, but probably have attenuated the cases. There are probably more cases now than ten years ago. Our hospitals are foci of infection, dangerous to officers, attendants, and patients suffering from other diseases. Granting the most liberal allowance for faulty conclusions from the data at hand, it is quite probably that the Government can build sanatoria for these men, transport them to these places, and take care of them to a termination of the illness, for the amount that would be expended in their care at hospitals."

**Poisoning from Artichokes.**—M. Roger has reported to the Société de Biologie a small epidemic of gastro-enteritis which occurred in his practice recently, which he was able to trace directly to the ingestion by those attacked of preserved or canned artichokes. Examining the contents of one of the boxes the vegetable was found to be of a handsome, almost natural green color, which at first gave him the idea that he had to deal with the effects of a copper-salt chemical. Analysis, however, revealed not a trace of that metal. He then submitted the material to an examination by bacteriological methods, and was able to isolate a coli

bacillus and a micrococcus. The latter on cultivation was found to have the property, when cultivated on slices of artichoke, of communicating to the latter an intense green color. The micrococcus is pathogenic to the rabbit.—*The Sanitarian.*

**Sir James Paget,** says an English weekly, now lives a very quiet life at Park Square West, almost his sole companion in his declining years being his daughter, who is devoted to him. Besides being famous as a skilful surgeon, he is well known as an orator, and his gift of eloquence has descended to his two sons, the dean of Christ Church and the vicar of St. Pancras. Sir James never sought publicity, and all the recognition bestowed upon him has been fully earned, for in all his labors can be discerned that freedom from assumption which is characteristic of the true physician. It would be difficult to estimate how many medical men of the present day in England owe their success in life to the words of counsel and advice given them by Sir James Paget years ago, but it must be a large number. He was the students' friend.

**The Metric System in Great Britain.**—The associated Chambers of Commerce of Great Britain at their meeting on the 6th inst. adopted almost unanimously the following resolution: "That the association, reaffirming its frequently expressed opinion that the metric system of weights and measures should be made compulsory in the United Kingdom, strongly urges her majesty's Government to use it in all government departments and to enforce strictly the existing provisions in the education code with regard to the teaching of examination in the subject in elementary schools, and that representations to this effect be made to the Government."—*Medical Press.*

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended October 7, 1899:

| | | Cases. | Deaths. |
|---|---|---|---|
| **Smallpox—United States.** | | | |
| Massachusetts, Chelsea | September 23d to 30th | 3 | |
| Everett | September 23d to 30th | 1 | |
| Michigan, Battle Creek | September 16th to 23d | Present. | |
| Maple Grove | September 16th to 23d | Present. | |
| Ohio, Cincinnati | September 22d to 29th | 1 | |
| Dayton | September 23d to 30th | 1 | |
| Virginia, Portsmouth | September 23d to 30th | 1 | |
| Washington, Seattle | September 16th to 23d | 2 | |
| **Smallpox—Foreign.** | | | |
| Belgium, Antwerp | September 9th to 16th | 2 | |
| Germany, Dusseldorf | September 2d to 9th | 1 | |
| Greece, Athens | September 9th to 16th | 15 | 2 |
| India, Bombay | August 20th to September 5th. | .. | 1 |
| Mexico, Chihuahua | September 16th to 23d | .. | 2 |
| Mexico | September 3d to 17th | 6 | 6 |
| Russia, Moscow | September 2d to 9th | .. | 1 |
| St. Petersburg | September 2d to 9th | 2 | 1 |
| Warsaw | September 9th to 16th | .. | 1 |
| Straits Settlements, Singapore | August 12th to 19th | .. | 1 |
| **Yellow fever—United States.** | | | |
| Florida, Key West | September 29th to October 5th. | 232 | 8 |
| Louisiana, New Orleans | September 23d to October 4th. | 18 | 2 |
| New Orleans | To date | 33 | 10 |
| Mississippi, Centreville | September 29th | 2 | |
| Jackson | October 2d | 12 | 4 |
| Mississippi City | September 23th from outbreak. | 26 | 1 |
| **Yellow Fever—Foreign.** | | | |
| Colombia, Barranquilla | September 9th to 16th | 1 | 1 |
| Panama | September 5th to 19th | 7 | |
| Cuba, Havana | September 15th to 22d | 10 | 4 |
| Santiago | September 9th to 16th | 3 | 1 |
| Mexico, Tuxpan | September 11th to 25th | .. | 11 |
| Vera Cruz | September 21st to 28th | .. | 4 |
| **Plague.** | | | |
| Africa, Magunde, Delagoa Bay | September 22d | Present. | |
| China, Niuchwang | September 12th, sporadic | .. | 5–10 * |
| Egypt, Alexandria | September 5d to 10th | 2 | |
| India, Bombay | August 29th to September 5th. | .. | 96 |
| Calcutta | August 19th to 26th | .. | 42 |
| Russia, Koloborka, Govt. of Astrachan | July 16th to August 12th | 24 | 23 † |

* Daily. † Suspected.

| | | | |
|---|---|---|---|
| **Cholera.** | | | |
| India, Calcutta | August 19th to 26th | .. | 5 |
| Madras | August 26th to September 1st. | .. | 1 |

**Fungous Foot.**—An instance of Madura foot has been reported by Drs. Arwine, of Texas, and Lamb, of Washington, in the October number of the *American Journal of the Medical Sciences*, making the fifth case recorded in this country. The patient was born in Texas, of Mexican parents. The first evidences of mycetoma were noted in 1887, when a severe pain in the foot, lasting thirty-six hours, was followed by a red spot, and subsequently an enlargement which was considered elephantiasis. Amputation was performed in 1889 and the specimen was sent to the army medical museum. It is thought probable by the writers that the specimens of many erroneously diagnosticated instances may be hidden away in museums. The only other specimen in the army museum came from Texas.

## Books Received.

*While the* Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

Materia Medica and Therapeutics. By Dr. J. M. Bruce. 12mo, 609 pages. Lea Brothers & Co., Philadelphia.

Pocket-Book of Medical Practice. By Dr. Ch. Gatchell. 8vo, 396 pages. Era Publishing Company, Chicago.

A Compend of the Practice of Medicine. By Dr. D. E. Hughes. 8vo, 625 pages. Sixth edition. P. Blakiston's Son & Co., Philadelphia. Price, $2.25.

A Manual of Diseases of the Nose and Throat. By Dr. C. G. Coakley. 8vo, 536 pages. Illustrated. Lea Brothers & Co., New York and Philadelphia.

A Treatise on Surgery. By American authors. Edited by Dr. Roswell Park. Condensed edition. Royal 8vo, 1,262 pages. Illustrated. Lea Brothers & Co., New York and Philadelphia.

Progressive Medicine. Edited by Dr. H. A. Hare. Vol. iii. September, 1899. 8vo, 440 pages. Lea Brothers & Co., Philadelphia and New York.

The Nervous System and its Constituent Neurons. By L. F. Barker, M.B. Tor. 8vo, 1,122 pages. Illustrated. D. Appleton & Co., New York.

Diseases of Children. By Dr. C. Sigmund Raue. 8vo, 473 pages. Boericke & Tafel, Philadelphia. Price, cloth, $3 net.

Life of Gen. Nathan Bedford Forrest. By Dr. John A. Wyeth. Royal 8vo, 655 pages. Illustrated. Harper & Brothers, New York and London. Price, $4.

Minor Surgery and Bandaging. By Dr. H. R. Wharton. Fourth edition. 8vo, 594 pages. Illustrated. Lea Brothers & Co., Philadelphia and New York.

Handbook of Optics. By Dr. William N. Suter. 12mo, 209 pages. Illustrated. The Macmillan Company, New York. Price, $1.

The Rise and Development of the Liquefaction of Gases. By W. L. Hardin, Ph.D. 12mo, 250 pages. The Macmillan Company, New York.

A Compend of the Diseases of the Eye and Refraction. By Dr. George M. Gould and Dr. Walter L. Pyle. Second edition. 12mo, 295 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia. Price, 80 cents.

Enlargement of the Prostate and its Treatment and Radical Cure. By Dr. C. Mansell Moullin. 8vo, 211 pages. P. Blakiston's Son & Co., Philadelphia. Price, $1.75.

Handbook of Physiology. By W. Morrant Baker, F.R.C.S., and Vincent Dormer Harris, M.D., Lond., F.R.C.P. Fifteenth American edition. Revised by Dr. Warren Coleman and Dr. Charles L. Dana. 8vo, 840 pages. Illustrated. William Wood and Company, New York.

Transactions of the Medical Association of the State of Missouri. 1899. 8vo, 387 pages.

The Mineral Waters of the United States, and their Therapeutic Uses. By Dr. James K. Crook. 8vo, 588 pages. Lea Brothers & Co., New York and Philadelphia.

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 56, No. 17. Whole No. 1511. NEW YORK, OCTOBER 21, 1899. $5.00 Per Annum. Single Copies, 10c.

## Original Articles.

### THE EARLY DIAGNOSIS OF CANCER OF THE STOMACH.

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A NUMBER of important articles from the pens of eminent authors recently published upon this subject do not really deal with the *early* diagnosis of cancer of the stomach at all. Thus the determination of the size of the stomach, the efforts to detect the presence of tumor, the symptoms of pain and hemorrhage, the deglutition sounds, the various conditions of the histological elements of the blood, the evidences found in the gastric and urinary chemical and microscopical analysis, the state of bodily nutrition, though very important when taken in conjunction—do not offer, as our further discourse shall show, anything absolutely reliable or pathognostic for the early diagnosis of cancer of the stomach. Czerny, Rindfleisch, and Kraske have emphatically stated that gastric cancer should not be radically operated upon after it can once be diagnosed as a tumor. All the clinician can do in these cases is to perfect the methods for early diagnosis so as to enable the surgeon to perform an operation when the histological changes of the neoplasm are confined and restricted. I do not consider that our present knowledge and diagnostic methods of detecting this dreadful disease are at all complete. In fact, certain histological examinations which I have made in my own laboratory, to be published in the near future, convince me that an entirely new and hitherto scarcely used method of diagnostic technique may perhaps be able to afford us valuable aid in the direction pointed out. Lindner and Kuttner have asserted that the early diagnosis of cancer of the stomach is impossible, and Haberkant goes even a step further and insinuates that it will never be possible to diagnose cancer of the stomach at a stage when it can be radically operated upon. I will let one of the most versatile of American surgical philosophers reply to this objection, inasmuch as the quotation exactly echoes my sentiments in this matter: "Till then one lesson for all of us is that the hope of the patient lies in early and thorough operation. At present, instead of doing pylorectomy for cancer, owing to adhesions, metastasis, the extent of the tumor, or the wretched condition of the patient, we are obliged to content ourselves with the makeshift of gastro-enterostomy. If we explore early, we can select a time when the patient is in good health, and then we can not only make a thorough operation by removal of the disease itself, but can remove all enlarged glands which would imperil the patient's future. I believe the time will come when carcinoma of the stomach will fall in line with carcinoma of the breast, of the rectum, of the uterus, and early and complete operation will add new laurels to the crown of surgery by many permanent cures. I believe that ulcers will be submitted to early excision and not be permitted to destroy life by perforation or hemorrhage.

"In order to bring about this happy day, the surgeon must have the hearty co-operation of the physician. It is sometimes said that surgery has made more progress of late than medicine. I do not believe it. The triumphs of surgery, it is true, are more dramatic, but in the diagnosis and treatment of diseases of the stomach the physician is quite abrest with his brother the surgeon. When all physicians appreciate what the surgeon can do if he be called in promptly, then shall we see results that will be as gratifying as they are startling."[1]

Let us begin with a brief consideration of the statistics of cancer, showing an alarming increase of this disease—the world over—during the end of the nineteenth century.

According to the reports of the registrar-general, the mortality from cancer in England and Wales is progressively increasing out of all proportion to the increase of the population, and with a rapidity that may well arrest the attention of sanitarians. A study of a table compiled from these reports, and published by Mr. W. Roger Williams in *The Lancet* of August 20, 1898, shows us that in 1840 cancer caused 2,786 deaths, the proportion being one in 5,646 of the total population and 1 in 129 of the total mortality, or 177 per million living; in 1896 the deaths due to it numbered 23,521, or 1 in 1,306 of the total population and 1 in 22 of the total mortality, or 764 per million living. Thus the proportionate mortality from cancer now is four and a half times greater than it was half a century ago.

It is impossible to explain this remarkable increase in the mortality from cancer otherwise than by an increase in the prevalence of the disease. The assumption that the increase is only apparent and is due to improved methods of diagnosis is untenable, for it is probable that the reverse is nearer the truth and that many cases formerly diagnosed as cancer are now classed under other heads. The attempt to explain this increasing mortality as due to the average age of the population having advanced, and the consequent greater liability to cancer, will also not bear critical examination, Mr. Williams shows, for the saving of life in modern times has been mainly confined to early years. The number of deaths among men over thirty-five years and women over forty-five years has remained stationary or increased, while the number of persons who attain old age has decreased.

In respect of this immense increase in mortality cancer is unique, for nothing at all approaching it is furnished by the statistics of any other disease, and yet no effect appears to have been produced on the medical profession or the general public by these startling figures of the registrar-general's reports. Concerted efforts are being made to stay the progress of tuberculosis, while the warning of the cancer mortality is neglected. Yet, if the disproportionate increase in deaths from malignant disease continues, cancer will soon be as lethal as typhoid fever, smallpox, and tuberculosis combined. In the face of these

[1] W. W. Keen, LL.D., etc.: Philadelphia Medical Journal, vol. i., page 1105.

statistics it behooves sanitarians to investigate with great care the conditions which favor the development of cancer, whether these be personal or regional, dietetic or microbic, for it is only by the avoidance of the main etiological factors that a decrease in the prevalence of cancer can be attained.[1]

The increase of mortality from carcinoma in England has been from one in seventy-four in 1854, to one in twenty-three in 1894. A small proportion of this increase has been ascribed to the greater number of survivals to the higher ages. For the remainder two explanations have been advanced: either there has been a real increase in the mortality from carcinoma (in proportion to the number living at each group of ages), or the great increase is caused by improved diagnosis and more accurate certification of death on the part of medical practitioners.[2]

In 1840, in England, the proportion of deaths from cancer to the total mortality rate was one in one hundred and twenty-nine; in 1880 this had risen to one in twenty-eight, which shows that in England the death rate from cancer is now about four times greater than fifty years ago. Williams estimates that at least forty thousand persons are now suffering from cancer in England and Wales, whereas in 1840 the number was only about fifty-five hundred. Should the disease increase in the future at the same relative rate, it will become one of the commonest of all. This augmented mortality corresponds with increase of population in wealth and improvement in general sanitary conditions. In Ireland, where this happy condition of affairs does not obtain to a corresponding extent, the cancer death rate has been much smaller and has shown no such marked increase. In 1861, in England, there were three hundred and seventy-six deaths from cancer to the million of population; twenty-five years later there were six hundred and ten. During this quarter of a century the number of deaths from phthisis per million has diminished to three-fifths of the number at its commencement.

In the twenty years from 1870 to 1890 the increase in mortality from cancer in England is as follows: In 1870, 384 to the million; in 1880, 468; in 1890, 590. Accepting these published figures from the registrar-general's report, it would appear that the mortality has increased by fifty-three per cent.

From a tabulation of the deaths within the State of New York during ten years, from 1885 to 1895, I find that during this time there have been reported 30,692 deaths from cancer. Doubtless in a few of these cases there may have been a mistake in diagnosis, which will, however, be abundantly atoned for, and more, by the deaths which were really due to cancer and ascribed to some other cause. In 1885 there were 1,882 deaths from this cause; in 1890, 2,878; and in 1895, 3,454. In other words, in the last year of this decade the total number of deaths from cancer was twice that of its first year—which may be interpreted as meaning that the death rate has increased much more rapidly than has the population. During this same decade, also, the number of deaths from all causes has increased only from 80,000 to 121 000. During the last five years of this decade epidemic influenza alone caused 35 000 of the 121,000 deaths. It will therefore be seen how rapidly the cancer death rate is creeping up.

In 1892 Haviland published a monograph, in London, on the "Geographical Description of Heart Disease, Cancer, and Phthisis in England and Wales," in which he maintained that where cancer is most prevalent the country is low and traversed by rivers, which frequently flood the adjoining country; whereas cancer is relatively scarce in mountainous regions or where floods do not occur, and where the subsoil is either hard or absorbent. Thus he found that the Thames runs through a vast cancer field, excepting only where the chalk crops out. Williams, however, states that this cannot be true of all low-lying countries, and seeks to explain the prevalence of the disease in the valley of the Thames by conditions of life peculiar to its population. He calls attention to the fact that cancer mortality is lowest where the struggle for existence is hardest, the population densest, the general mortality highest, the average duration of life shortest, where sanitation is least perfect, and the death rate from tuberculosis highest—in other words, among the working classes—whereas the cancer mortality is greatest among the agricultural community, where people are well-to-do, and where the standard of health is highest and of life easiest. He believes the most potent factors in the causation of cancer to be high feeding and easy living, and that the farmer is in general better off than the city laborer, but more liable to cancer. So, too, in London, where the cancer rate is highest, it is significant that this is particularly true of those parts where the wealthy most abound.[1]

In 1889 England lost 18,654 of her people from cancer, this number being 3.6 per cent. of the entire death rate for that year. In 1893 London alone lost 3,412 of her population from this cause, a percentage of 3.73 of the total death rate for the year. And during the ten years preceding 1895, the death rate from cancer increased 0.87 per cent.

In Berlin in 1892 "cancer and tumors" destroyed 1,138 of the population, a rate of 3.48 per cent. of the total deaths for that year. In the same city in 1877 the deaths from these causes are recorded at 2.10 per cent., showing an apparent increase of 1.38 per cent. in fifteen years.

In Vienna the deaths from cancer in 1890 were 4.96 per cent. of the total death rate for that time, and during the preceding eight years the death rate from the same cause had increased 0.84 per cent.

In Paris, in 1893, cancer caused 4.61 per cent. of the total death rate.

The average death rate from cancer in New York City during the ten years prior to 1895 was 2.17 per cent. of the total mortality of that period, showing an increase of 0.35 per cent. in the preceding ten years.

Permit me to add, in brief, in connection with other important cities in the United States, that in 1895 Philadelphia showed an increasing rate of 0.26 per cent.; Boston 0.54 per cent.; Baltimore 0.64 per cent. In Baltimore the loss by death from cancer is 3.52 per cent. of the entire death rate; New Orleans 0.52 per cent.; and San Francisco, 0.84 per cent. during the preceding ten years.

It may not be uninteresting to note the fact that the deaths from cancer in fifty of the large cities of the United States is 16.34 per cent. greater per 100,000 living than in the remaining portion of the country. It is proper to say, however, that a part of this difference can be justly attributed to the comparatively greater completeness of the mortality records of city districts, and to the presence in the city of those who seek the advantages it offers for relief.

**Frequency of Carcinomatous Invasion of the Stomach.**—At all events, it now appears that those parts of the body possessed of especial physiological significance, and which are exposed to the evil effects of perverted appetite and mischievous habits, are foremost

[1] "Statistics showing the Increase of Cancer, particularly of Cancer of the Stomach." MEDICAL RECORD, September 24, 1898.

[2] Arthur Newholme: "An Explanation of the Supposed Increase of Cancer Mortality in England." British Medical Journal, January 8, 1898.

[1] Roswell Park: "Prevalence of Cancer and Its Increase." MEDICAL RECORD, July 3, 1897.

in the field of malignant development. In 1,000 deaths from cancer in New York City in 1893, the tongue was the seat of disease in 18, the œsophagus in 19, the stomach in 253, the intestines in 39, the rectum in 42, the uterus in 196, and the breast in 91 instances.[1]

According to the statistics of Haberlin of 27,511 cases of death from cancers, 11,422 of the cases of cancer occurred in the stomach; that is 41.5 per cent. This number agrees with the statements gives by d'Espine, according to whose calculation 44.3 per cent. of all cases of carcinoma occuurred in the stomach. According to Brinton, one per cent., and according to Wyss two per cent. of all deaths are attributable to cancer of the stomach. The physician is helpless in the treatment of this disease. Everything that can be done to postpone or perhaps prevent the inevitable fatal termination lies in the hand of the surgeon. It is an imperative demand to be laid upon the practitioner that he should consider the possibilities of an operation from the very beginning of the presentation of cancer of the stomach, and as the only operation which can promise relief for a longer time is an early operation—*i.e.*, the earlier an operation is undertaken the more favorable are the prospects of a prolonged period of life after the operation—the deduction is evident that an early operation depends upon an early recognition of the disease. If we disregard the very rare cases in which gastric cancer remains latent, or runs its course under very obscure symptoms, not at all referable to the stomach, we may distinguish two groups of cases: (1) those in which the local symptoms predominate, and (2) those in which the general symptoms predominate.

**Age.**—According to the tables of Brinton 600 cases, Welch 2,075 cases, and Haberlin 11,424 cases, three-fourths of all cases of gastric cancer occur between the ages of forty and seventy. The factor of age should, however, be used only with the greatest of caution. Of 66 cases of Lindner and Kuttner, more than one-half of the patients had not reached the fiftieth year. The same can be said of Hammerschlag's cases. I have repeatedly had the experience that general practitioners have failed to recognize cancer of the stomach on account of the youthful age of the patient. Now Wilkinson has reported a case of congenital gastric cancer, Cullingworth one in a child five weeks old, and Widerhofen a congenital cancer; Kaulich a colloid carcinoma in a boy one and a half years old. According to Schaffer the percentage of gastric cancers in the first three decades is two per cent., according to Reichert three per cent., and according to Bräutigam 2.5 per cent.[2] One fact I should like to emphasize in connection with the question of age, and that is that the limit of age for carcinoma is gradually receding.

**Diagnostic Value of the Subjective and Objective Symptoms.**—Among all the dyspeptic complaints, the disturbances of appetite, thirst, the pressure, distention, and fulness, the eructation, nausea, and vomiting, and the irregularities of the stool, there is nothing characteristic. Thirst is particularly prominent and a very annoying symptom in dilatations caused by pyloric carcinoma. There is nothing characteristic about the pasty, insipid taste nor about the coated tongue. The pains are not characteristic. The vomiting and nausea when very frequent and copious are suggestive of cancer at the pylorus or at the cardia. When the two openings of the stomach are free, and only the walls of the stomach are affected, there is in my experience no vomiting at all. The amount that is vomited depends upon the degree of dilatation. The food is unchanged. In my experience, blood is contained in the vomit in one-half of all cases of gastric cancer. Large quantities of blood are rarely vomited, but the characteristic coffee-ground vomit, in consequence of stagnation and decomposition of the blood, is diagnostically important. The more copious the effusion of blood is into the stomach, the quicker does it cause vomiting; for that reason the abundant hemorrhages in ulcer are often vomited uncoagulated and very little altered, whereas the smaller amounts of blood in carcinoma and gastritis remain in the stomach a longer time and then show the characteristic coffee-ground appearance. But large hemorrhages may occur in cancer, and small hemorrhages may occur in ulcer; and I have seen cases of coffee-ground vomiting in ulcer repeatedly.

**Constipation or Diarrhœa.**—In the literature of the subject, in which any reference to these points was made, I found that in seventy-five per cent. of cancers of the stomach there is constipation. In about twenty per cent. there is diarrhœa, and in five per cent. only does the stool remain regular. These figures agree with those from my clinic sufficiently to make any alteration needless. F. Muller states that diarrhœa occurs in 35.5 per cent. The greater frequency of constipation is due to the mechanical stenosis by the tumor, and motor insufficiency due to carcinomatous invasion of the muscularis.

**Emaciation and Cachexia.**—That these symptoms are not characteristic is evident, but they are important because the degree of emaciation will greatly influence the decision on an operation. A frequent question will be, Will the strength of this patient suffice to overcome a severe abdominal operation? The general condition gives no clew to the size of the tumor. A very minute cancer, even when it is at a place where it in no way influences the functions of the body, may depress the nutrition of the entire organism, and irresistibly lead to death. On the other hand, very large tumors on the walls of the stomach may run a long course without disturbance of the general strength and nutrition.

So in all dyspeptic symptoms there is nothing pathognostic for gastric cancer. They occur not only in other diseases of the stomach, but to a large extent in the diseases of other organs. The swelling of the cervical lymph glands is a very rare sign, and in my experience occurs only toward the end of the disease, by which time the diagnosis is generally clear.

**Condition of the Gastric Functions.**—The secretion: During the development of cancer, secretion of hydrochloric acid is gradually lost, so that free HCl can no longer be detected in the test meals. Toward the end stage, both free and combined HCl are entirely absent. It is urgently necessary to be very careful in these determinations for HCl. A single analysis, showing sub- or an-acidity, proves nothing at all. If a first test fails to detect free HCl, it should be repeated after allowing a longer interval to elapse subsequent to the time at which the test meal was taken. It must be borne in mind that the gastric mucosa does not secrete HCl all over, *i.e.*, in all of its parts. Only the middle portion secretes HCl; the pyloric region does not secrete it. Although the degree of reduction of HCl secretion depends upon the extent and the gravity of the gastritis which is caused by the carcinoma, nevertheless this may be limited to the pyloric region, where it will not interfere with the glandular apparatus which forms the HCl. F. Mall[1] concludes with Heidenhain that the oxyntic or border cells in the peptic ducts are concerned in the production of HCl, and the central cells in the production of pepsin. Now as the pyloric region contains no border cells, a carcinoma may reach as far as the antrum pylori, a

[1] Dr. Joseph D. Bryant, in the MEDICAL RECORD, December 3, 1898.

[2] See Inaugural Dissertation von Reinhold Schulz, Breslau, 1886.

[1] Johns Hopkins Hospital Reports, vol. i.

distance of three to five inches, before it will invade the region which contains the acid or border cells. I have seen six cases in which the presence of free HCl continued to the end of life. In two of these cases the carcinoma was seen during the operation, and in the remaining four at autopsy. These six cases had not originated on the basis of an old gastric ulcer, but were circumscribed knots of cancer, leaving the mucosa intact. In all cancers that have arisen from ulcers, free HCl in normal or even in increased amounts may continue until death. This is sufficient evidence for the conclusion that the presence of free HCl does not argue against cancer of the stomach. On the other hand, absence of free HCl is no specific sign of this disease. It occurs in other gastric diseases leading to atrophy; it may occur in diseases of other organs, for instance diseases of the kidneys, pulmonary tuberculosis, and valvular cardiac diseases, and, as I have shown,[1] free HCl is frequently absent, though not necessarily so in catarrhal jaundice. When free HCl is absent, combined HCl may still be present, and Schüle argued that the amount of the HCl deficit was an important diagnostic sign between cancerous and benign diseases of the stomach.

In determining the amount of the HCl deficit, decinormal HCl solution is added to the filtrate of gastric contents until we get a distinct reaction with the Boas resorcin test or any of the other established tests for free HCl. The degree of the deficit is in my experience no indication of the extent of atrophy of the secreting apparatus. Very large HCl deficits have been discovered by myself in benign diseases of the stomach. The determinations for HCl, however, when taken in conjunction with other symptoms and signs, have a certain limited diagnostic significance.

Secretion of pepsin and chymosin or rennin: As a rule, the reduction of the secretion of these ferments goes parallel with a reduction of the HCl secretion. For clinical purposes, the determination of the presence and strength of the pepsin secretion may be made according to the method of Hammerschlag,[2] though this method from a chemical standpoint is by no means exact Hammerschlag uses the Essbach albuminometer to determine the amount of albumen which has not been digested by the pepsin of the gastric contents. As this method is not exact when used for urinary analysis, it is less so for this purpose. Still, as a rough clinical test it generally suffices.

Method: A one-per-cent. solution of albumen containing free HCl to the amount of 4 per 1000 is filled into the Essbach albuminometer to the 10 c.c. mark. To this tube we add 5 c.c. of the gastric filtrate to be tested for pepsin. A second Essbach albuminometer is filled to the 10 c.c. mark with the standard egg albumen and HCl solution, and as a control test 5 c.c. of distilled water is added. Both tubes are now put in the incubator at a temperature of 37° for one hour. Then the amount of albumen is determined in each by the Essbach reagent. After both tubes have been allowed to stand quietly for twenty-four hours the amount of digested albumen can easily be calculated in numbers expressing the percentage. This test is not sufficiently delicate to demonstrate small amounts of pepsinogen.

The reduction of the chymosin or rennin occurs without exception in gastric carcinoma, but very marked reduction in the amounts of both ferments is in itself not a characteristic sign for gastric cancer, because it can occur in atrophy of the mucosa from gastritis, and also from long-standing diseases of other organs.

Lactic Acid: In one hundred and twelve cases of carcinoma of the stomach, I found only three in which lactic acid was present to any considerable degree before the diagnosis could be made by other symptoms. The frequent occurrence of lactic acid in gastric cancer has been asserted by Boas to be an important diagnostic sign. The question is, Does it occur at a time to enable us to make an early diagnosis? This I must deny on the basis of a large experience with this test. Boas has admitted that excessive lactic acid in the stomach contents is not a pathognostic sign of cancer of the stomach, because it is absent in a number of cases of that disease, and may be present in gastric diseases of a benign type, and even during diseases of other organs.

Three conditions are necessary, possibly four, to bring about excessive formation of lactic acid in the stomach. These are: (1) impaired gastric motility; (2) absence of HCl secretion; (3) reduction of albumen digestion; and (I should add) (4) an impaired absorption. Lactic acid is formed in the stomach by the action of lactic-acid bacilli on the carbohydrates. Sticker has shown that the simple passage of carbohydrates through the mouth causes the formation of more or less lactic acid without exception. It is therefore necessary to give a test meal, which shall be, so far as practicable, free from lactic acid, and which shall form little of this substance during the passage through the mouth. Such a test meal has been introduced by Boas in the form of his oat-flour soup (one ounce of Knorr's oat flour boiled in a quart of water, evaporated down to one pint, and seasoned with salt only).

Lactic acid will not form in the stomach even though the contents stagnate due to arrest of the peristalsis, and although the HCl secretion is reduced or absent; provided the proteid digestion is still fairly good, and does not fall below seventy-five per cent. Whenever there is much lactic acid in the stomach, the proteid digestion will be found to be below seventy-five per cent. I have made a number of chemical tests, relative to the relation of lactic acid to proteolysis, and confirmed the view that lactic acid may replace the normal HCl. In the contents of some carcinomatous stomachs the lactic acid was found to be in combination with the proteid of the food. When the mucosa is still capable of secreting HCl, this will combine with the albumin sooner than the weaker acid; hence a fairly good albumin digestion signifies still a trace of HCl and ferments. But a fairly good albumin digestion can be effected by lactic acid and pepsin in the absence of HCl. This chemical factor merits closer investigation. Normally lactic acid, like all other soluble products of digestion, is absorbable. If, therefore, the absorption is made difficult, which occurs especially when the contents stagnate and the HCl secretion is depressed, the conditions favorable to lactic-acid accumulation will be present. Whenever the movements of the stomach are normal, so that the contents can be expressed into the duodenum within six or seven hours, lactic acid will not develop to a degree that can be recognized by the ordinary tests, although the HCl secretion has been lost entirely. Hammerschlag took such gastric chyme containing no HCl, but from stomachs with normal motility, and added the third necesary factor (viz., stagnation), by letting it stand at room temperature. Under such stagnation lactic acid rapidly developed in the chyme. In gastric carcinoma we have the conditions favorable to lactic-acid formation in the majority of cases: suppression of HCl, stagnation of contents, impaired proteid digestion, and impaired absorption, so that lactic acid is found most frequent in cancer of the stomach. Rosenheim found it in seventy-eight per cent., Lindner and Kuttner found it in sixty per cent., Strauss found it in ninety-one per cent., and I have

[1] Hemmeter: "Diseases of the Stomach," second edition, p. 374

[2] Archiv f. Verdauungskrankh., vol. ii., p. 4.

found it in eighty-two per cent. of all of my cases of gastric cancer. But the conditions necessary to its formation in the stomach can be brought about by diseases other than cancer; for instance, in benign pyloric stenosis, in atrophic gastritis with motor insufficiency, and even in diseases of other organs I have discovered lactic acid in the stomach in marked excess when the stomach itself was not affected, but the impaired peristalsis was caused in one case by a pancreatic cyst, in another case by a carcinoma of the gall bladder, and in a third case by a large gall stone. These conditions had caused compression of the duodenum effecting obstruction to the outlet of gastric chyme with a subsequent gastritis, the latter most probably causing the loss of HCl secretions. In still another case in which there was compression of the duodenum by floating kidney, the presence of lactic acid was only transient. Whenever the kidney could be retained in place by a proper bandage, the stomach resumed its secretions partially, and the peristalsis was to a degree resumed, and the lactic acid, except in minute traces, disappeared from the contents. Lactic acid, then, although it is not an early sign, is a clinically important sign. It means absence of HCl, stagnation, and reduction of the digestive ferments and absorption; conditions which are most frequently found in cancer, and therefore the presence of lactic acid, although not a pathognomonic sign, nevertheless when it occurs in conjunction with other symptoms should suggest the probability of cancer. The test necessary for this which is most practical is the one originally suggested by Uffelmann. The reagent consists of 10 c.c. of a four-per-cent. solution of carbolic acid, 20 c.c. of distilled water, and one drop of the liquor of the sesquichloride of iron. This gives an amethyst-blue solution. The presence of lactic acid changes this to a yellowish green. The reagent is sensitive to 0.5 per 1,000 of lactic acid, which amount is always pathological and of diagnostic significance. Tests more sensitive than this would not be useful clinically. Boas[1] has given an exact method for quantitative determination. Straus[2] has devised a practical little funnel for separation of the lactic acid by agitation with ether (for illustration, see Hemmeter's "Diseases of the Stomach," page 160).

**Microscopical Examination of the Stomach Contents.**—There are only two structural elements in the stomach contents that have a possible diagnostic significance. These are: (1) tissue fragments, minute portions of the neoplasm; (2) the so-called Oppler-Boas bacilli. The tissue fragments are of undoubted diagnostic value if they contain structure of the neoplasm. The question is, Do they occur early enough in the disease to make a timely diagnosis possible? It is probable that the fragments are only detached from ulcerating tumor masses in the stomach, such as have already developed metastases, but I shall describe a method, that of curetting the walls of the stomach with a soft tube, and thereby loosening the superficial epithelium at a time when the neoplasm is not yet ulcerating. These fragments can be washed out of the stomach by lavage and sedimented in the electric centrifuge. I have used this method in forty-eight cases of gastric carcinoma, and I regard it as eminently important and adapted to early clinical diagnosis. I wish to emphasize that not only fragments of the neoplasm itself are to be sought after, but any cellular tissue that is found should be carefully stained and studied. The most remarkable feature of the sediment from such a stomach, after this so-called curetting, is a large number of cells presenting karyokinetic figures. Rieder[3] reported a case in which he made a diagnosis of malignant disease of the peritoneum and pleura from finding numerous cells in the exudates, showing indirect nuclear division. Mitoses occur very frequently. The forms of cell and nuclear division known as the equatorial plate and the monaster are frequent. Another form known as the anaphase, which in normal karyokinesis precedes the formation of the daughter stars and leads up to the formation of the resting daughter nuclei, has been observed three times in the curettage from stomachs at a stage when there was no tumor palpable, and in which the diagnosis was confirmed by operation, autopsy, or by the later development of a tumor. The presence of a large number of cells in the stomach after curetting with the stomach tube, which cells show mitosis, is very significant, and should stimulate further and careful examination. Sooner or later a fragment will be obtained which will give the typical structure of carcinoma. For this kind of curetting a soft stomach tube suffices, provided it has a lower and a lateral aperture, the edges of which scrape away the tiny elevations of gastric mucosa, when the tube is moved in and out of the mouth. The procedure should be carried out in the morning before breakfast, when the stomach is empty. This method of obtaining specimens from the gastric mucosa during life is free from danger, and not once in my experience has any pain, distress, or hemorrhage been produced thereby. In many cases of chronic gastritis, achylia gastrica, and carcinoma, tissue fragments are found in the lavage water without especially making an effort to loosen them, by moving the tube along the gastric walls.

The forcible detachment of larger pieces of gastric mucosa is an accident occurring during lavage by suction or aspiration of the tube, particularly when the instrument is in inexperienced hands. It is followed by copious hemorrhage, yet pain is rarely complained of. I reported a case of one of my students[1] who aspirated a piece of his own gastric mucosa 10 by 4 mm.; it was followed by a profuse hemorrhage but no other serious consequences, as uninterrupted recovery occurred under rest and liquid diet.

The Oppler-Boas bacilli are very long, rod-shaped organisms, non-motile, and usually thicker at one end than at the other, presenting the shape of a baseball bat. Kaufmann and Schlesinger[2] have isolated these organisms and asserted them to be of great significance in cancer of the stomach. Riegel[3] confirms the occurrence of these bacilli in enormous numbers in carcinoma, and adds that, although there are numerous fungi that have the property of forming lactic acid in stomach contents, this cannot alter the significance of the Kaufmann and Schlesinger observation. He does not consider these organisms as pathognomonic of gastric cancer, but as very important for the diagnosis. Dr. Harvey Adler and myself have examined fifty-two cases for the Oppler-Boas bacilli, and failed to observe them in only three cases. The presence of this organism is therefore an important factor, aiding in the diagnosis.

The test of the peristalsis or motility of the stomach should never be omitted from the diagnosis. In the majority of cases the peristalsis suffers greatly, but in cancers located at the fundus and at the curvatures, the motor power of the stomach may remain normal throughout the course of the disease. There are even rare cases of pyloric cancers in which the motor power may remain intact for a long time.

Absorption: The tests for the absorptive power of the stomach usually give evidence of great reduction in this function. There are, however, many exceptions to this rule, no doubt due to the fact that the gastric

[1] Deutsch. med. Wochenschr., 1893, No. 39.
[2] Berlin. klin. Wochenschr., 1895, No. 37.
[3] Deutsches Archiv für klin. Med., Bd. liv., H. 6, p. 544.

[1] Hemmeter: "Diseases of the Stomach," p. 136.
[2] Wien. klin. Rundschau, 1895, No. 15.
[3] "Erkrankungen des Magens."

mucosa is in a fairly normal condition, notwithstanding the presence of a very circumscribed carcinoma.

Urine: Investigation made hitherto on metabolism and the constituents of the urine have in my opinion not as yet yielded any results of practical value for the diagnosis. Albumin is present in from thirty-five to fifty per cent. of the cases according to F. Müller. Excess of indican is present in from eighty-five to ninety per cent. of the cases.

Blood examinations: These have shown a reduction in the percentage of hæmoglobin and absence of the digestive leucocytosis. Frederick P. Henry has emphasized the fact that in gastric carcinoma the red corpuscles number two to three millions per cubic millimetre, whereas in pernicious anæmia, which most resembles cancer of the stomach, the count is much lower, sometimes less than 500,000.[1] This phenomenon will serve to distinguish these two diseases.

Tumor: Demonstration of a tumor in the stomach is the most reliable evidence upon which to base a diagnosis, but it is not an early diagnostic sign. According to various prominent German surgeons, the presence of a tumor is a contraindication to the execution of a radical operation having in view the total extirpation of the neoplasm. Czerny and Rindfleisch[2] and Kraske[3] argue that gastric cancer should not be radically operated upon after it can once be diagnosed in the form of tumor. It will not be necessary for me, in this short article, to consider the methods of palpation and the mobility of gastric tumor, but I should like to recommend urgently the palpation of the patient, either in a warm bath or under anæsthesia, when a tumor cannot be made out by palpation under ordinary conditions.

**Hypertrophic Stenosis of the Pylorus—Stenosing Gastritis.**—The differential diagnosis between this condition and carcinoma is difficult. W. S. Thayer and Rosenheim have reported cases of benign stenosis that could not be distinguished from carcinoma. A history of very long-standing dyspeptic disease, with alternating improvements and aggravations, speaks for hypertrophic stenosis if the symptoms and anamnesis of chronic gastritis accompanied the development of stenosis. The presence or absence of tumor is of no diagnostic value in differentiating these two conditions. A tumor when present may as well be a benign hypertrophy as a cancer. Repeated and consecutive weighing of the patient is urgently indicated in benign hypertrophic stenosis; there will be more frequent and more lasting improvements, extending sometimes through years. Motor function and stagnation grow progressively worse in carcinoma; in benign stenosis they are amenable to treatment by lavage and diet.

In stenosis due to cicatrix from gastric ulcer there will have been a history of blood in the vomit or stool and presence of excess of HCl in the gastric chyme; if the stenosis is due to hypertrophic gastritis, these signs will not be observed, though normal amount of HCl may exceptionally be met with in the early stages of the latter.

Among all the early signs and symptoms of gastric carcinoma, the dyspeptic symptoms and the evidences of disturbed functions, and the general condition, there is not one fact that is pathognostic for an early diagnosis. I do not assert, however, like Haberkant and Lindner and Kuttner, that in the present state of our knowledge the early diagnosis of gastric carcinoma is entirely impossible.

**Diseases of the Stomach Associated with the Absence of HCl.**—A brief consideration of these will be indispensable in our efforts to reduce the possible sources of error in making a diagnosis. The atrophies that may be associated with the absence of HCl are the following: 1. Apparently idiopathic (Nothnagel and Fenwick). 2. End stages of long-standing chronic gastritis. 3. Gastric atrophies occurring with mammary, uterine, and intestinal carcinoma. 4. With benign pyloric stenosis. 5. With gastric cancer. Achylia gastrica, which has been first described by Einhorn in 1888, means the complete absence of the secretion of gastric juice, not simply of the HCl only, but also of the ferments. So-called anacidity, or achlorhydria, means the absence or loss of HCl, but pepsinogen and rennin zymogen are secreted. Achylia gastrica may be congenital. The existence of so many conditions connected with the absence of HCl secretion is an evidence of the difficulty of utilizing this sign for diagnosis. In Groups 1 and 2, however, the motility is normal; there is as a rule no lactic-acid formation, and the course of the disease is generally a long one. The atrophies described by Fenwick under Group 3 have not been as yet carefully studied as regard to their motility and the presence or absence of lactic acid. Group 4, the benign forms of pyloric stenosis, are very rare, but they can be distinguished by their long, slow course. If, therefore, the history extends over several years, no importance can be attached to the presence of lactic acid. Achylia gastrica is also a disease of long duration; the motility is always excellent, the appearance of the patient is good, and the condition of the chemistry of the stomach is always the same, showing no lactic acid, no ferments, and no HCl.

**Neuroses of the Stomach Associated with Permanent or Temporary Loss of HCl Secretions.**—These conditions are very often perplexing, and might be confused with the diagnosis of cancer, but the presence of hysteria or neurasthenia and the long duration of the disease, together with the result of curetting of the stomach for fragments of mucosa, should make the differentiation possible. Patient observation will eventually detect a period in the course of neuroses when HCl is again secreted normally.

**Gastroscopic Examination.**—Whether the gastroscope will enable us to make an early diagnosis of gastric carcinoma is a very remote problem. Gastroscopy has no doubt made distinct advances during the last ten years, but it is connected with so many difficulties and dangers that the general application of this method cannot be hoped for at present. Mikulicz, Kelling, Rosenheim, Revidzoff, and Kuttner have published their studies on gastroscopic examination of the stomach. After a critical study of their reports one cannot fail to be conscious of discouragement at the absence of practical results. There is still very little promise in this method.

**Electrodiaphany** or **transillumination** of the stomach, according to the method first suggested by Einhorn, may give a suggestion of the existence of a tumor of the anterior gastric wall. But a chance of such a demonstration will be very small. Out of thirteen hundred cases of cancer of the stomach collected by W. H. Welch[1] only thirty occurred on the anterior wall, *i.e.*, 2.3 per cent. In order to cut off the rays of the intragastric lamp a tumor must have a thickness of 1.5–2 cm.[2] These observations have been confirmed by the writer. With a tumor of such dimensions as a requisite, and the extreme rarity of the location of tumors on the anterior gastric wall, I am disposed to consider this method unavailable for the early diagnosis.

**The Use of the X-Ray for Diagnosis.**—The author was among the first to publish studies of the position and size of the stomach for diagnostic pur-

[1] Archiv f. Verdauungskrankh., Bl. iv., S. 1.
[2] Festschrift, gewidmet Theod. Billroth, 1892.
[3] Berlin. klin. Wochenschr., 1894, Nos. 20 and 21.

[1] Pepper's "System of Medicine," vol. ii., p. 561.
[2] Kuttner and Jacobson: "Experiments on Cadavers." Berlin. klin. Wochenschr., 1893, No. 89.

poses.[1] Boas and Levy-Dorn[2] have proposed a method of recognizing strictures of the gastro-intestinal canal by skiagraphy. Capsules coated with an insoluble material and filled with bismuth subnitrate cut off the *x*-rays, and their location can be recognized in the intestines, but I doubt very much whether this method will exactly locate a carcinomatous constriction, because the intestine is not a simple tube, but a labyrinth of convolutions, superimposed upon each other, so that even if the bismuth capsule could be recognized it is absolutely impossible to state whether it is in the stomach or in the intestines, and in what convolution of the intestine it is located.

**Exploratory Laparotomy.**—This diagnostic incision I would warmly recommend in all cases of gastric disease associated with (1) rapid emaciation; (2) absence of free HCl; (3) reduction of proteid digestion under thirty per cent.; and (4) presence of lactic acid by Uffelmann's test or (5) of numerous long baseball-bat shaped Oppler-Boas bacilli. If all of the above signs and symptoms are present in any case, even of short standing and recent beginning of the disease, and no improvement follows three weeks of appropriate treatment, I should feel justified in making the diagnosis of carcinoma of the stomach even in the absence of tumor, and urge an exploratory laparotomy.

There are in my opinion only two methods of making a possible early diagnosis of gastric carcinoma. One is curetting of the stomach, and examination of the cellular detritus and fragments of neoplasm, and seeking for evidence of mitosis, which should always suggest the possibility of a neoplasm; and the second method is exploratory laparotomy following the indications just announced. I differ from Haberkant and the other observers mentioned on the impossibility of an early diagnosis of gastric cancer. This is an altogether pessimistic view, and need not discourage the clinician.

The progress which the physiology, chemistry, pathology, and bacteriology of digestion have made in the last fifteen years, and are still making, strengthens the belief that we will be able to make an early diagnosis of gastric cancer in the near future.

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## THE PARALYSES FOLLOWING GENERAL ANÆSTHESIA.[3]

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As there still seems to exist a misapprehension in regard to the etiology and character of paralytic conditions which are so often manifested after general anæsthesia for surgical purposes, a revival of this topic will not be out of place.

The facts relating to this matter are now so firmly established that it would seem to be a work of supererogation to dwell upon them, were it not that those unfamiliar with the literature of recent years adhere to the exploded doctrine that all of these paralyses are due to the toxic effect of the anæsthetic. The misleading terms "anæsthesia paralysis," "post-anæsthetic paralysis," or "post-operative paralysis," which are still in use, tend to foster such erroneous conclusions, and should, therefore, be dispensed with. In rare instances following anæsthesia, hemiplegia has been known to occur from the rupture of a cerebral blood-vessel, or a monoplegia or hemiplegia of functional (hysterical) type has shown itself.

But in the vast majority, in fact in almost every case, the paralysis is due to a lesion of the nerve trunks, the so-called "peripheral paralysis." It is always the result of direct or indirect pressure upon a nerve or nerves during the administration of the anæsthetic. Of course, we do not include cases in which the nerves are cut or otherwise injured in the field of operation. It is well known by all neurologists that in many alcoholic subjects the vulnerability of the peripheral nerves is sometimes increased to such a degree that a moderate amount of pressure over a nerve-trunk may produce numbness or tingling in its distribution. If pressure is continued, it results in one of the familiar forms of "pressure paralysis," usually involving the musculo-spiral, ulnar, or tibial nerves. Such being the case, it has been assumed that ether or chloroform also produces a toxæmia which diminishes the resistance of the peripheral nerves and renders them more susceptible to external irritation. Such a theory is inadmissible.

Few individuals during consciousness would tolerate the pain produced by persistent and continuous pressure upon the same point over one of the peripheral nerve trunks. While it is generally admitted that in alcoholic and other chronic toxic conditions the nerve trunks are abnormally sensitive, we should not seriously consider acute toxæmia as an etiological factor in cases of peripheral palsy arising as a sequence of general anæsthesia.

The paralysis produced by pressure during anæsthesia is preventable in every instance.

As a rule, it affects the upper extremities, and is occasioned by any of the following conditions:

1. Prolonged elevation and extension of the arms, allowing the head of the humerus to make pressure on the brachial plexus.

2. Metal clamps or tight straps over the shoulders or lower extremities.

3. Extension of the head toward one side, thus stretching the nerve trunks and rendering them still more susceptible to pressure.

4. Placing of the arm under the head and retaining it in the same position.

5. Permitting the arm or leg to hang over the edge of the table, thus making pressure upon some individual nerve.

6. The elbows of the anæsthetizer resting heavily in the clavicular region, pressing upon the brachial plexus.

The serious attention of surgeons should be directed to this class of cases, in view of the fact that such a paralysis may be prevented by the exercise of suitable precautions regarding the position of the patient (and the anæsthetizer) during anæsthesia. Owing to the rather common medical fallacy that a peripheral paralysis always is recovered from in a very short time, and is, therefore, of very little consequence, its real importance to the patient is either belittled or neglected. It should be borne in mind, however, that while some patients get well in a few days or weeks, in many others the paralysis may persist for months or years, and that occasionally it becomes permanent.

Its duration always depends upon the degree of injury to the nerve trunk and the recuperative capacity of the individual.

The patient I now present has a paralysis involving the brachial plexus on both sides. The following history is characteristic of this class of cases:

Miss C. D——, twenty-one years of age, first came under my care on the 29th of last August. She was subjected to the operation of vaginal hysterectomy ten weeks before. Upon recovering from the anæsthesia she was unable to use either arm, the left arm being completely paralyzed. She remained in the hospital about eight weeks. At present the right deltoid is

[1] See Boston Medical and Surgical Journal, April, 1896.
[2] Deutsch med. Wochenschr., 1898, No. 2.
[3] Read in abstract before the New York Neurological Society, October 3, 1899.

weak. The biceps group is markedly paretic. The supinators are feeble. The left biceps group and supinators are paralyzed. The deltoid, triceps, extensors of the hand, and the rotators of the shoulder are markedly paretic. There is some atrophy of the shoulder muscles. There is no objective sensory disturbance. Local tenderness on pressure is found in the region over the internal border of the left glenoid cavity. The paralyzed and paretic muscles are flaccid, and the faradic contractility is lost. The paralysis has persisted over three months. Fortunately she is improving, and is now on the road to complete recovery. Upon personal inquiry at the hospital I learned that during the operation she was in the "Trendelenburg position," with a strap "tightly fastened over the left shoulder.

The brilliancy of a successful abdominal operation is to a great extent neutralized by a preventable paralysis of the brachial plexus which renders the patient almost helpless for several months.

For many years I have seen several cases annually in which the musculo-spiral or other nerves have been paralyzed in this way. Since this patient has been under my care I have learned from various reliable sources that this unnecessary complication is of such common occurrence that it is usually either ignored or simply looked upon as unimportant.

The medico-legal question may arise rather unexpectedly as to the liability of the surgeon in such cases, if it can be proved that due diligence was not exercised in protecting the patient from injury during anæsthesia.

In consideration of the facts herein set forth, it is evident that suitable prophylactic measures should be instituted before the discussion of this subject undergoes transposition from the province of medicine to the arena of jurisprudence.

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## A PSYCHOLOGICAL STUDY OF JURORS.[1]

By T. D. CROTHERS, M.D.,

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The uncertainty of jurors, and the capricious, whimsical character of their verdicts, are accepted as inevitable, and explained as part of the natural weakness of the mind. It is assumed that, if the facts are clearly presented, a jury will give a common-sense verdict, which will approximate the truth and human justice. When they fail, it is due to the confusion of testimony, the misrepresentation of counsel, and the general perversion of facts. Many thoughtful men consider the judgment of twelve men, who are disinterested, superior and on general matters of dispute of far more reliable character than the judgment of one trained man. Yet, literally, the verdicts of twelve men, based on the same set of facts, differ widely, and can never be anticipated; and, whether wise or unwise, are clearly due to other influences than the commonly supposed conflict of facts and motives of truth and justice.

While it would be difficult to doubt the motive and intent of the average juror to be just and fair in his conclusions, it would seem that certain conditions and surroundings make it impossible in most cases either to understand the case in question, or the principles of equity involved. The theoretical and ideal jury to whom are daily referred question of life and death, and often momentous interests concerning families and individuals, is never seen in real life. The delusions of the court room, that the twelve men set apart for this duty are endowed with a large and sufficient mental capacity for the discernment of justice, is far from being true in reality.

From a medical and scientific point of view, the average twelve men who are appealed to by the counsel and judge to determine wisely the issue of a case are usually incompetent naturally, and are generally placed in the worst possible conditions and surroundings to exercise even average common sense in any disputed case.

In a recent noted trial, out of a panel of one hundred jurors, twelve men were finally selected after a long, searching inquiry. Five of them were farmers, who worked hard every day in the open air, men who were unaccustomed to think or reason, except in a narrow way along their surroundings and line of work. These men all swore that they had not read any details of the case, although it occupied a large share of public attention, and had been discussed freely in all the papers. They were muscle workers, with but little mental exercise, living on coarse, healthy food, and sleeping from early evening to early morning. Of the rest of the jury, one was a blacksmith and two were mechanics, all steady workers; one was a horse trader, one a groceryman, one a retired farmer and trader, and the last man was an ex-railroad man who had no business. Every one of this jury was accustomed to be in the open air, and had not read details of the case, although he had heard it talked over. Not one of these men would have been chosen to take charge of any trust, or to decide on any matter outside of his everyday life—simply because, on general principles and from common-sense observation, he would have been clearly incompetent.

For ten days this jury was confined from five to six hours a day, listening to the testimony of the mental capacity and motives of the maker of a will that was disputed. Of course they disagreed; and had they reached a unanimous verdict, its wisdom and justice would have been a matter of accident.

In a celebrated case tried in an interior town in New York, a most complicated chain of circumstantial evidence, involving the questions of concealed motives of unusual acts and conduct, of blood-stains, of the accuracy of chemical and microscopical work, of different opinions of competent men, was submitted to a jury of the following persons: one carpenter, one wagon-maker, three coopers, two farmers, one groceryman, one contractor, and three nurserymen. These men all testified that they had not formed an opinion on the case, although it had been town talk for months. Not one of them could naturally have given an intelligent opinion on any of the issues of the case, even if they had been presented in the most impartial, simple manner by the judge. If two opposite views should be urged by opposing counsel, in an adroit, partisan manner, the most uncertain mental confusion would be inevitable.

This particular jury was not only incompetent naturally and by want of training to discriminate facts which were unfamiliar, but its members were unaccustomed to consider any range of facts compared with others to determine which were true.

In a third celebrated case, a jury composed of four fishermen, two shipbuilders, two stonecutters, one clerk, two merchants, and two persons of no business, was asked to decide on the facts of one of the most mysterious cases of poisoning. A number of expert witnesses and shrewd lawyers extended this case two weeks, and gathered a mass of statements which only the most astute judge could have disentangled. These jurymen were not only bewildered, but were mentally palsied by the appeals of counsel.

The methods of selecting jurors are thus literally open doors for the defeat of the very purposes of justice. The ostensible purpose in the selection of a

[1] Read before the Medico-Legal Society, Wednesday evening, September 26, 1899.

jury is to secure men of honesty, intelligence, and courage; to reach unbiassed conclusions in accord with the facts. In reality the practice is to gather men who can be influenced by the counsel—men possessing some defect and weakness which can be taken advantage of by one side or the other. The issue of the case will depend on the influences which can be brought to bear on the jury. Usually, jurors are rejected when they swear that they have formed an opinion; but when they assert that such opinions are subject to change from evidence and are not fixed, they are accepted. The real qualifications would seem to be availability, credulity, ignorance, and possibility of personal influence by persuasion, flattery, and appeals to some personal bias that may be known. Each counsel is interested in selecting twelve men he can influence to his view of the case, or, in the court language, "men he can handle readily." It is unfortunately true that jury duty is evaded by the best men, and to a large extent the men who are willing to serve in this capacity are more or less incompetent. In the cities, idle men and professional jurors are always available. In country towns, farmers, mechanics, and others find the jury duty a recreation, and a not unpleasant change from the monotony of their life. While these men are superior to the city jurors in honesty, they are less able or accustomed to the confinement of rooms and the emotional appeals of partisans.

It is evident to any general observation that the average jury is unable to pass judgment on, or even to comprehend in any adequate way, many of the questions submitted to it—such as motives and capacity of the mind, the power of control, the analysis of conduct, and the conditions and influences which have been dominant in certain acts; the application of the law, and the distinctions of responsibility and accountability; the distinctions of science as to the meaning of certain facts, or the recognition and discrimination of facts from the mass of statements. To this incapacity are added the passionate appeals of opposing counsel, who draw the most opposite conclusions from the same facts. Then the judge charges that if they shall find such and such conditions to be true, they shall bring in such and such a verdict; and if such and such conditions are not true another verdict must be given. This brings them into a state of the most bewildering mental confusion, from which only the trained judge could extricate himself. The wonder is that they are able to reach any verdict that even approximates the levels of human justice.

These facts are recognized by all observing men, and have been the subject of serious discussion for a long time. It has not occurred to any one to consider the conditions and surroundings of the jury who are to decide the great questions of life and death so often submitted to them. Practically and literally twelve men of uncertain intelligence, and of doubtful capacity and training essential to determine the disputed questions, are placed in the most adverse hygienic conditions for healthy brain and functional activity. Supposing these men to have fair average intelligence with honesty of purpose, they are placed always in a close, badly ventilated court-room, and are obliged to sit in one place for five or six hours a day. In cases of capital crime they are housed at some hotel at night, and have changed diet, changed sleeping-rooms, imperfect exercise, continuous mental strain, and this may be continued for a week, ten days, or even longer. Intelligent and sound brain reasoning would be impossible under these conditions. Even judges, trained to examine and reason from facts along legal lines, display weakness and confusion of mind at the close of a long trial on many occasions.

The practical observation of any jury in some important trial will show after the first day a listless abstraction that slowly deepens into a veritable mental confusion. At times, some one of the jury will appear impressed, but soon settles back into a prolonged, steady, vacant stare at the counsel and witness. As the case goes on the faces of the jurors become pale or increase in redness; their eyes lose their intelligence and become vacant or watery. Some show restlessness in their frequent changing positions of body; others become somnolent and inclined to stolidity; others are constrained, and seem to be struggling to keep up some degree of dignity, and imitate the judge in severity of manner. When the counsel flatters them, they start up anew and assume the appearance of more dignity and wisdom. Every lawyer has many curious stories of the schemes and devices to capture juries and jurors. Many of these turn on the debility and confusion of mind which come from changed surroundings and functional disorders resulting from confinement and mental exhaustion.

After the second day all connected ideas of the case become confused; only here and there some fact impresses itself, or some witticism or story that is strange or grotesque, or some conflict of lawyers, or reprimand of the judges. All the rest is vague and uncertain. The surprise on the faces of the jury, as the judge and lawyers repeat the testimony of the witnesses, shows that it is new, and that they did not hear it at the time it was given. The pleas of opposing counsel often create equal surprise in the faces of the jury. If the jury were to render a verdict after one side had closed, it would be for that side. The same conviction is noted at the close of the arguments of the opposite side. The judge's charge often dispels this conviction for the last speaker, and throws them back into more helpless, confused states. They are told to decide between this and that statement, and if they think this is true, they must find so and so; if that is true, the verdict must be so and so. In reality they have no very clear conceptions of any of the facts the judge has called to their attention. They go to the jury room in a dazed mental state, or possessed with some particular idea that has become fastened in the mind; some idea that has no logical support or sequence in the testimony which has been offered.

The following study of a case that was recently tried indicates conditions that are present far more frequently than would be supposed:

The case was murder, in which an intricate chain of circumstantial evidence pointed to one of three men as guilty. The jury was composed of five farmers, four mechanics, and three merchants. Nine of them were active muscle workers, living in the open air most of the time, and three were actively engaged indoors. The trial lasted eleven days. The jury were boarded at a hotel, and had no exercise except walking to and from the hotel to the court-room three times a day. Four of the jury complained of dull headache. On the fourth day, five of the jury had attacks of indigestion, with pain and nausea. One had chills on the night of the same day, and was given quinine freely. Two men had attacks of what was called rheumatism, consisting of pain and stiffness of the muscles, and a physician was called. Eight suffered from insomnia and constipation after the fifth night. All suffered from bad feeling and dizziness while in the court room in the afternoons. Four had coughs and colds, for which rock candy and rye whiskey were freely used. Several experienced extreme drowsiness in the court room. The arguments of counsel and the judge's charge occupied a day and a half. After the verdict and the discharge of the jury, four of them were confined to bed for several days. Here were twelve men, suffering from functional disturbances due to bad air, changed surroundings, and auto-intoxications, called to decide the issues of life and death.

In a case of murder and incendiarism in which the verdict of the jury was criticised severely, the following were the facts: The jury was composed of farmers, miners, tradesmen, and mechanics. Four of them were sufferers from cough and influenza; six complained of loss of appetite and headache; one suffered from malaria, so called; and one from a return of an old rheumatic attack. The trial lasted eight days, and most of the time the jurymen were practically sick—made so by the surroundings and changed conditions of living. The diet of hotels, consisting of rich meats and desserts in great variety, is usually different from the food of the average juryman, particularly of the working class. The result is always overeating and underexercise. This alone would quickly break up or disorder the mental activities. In addition to this, the confinement in the bad air of the court-rooms brings new sources of poisoning, particularly deficient oxidation, which of itself is sufficient to derange the normal brain functions. The crowded rooms at hotels are either overheated and badly ventilated, or cold and noisy. The time for retiring and rising varies, and the usual habits of the juryman are changed in every respect. His accustomed food, sleep, and exercise, and his manner of thinking and the subject of his thoughts, all are broken up. He is asked to follow an intricate chain of reasoning, and discriminate the errors, and told that this is true and that is true, and that the law should lead him to some other point. He is flattered, and his pride is roused to do the best he can. He grows more incapacitated daily as the evidence accumulates, and his system becomes deranged. Then, in despair, he will suddenly form some conclusion, guided by a fancy for some attorney or some remark by the judge. Perhaps a stubborn member of the jury has formed a conviction on the first day of the trial, and all the rest of the time is passed unconscious of evidence, *pro* or *con*, and in the jury-room his very stubbornness wins.

In a noted murder trial at Portland Me., it was evident that the jury had been impressed favorably to the prisoner. The prosecuting attorney suggested to the sheriff that he invite the jury to church Sunday evening to hear a noted preacher. The topic of the clergyman was "God's Hatred of Sin, and Divine Judgment." The attorney knew the topic and the intense dogmatism of the preacher, and calculated its effect on the jury. A verdict for conviction followed, due almost entirely to the sermon.

The personal characteristics of the jury are often the only doors through which they can be influenced. Religious, political, and social or personal prejudices are often considered by counsel in the presentation of the evidence. In reality, the average juryman becomes more incapacitated to rise above his prejudices, or to reason impartially, every day he is confined to the court-room. At the end of a long trial he is utterly unable to form any new views, and nothing remains but his old prejudices, and these are often more fixed than ever.

The following record of a juryman's experience was made by a carpenter of more than average intelligence. He put down each night his impressions: The first day he was impressed with the magnitude of the case and the sadness of the prisoner. He did not sleep the first night, for the reason that four men occupied one room. The air was bad, and two men snored loudly. The second day he tried to remember all that the witnesses said, and its bearing on the case, and at night was very weary and went to bed early, but was wakened and disturbed by the other jurors. The third day his head ached, and he could with difficulty follow the testimony. His appetite was poor and he was drowsy. The fourth day he was astonished to hear opposing evidence; statements which had been made by apparently honest men were affirmed to be false. He was shocked, and his first impressions and personal interest were disturbed. His head ached, and he felt weak and nervous; his appetite and sleep were broken. The fifth day he gave up all efforts to follow the testimony, or to understand what was said. He felt stupid and excessively tired. The other jurors began to complain of the food and sleeping-rooms, and had several quarrels with each other on religious and political matters. Foolish stories were told, and card-playing and personal boasting filled up the evenings. They all manifested disgust at the trial, and longed for the end, and declared they would never be caught in a similar case. On the sixth day the case was closed. The arguments of attorneys and the judge's charge seemed very dull and wearisome. He felt sick, looked forward to a release, and his interest in the case died out. He could not understand why so much was said that was contradictory, and why the judge should not tell them the real facts of the case. In the jury-room no discussion took place: each one voted "guilty" or "not guilty"; and when they found the majority was "guilty," most of them followed the majority. Two of the minority became angry, and refused to vote for over a day, except in favor of the prisoner. They gave no reasons for their belief, only saying that they were right and the rest of the jury were wrong. Finally, one of these men was accused of having some personal object in voting for the prisoner, and after a short altercation he changed, and the other man followed him, and the verdict of "guilty" was agreed upon.

In my experience as an expert witness I have frequently noted the changes of feelings in a moderate-drinking juror. If the prisoner is an inebriate, and the crime associated with excessive use of alcohol, the first two days of the trial all moderate-drinking jurymen manifest strong feeling for the prisoner. Later, when they become tired, dull, and debilitated by the surroundings, all this feeling changes to severity and desire to punish, no matter what the evidence may be. All natural sentiments of sympathy and kindness are replaced by the coarser, lower motives, as the brain becomes disordered and weakened. If any of the jury have had a similar weakness or committed crime while drinking, they usually urge most severe punishment, and especially after they lose their mental vigor in the bad air of the court-room. In some cases the opposite prevails, and jurors are strangely stubborn in their unreasoning convictions for the prisoner. This is naturally the outcome of placing untrained men in positions which they cannot fill, and requiring of them clear judgment under circumstances in which it is almost impossible to act normally.

## RENAL CASTS—THEIR SIGNIFICANCE AND DETECTION.[1]

By JO. H. LINSLEY, M D.,

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Mr. President and Gentlemen: If any apology is thought due this assemblage for the consideration of such a well-worn theme as that of my text it is to be found in the belief entertained by the speaker, after an experience of nearly twenty years in the chemical and microscopical examination of urine, that in our northern latitudes there is no disease so frequently undetermined in its incipiency as chronic Bright's disease. I refer particularly to that form described under various titles, as chronic interstitial nephritis, chronic productive (or diffuse) nephritis without exu-

[1] Read before the Connecticut River Valley Medical Association, September 19, 1899.

dation, chronic Bright's, cirrhosis of kidney, granular degeneration, chronic indurative nephritis, the arteriosclerotic kidney, gouty kidney, small granular kidney, etc.

This disease occurs frequently about middle adult life, is found in apparently strong, healthy, and well-nourished individuals, and is one of the most insidious of all physical derangements. In the great majority of cases it is well advanced before it is detected, and in many cases even before the advice of a physician is sought.

Among the first symptoms noticed are a tendency to micturate once or twice during the night, slight disturbances of digestion, very slight dyspnœa on exercise. There may or may not be headache, which is not confined to any particular portion of the head. If the person is one of nervous temperament there is apt to be more or less neuralgia in various parts of the body. The urine at this time may be normal in quantity, color specific gravity, and reaction. The amount of urea excreted may be normal or only slightly below the average amount, and the other solids entirely normal. Generally there is no albumin or peptone, although occasionally there is a mere trace ($\frac{1}{10}$ of one per cent. by weight, or less) of the former.

The only sediment observable to the unaided eye is the usual light—nearly transparent—cloud of mucus, which appears just below the middle of the fluid after the urine has stood in a conical glass, or beaker, for an hour or two. After standing in such a glass vessel a few hours—or, better still, after sedimentation with a centrifuge—if some of the sediment is placed under the microscope, and the instrument manipulated as will be described later, a greater or less number of hyaline casts will be seen, generally a few uric-acid crystals and crystals of calcium oxalate, often a few scattering red blood cells, a greater or less number of leucocytes and squamous and possibly some round epithelia. The hyaline casts may be very few in number, not more than five or six being seen in the preparation; but these and the blood cells are of the greatest significance.

As it is the former which I wish to consider in this paper, and as I have often found some confusion in the minds of medical men as to the formation and structure of renal casts, I trust you will pardon me if I briefly refer to the structure of the kidney, or particularly to that portion of it known as the tubules. A renal tubule, as you all know, commences as a small round body—Malpighian body—found in the cortex, commencing just beneath the capsule. This body is approximately $\frac{1}{120}$ inch in diameter and consists of the loop of blood capillaries from the afferent vessel and extending around this loop (except where the blood-vessel enters and passes out), a delicate structure consisting of a basement membrane and a single layer of flat epithelial cells, at a point opposite the entrance and exit of the afferent and efferent blood-vessels respectively is a constricted portion, or neck, after which follow in succession: proximal convoluted tube, about $\frac{1}{600}$ inch; spiral tube, about $\frac{1}{3000}$ inch; Henle's loop (descending portion about $\frac{1}{1200}$ inch, ascending portion about $\frac{1}{800}$ inch); irregular tube about $\frac{1}{6000}$ inch; distal convoluted tube about $\frac{1}{6000}$ inch; arched collecting, larger; straight collecting, larger, excretory ducts, larger. The only portions of this tubule known to possess the power of true secretion are the convoluted, spiral, and irregular tubules. These portions are lined with irregularly triangular cells, having very minute striæ, or channels, running through their longest diameter. They were formerly called the "rodded cells of Heidenhain." All the other cells of the tubules are either flat, nearly columnar, or of shapes intermediate between these two.

It is the pretty generally accepted theory that the lining membrane of the Malpighian body, or Bowman's capsule, acts primarily and principally as a filter, allowing the passage of water in which the sodium chloride and probably some of the other inorganic salts are dissolved, but in its normal condition opposing an effective barrier against the transmission of urea and all organic constituents. The latter are eliminated in the convoluted, spiral, and irregular tubules by a process of true secretion. In health the walls of all of these tubules will allow the passing through them of none of the albuminous constituents of the blood plasma. If, however, there is impaired nutrition, excessive pressure in the area of the renal artery, or any degeneration of the basement membrane or lining cells, these cells may not be able to prevent some of the blood plasma from passing through the walls of the tubules and thus into their lumina. The tendency of blood-serum when forced or passed from the blood-vessels is to coagulate. This is what happens in our uriniferous tubule after the serous exudation, the result being the formation of a plug, which, when washed or flushed out of the tubule by the pressure of the urine secreted behind the obstruction, appears in the voided urine as a small, clear, very slightly refractive cylinder, or hyaline cast. This hyaline cast furnishes the basis, or foundation, for several other varieties of casts, which are named according to the material adhering to—or contained in the substance of—the hyaline cylinder. Thus if small, round epithelial cells are found adhering to the cast it is called "epithelial"; if finer or coarser granules are contained in the cylinder, these adjectives are employed to describe it. In the case of blood casts, if the hemorrhage is an active one the groundwork of the cylinder is composed of fibrin—if of a passive character, of hyaline albuminoid material.

When there is a considerable and rapid exudation of leucocytes into the tubules a plug, or cast, composed practically entirely of these cells is produced. In some septic diseases of the kidneys casts consisting almost entirely of bacteria are seen. Fatty casts are often met with in the acute infectious fevers and in poisoning with some mineral substances, they seeming to be a frequent result of toxæmia.

The following varieties of casts have been found:

Hyaline: Narrow or broad.

Granular: Narrow, finely granular; broad, coarsely granular.

Epithelial: Generally narrow; rarely broad.

Mixed: Epithelial and granular; usually narrow: exceptionally broad.

Blood: If from nephritis, narrow; if from trauma, may be broad.

Fibrin: Of same significance as last.

Pus: May be narrow or broad.

Fatty: Narrow or broad.

Bacterial: Narrow or broad.

Waxy: Narrow or broad.

Cylindroids: An irregular hyaline cast: usually narrow, often somewhat ribbon-shaped, especially at one end.

In considering the significance of the presence of renal casts it is well to remember that these bodies when formed beyond the irregular tubule are never discharged with the urine, as we have seen that the calibre of the ascending limb of Henle's loop is too small to allow of the passage of any body whose diameter is that of the preceding divisions of the uriniferous tubules except the descending limb of Henle's loop.

Much has been written concerning the significance to be deduced from the presence of "broad" casts in comparison with those usually described as "small" or narrow. I believe there are two plausible theories to account for the presence of the larger casts.

The first is that they originate in the excretory ducts, or collecting tubes, the diameter of which is greater than that of the tube beyond; the second that they come from tubules the lining epithelium of which has been desquamated, thus having a tubule whose diameter has been increased by the amount of epithelium removed. It will be seen that either of these views warrants the belief generally held that the presence of broad casts is indicative of a more grave condition than that represented by the small or narrow ones.

Small or narrow hyaline casts: The least significance of the presence of these casts in the urine is renal irritation; the greatest, advanced chronic interstitial nephritis.

Notwithstanding the statement of many medical men whose opinion is generally of weight to the contrary, the occurrence of these cylinders, even if very few in number, should put the physician on guard, and the urine of his patient should be subjected to critical examination at regular intervals until these bodies have disappeared from the renal secretion. I am convinced that many cases of so-called Bright's disease exist for months without detection, simply because a careful microscopical examination of the urine is not made, the chemical analysis of such a specimen being entirely negative.

As one of the common causes of the presence in the urine of small hyaline casts may be mentioned the excretion of uric acid, the irritation of the kidneys by the secretion of the acid producing the exudation of more or less serum through the walls of the tubules. Indeed I do not now recall a specimen in which, when this substance was present, there was not found by careful examination a greater or less number of these casts. And this so-called uric-acid diathesis is, as you well know, very commonly a pre-nephritic condition. I believe if the importance of recognizing and properly treating this state of mal-nutrition—for it is practically nothing else—was more generally observed, we would annually save many lives which now succumb to renal cirrhosis.

Granular casts: These cylinders appear in a variety of conditions, showing all grades of granulation from light finely granular to dark coarsely granular casts. The granules are due to disintegration of the protoplasm of the lining epithelial cells, blood and pus corpuscles, and other anatomical elements. They consequently represent a nephritis of some little standing and also indicate an involvement of the parenchyma of the kidney rather than its stroma, though, of course, both may be and usually are implicated sooner or later, especially if the disease commences as a parenchymatous lesion.

The coarse granules found in this variety of cast are supposed by some to represent the nuclei of epithelial cells which have undergone rapid disintegration, and hence are thought to indicate an acute process. These cylinders ordinarily are not so long as the hyaline.

Epithelial casts are exceedingly important as being positive evidence of an acute parenchymatous inflammation. They may contain dark and fatty granules or leucocytes, and are more resistant to the action of chemical reagents than all other renal cylinders with the possible exception of those of a fatty nature.

Mixed casts are to be considered as having the same diagnostic value as the epithelial ones.

Renal casts composed of blood or fibrin do not prove the existence of organic disease of the kidney, but are to be accepted as perhaps the only reliable evidence of renal hemorrhage. They are found after injuries to the kidney, congestion of that organ, especially if acute, acute diffuse nephritis, hemorrhagic infarct of the kidney, and in malignant growths of the kidney causing a destruction of the vascular walls.

Pus cylinders are comparatively rare and have been described in the books to my knowledge only within a few years. I have seen several cases having this condition. They may be found in multiple renal abscesses, pyelo-nephritis, and, I believe, in almost any suppurative process involving the parenchyma of the organ.

Fatty casts, representing as they do an extremely active degeneration of protoplasm, show either an extreme chronicity or the effect of an active toxic agent, be that agent of inorganic or organic (principally bacterial) origin. In the majority of cases a more or less severe toxæmia will be found to exist.

Casts composed of bacteria may be found in cases of septic nephritis, such as pyelo-nephritis, and are said to be (Purdy) often accompanied by embolism. Their import is grave.

In various infective diseases such as tuberculosis, carcinoma, sometimes in syphilis, and after the ingestion of certain poisons—notably phosphorus—there frequently appear in the urine highly refractive, narrow or broad, short or long, peculiarly indented cylinders—the so-called waxy or amyloid casts. Purdy classifies these bodies with the hyaline variety, but as their significance is entirely different from that variety of casts, I think their importance demands independent consideration. While their name indicates a starchy composition, it is only used to denote the similar reaction with iodine which the substance composing these casts exhibit; starch *per se* never having been demonstrated to occur in them.

Cylindroids: Two classes of these bodies are found in urine: One, coming from the kidneys, is long or short, narrow or broad, but at some portion gives the rounded, cylinder-like appearance characteristic of hyaline casts. Usually, one extremity of these cylindroids tapers to a fine end and has a flat appearance; it is often wavy, or contorted, at this portion. They are generally longer than the hyaline cylinders and have the same significance as these bodies.

The second, probably originating in the ducts of mucous and other glands found along the genito-urinary mucosa, are distinctly ribbon-shaped, or flat, throughout, at no place showing the cylinder-like appearance just mentioned. They have no significance as bearing upon renal disease.

**Detection of Casts.**—Before examining a urine for casts it should either be allowed to stand in a covered conical glass for at least three hours, or, what is better, subjected to mechanical sedimentation in a centrifuge. The latter has the advantage of allowing an inspection of the sediment in a fresh state, an important matter when dealing with a very acid or alkaline urine, and also saves valuable time to the investigator.

Whether obtained by either of these methods, a small portion (a few drops) of the urine from the bottom of the fluid, and which contains the sediment, is removed with a pipette and placed on a clean glass slide. No cover-glass is used in this manipulation. The slide containing the specimen is then placed on the stage of a microscope and a ¾-inch or ½-inch (No. 2 or No. 4) objective brought into the optical axis of the instrument. A higher power of the microscope should never be used for the detection of casts in the urine. The next step, the illumination of the specimen, is so important a procedure that without careful attention to the details of its application no casts will be seen, even though there be hundreds of them on the glass slide under observation. Proceed as follows: reduce the opening in the diaphragm until the specimen is only faintly illumined; turn the mirror, using its concave side, in such a way as to direct oblique rays of light through the slide and objective. The manipulation is extremely simple and can be acquired in a very short time by any one at all con-

versant with the use of the microscope, yet I have seen a surprisingly large number of failures to detect hyaline casts in a urine containing them in abundance, because of the non-observance of the methods detailed.

When hyaline casts are present in a specimen which has been mounted in this manner they appear as sharply defined, somewhat refractive, and perfectly transparent diminutive logs with rounded ends.

After carefully examining the specimen with the low power, a cover-glass may be applied, the superfluous urine removed with a piece of blotting, or filter, paper, and the specimen investigated with a $\frac{1}{3}$-inch or $\frac{1}{5}$-inch (No. 5 or No. 7) objective. In this case more light is needed, and the opening in the diaphragm must be enlarged. The higher magnifying power allows the study of the structure of any casts or epithelial cells, and the detection of pus or blood cells and bacteria, but it should never be employed until after a thorough examination with the low power.

I might call your attention to the fact that in many cases of Bright's disease the patient will void urine which may be free of any evidence of the disease, hence the very great necessity of subjecting a sample of the mixed twenty-four hours' urine for analysis.

As illustrating the importance of a microscopical examination of urine in determining any renal trouble, I will detail the urinary findings and condition of a person under observation at the present time, and which is only one of many similar cases which I have seen:

Male, aged forty years, six feet in height, weight about two hundred pounds, in perfect health up to within a few weeks, when he complained of neuralgic pains in head and extremities, lassitude, some disturbance of digestion; very little anorexia. He complains of restlessness at night. He had no alcoholic or specific history.

Urine, quantity in twenty-four hours, 40 ounces. Color, reddish-yellow; clear; acid in reaction; specific gravity 1.020; total solids, 880 grains; urea 9¼ grains to the ounce, 370 grains in twenty-four hours; chlorides, normal; phosphates, slightly decreased. There was no albumin or sugar. Microscopically were found numerous hyaline, slightly granular, and epithelial casts, a few colored blood cells, a few leucocytes, a few squamous and round epithelia, and a few uric-acid crystals. Since the first analysis, some two weeks since, this has been the average condition of the urine, with one exception when there was the faintest trace of albumin discoverable by ordinary tests. The amount of urea has considerably increased since the first examination, and is now about normal. To all external appearances the urine was a perfectly normal specimen, and unless a microscopical examination had been made as a part of the regular and invariable routine in such examinations, the condition of the kidneys would have entirely escaped observation, and the continued congestion of these organs would almost surely have resulted in interstitial changes in the renal tissue.

**Adenoma of the Breasts.**—The following points were emphasized by Dr. L. A. Balloch (*American Journal of Obstetrics*): (1) Adenomata are not the harmless growths that many believe them to be, and there is a great probability that they may and do become cancerous. (2) The let-alone and do-nothing policy is to be condemned. (3) Medicinal therapeutics, internal and external, are useless. (4) Early recourse to the knife affords a safe and satisfactory method of dealing with them, and will often spare us the mortification of seeing our patients fall into the hands of charlatans.

## Progress of Medical Science.

**Exstrophy of the Bladder.**—Dr. Rudolph Matas (*Journal of the American Medical Association*, July 29th) summarizes his impressions of the operative treatment of bladder exstrophy with special reference to Maydl's operation, as follows: (1) All autoplastic methods proposed for the cure of exstrophy of the bladder are unsatisfactory and, at best, simply palliative. (2) Of all the radical methods which involve an excision of the bladder and a transplantation of the ureters to the rectum, Maydl's operation is by far the most complete, rational, and satisfactory from the technical point of view. (3) Maydl's operation offers the best conditions for the correction of the associated epispadias. (4) Notwithstanding the comparatively large number of successful cases accredited to this method, its relation is not fully ascertained, though the ratio, as obtained from published cases—over thirteen per cent.—establishes the superiority of this method above all others from the prognostic point of view. (5) Notwithstanding the apparent theoretic simplicity of its technique, Maydl's operation is a difficult, laborious, and in many respects a dangerous operation, and should be undertaken only by those who have thoroughly familiarized themselves with its difficulties by special training in abdominal surgery, supplemented, if possible, by experimental work. (6) It should not be applied indiscriminately to all cases, but only to those patients whose general condition is such as to warrant a long, tedious operation likely to be attended by serious shock; and whose eliminating organs, especially the kidneys, are normal and capable of effective elimination.

**Degeneration of Medullated Nerve Fibres.**—G. Monckeberg and A. Bethe detail in the *Archiv für mikroskopische Anatomie und Entwicklungsgeschichte*, vol. 54, 1899, some results by new methods of investigation on the characters of the normal primitive fibrillæ in nerve fibres in various animals and their pathological alterations. By a series of fixation experiments on egg albumen by osmic acid, already more carefully and widely done by Butschli and others, they show that that fixative is an ideal one, in that it shows no peculiar reticulations when treated by other reagents, and hence conclude that it has a like action on nervous protoplasm and thus can give no artefacts. They overcome the difficulties of poor staining qualities following such treatment by some reducing agent. They claim that the axis cylinder of medullated nerve fibres in vertebrates consists of sharply outlined individual primitive fibrillæ and a homogenous perifibrillar substance surrounding them. Every primitive fibril maintains throughout the nerve fibre a uniform calibre and shows no swellings at the nodes of Ranvier. At such nodes the perifibrillary substance is totally absent, and thus it, as a conducting element, has no place. The sheath of Schwann, although it sends down processes at the nodes of Ranvier, is also broken by these in much the same manner that the myelin sheath is segmented. An especial arrangement exists at the nodes to guarantee the isolation of the fibrillæ. The first sign of degeneration in a nerve, following its solution of continuity, is a diminution in the primary staining qualities of these primitive fibrils; following this there results a degeneration of the fibrils themselves. By this degeneration these fibrils form large granular bodies, which break down into smaller ones and are finally absorbed. The previously homogeneous perifibrillary substance shows granular changes. The degeneration does not take place all at one time, but follows regularly from the site of the trauma

toward the periphery and toward the centre. In the peripheral end the degeneration is total, but for the central portion it is only partial, though single fibrils may degenerate throughout. Sensory fibres degenerate faster than motor fibres. The authors could find no distinctions for primary or secondary degenerations. The paper is illustrated with suggestive figures.

**A Method of Demonstrating Fibrillæ in Pathological Specimens of Nerve Tissues.**—The new researches of Apathy and Bethe have brought into prominence the older views of Schultze on the structure of the nerve fibres, and modern histological technique is busy with methods for demonstrating the newer points of view. Bethe describes, in the *Archiv fur mikroskopische Anatomie*, May 19, 1899, a method especially applicable, he believes, to pathological material. He first fixes the nerve fibres, for twenty-four hours, in osmic acid—the strands of fibres should not be more than 1 mm. thick; large trunks should not be used. They are washed in water from four to six hours; in alcohol, ninety per cent., ten hours or more; in water four hours; six to twelve hours in a two-per-cent. solution of sodium bisulphate, to every 10 cc. of which two to four drops of concentrated hydrochloric acid have been added just before using. They are washed again for from one to two hours, then placed in alcohol, xylol, paraffin, and embeded. Specimens should be cut as thin as possible—2 to 3 mm.—and these are then fastened to the slide by an albumin fixative. Staining may be direct or indirect. Direct method: 0.1 per cent. aqueous solution toluidin blue, warmed to 50–60° C., for ten minutes. Wash with water and then fix for a few seconds to a minute in a one-per-cent. solution of ammonium molybdate. Mount in balsam.

Indirect method: Place the slides in 0.25-per-cent. solution of ammonium molybdate at a temperature of 20–30° C. for from five to ten minutes. Wash five or six times rapidly in cold water. Stain with toluidin or methylene blue, 0.05–0.1 per cent., for five minutes at a temperature of 50–60° C. Wash in water, alcohol, xylol, and balsam. The process is simple and comparatively rapid, and gives excellent results, according to Bethe.

**Metabolism and Diphtheria.**—Infective febrile processes are not always accompanied by high temperatures, but when present it is pretty universally admitted that such elevations are due to the toxic action of micro-organisms. Von Noorden, in his "Pathologie des Stoffwechsels," has shown how much there is to be investigated in elucidation of many of the questions of tissue change in such conditions. With the idea to clear up some questions, Noel Paton, J. Dunlop, and Ivison Macadam, in the research laboratory of Edinburgh (*Journal of Physiology*, July 28, 1899) undertook a series of experiments on dogs. The dogs were placed upon a fixed diet for some days to establish a balance in their eliminated products; were then subjected to a one day's fast and then three days again on the same diet, after which a given dose of diphtheria toxin was administered and the metabolism in the normal condition compared with that of the artificially induced febrile condition. The urine and fæces and expired air were collected, and chemical analyses of an extended character were made. The collected results warranted the following conclusions: Under the influence of diphtheria toxin in the dog, there is no interference with the digestion and absorption of proteids. There is a marked increase in the proteid katabolism, probably as a result of a direct toxic action on the protoplasm. There is an interference with the elaboration of waste nitrogen into urea which leads to an increase in the proportion of nitrogen, not as urea, in the urine. No marked increase in the proportion of nitrogen to ammonia occurs. The excretion of uric acid is not manifestly modified. The excretion of sulphuric acid is not increased proportionately to the increased excretion of nitrogen. The total excretion of sulphur bears a fair proportion to the excretion of nitrogen. The neutral sulphur—sulphur not as sulphates—is increased, probably by an interference with its oxidation to sulphuric acid. The absence of an increase in the formation of sulphuric acid probably explains the absence of an increased formation of ammonia. The diminished elaboration of sulphur into sulphuric acid appears to be connected with the diminished elaboration of nitrogen into urea. Both are probably due to to an interference with the hepatic function similar to that already demonstrated to occur in febrile conditions in the manufacture of the bile constituents. The excretion of phosphorus is not increased, but is lower in fasting with fever than in fasting alone. The proportion of phosphoric acid to nitrogen is markedly diminished. This would seem to indicate the absence of any increase in the katabolism of nucleins as compared with other proteids. The absence of any relationship between the phosphoric acid and the nitrogen not as urea seems to militate against the view that the purin bases which contain part of that nitrogen are necessarily derived from nucleins. There is no marked alteration in the proportion of potassium and sodium such as was observed by Salkowski in febrile conditions in man. This may possibly be explained by the different distribution of the two bases in the red blood corpuscles of man and of the dog. The excretion of chlorine is markedly diminished actually, in proportion to the excretion of nitrogen, and most markedly in proportion to the excretion of sodium and potassium. This alteration in the proportionate excretion of chlorine and of these bases raises the question as to the nature of the chlorine compounds of the tissues, and suggests that in the body chloride of sodium may be split up elsewhere than in the gastric mucosa. The question of what acid takes the place of hydrochloric acid in combining with the bases in the urine is not elucidated.

**Soap Cysts of the Mammary Gland.**—Milk and butter cysts of the mammary gland are described, but they belong to the rarer manifestations of pathological mammary developments. Freund describes (*Virchow's Archiv*, 1899, vol. 156, No. 1) a cyst about four by three inches, which on section was found to contain soapy masses. These on chemical examination proved to be real soaps made by the salts of calcium and magnesium, in combination, not with milk or butter, but with the products of a fatty degeneration of the fibro-adenoma, to which anatomical variety the cyst belonged.

**Gangrene of the Lung.**—A. H. Levings (*New York Medical Journal*, October 14th), in an interesting article on this subject, gives the dangers and complications which may arise during, or as a result of, surgical intervention as follows: (1) Suffocation. In any patient having a cavity more or less filled with fluid and in direct communication with a bronchus, there is a real danger of suffocation during the administration of an anæsthetic. (2) Some of the septic material may be inspired, setting up a fetid bronchitis. (3) The danger of shock and the subsequent exhaustion is very considerable. (4) Hemorrhage, both intercostal and pulmonary, may occur. (5) Septic infection of healthy lung tissue as the result of a puncture may take place. (6) Operative interference may be the cause of secondary rapid sloughing, and gangrene of the lung may follow interference when adhesions are absent or insufficient. (7) Pneumothorax and pyopneumothorax. The points he desired to make were these: (1) All

cases of pulmonary gangrene which are progressive and not absolutely diffuse should be operated upon. (2) The gangrenous area should be localized by physical examination, aided by the use of the aspirating needle, and, if necessary, by multiple resection of ribs. (3) In the absence of pleuritic adhesions, the general pleural cavity should be shut off either by a gauze packing or by a row of sutures. (4) After thorough opening and free drainage of the gangrenous cavity it should be daily cleansed by gentle irrigation. (5) The cavity should be tightly packed with iodoform gauze.

**Toxic Erythema.**—Kaposi (*Allgem. Wien. med. Zeit.*, September 19th) relates an instance of death following a generalized purpuric erythema in spots of the dimension of twenty-five and fifty-cent pieces. There were marked prostration and bronchial irritation suggesting that a similar outbreak affected the mucous membrane, since blotches could be seen in the mouth and pharynx as well as upon the conjunctiva. The toxic agent could not be discovered. Death occurred on the tenth day after a slight improvement in the symptoms had been noted.

**Distoma Heterophyes** in a living subject is reported by Dr. Sandwith, of Cairo (*The Lancet*, September 30th). Half a century ago the distomum was found post mortem, and since then little attention has been given the question until 1894, when Dr. Looss wrote upon its occurrence in Egypt. There were no symptoms attributed to this most minute fluke, and the case is reported because of its previously exclusive post-mortem interest.

**The Early Diagnosis of Myxœdema.**—Charles W. Chapman (*The Lancet*, September 30th), regarding the early diagnosis of myxœdema, says: "I will conclude by calling attention to a diagnostic sign in early myxœdema which has proven useful. In chronic renal disease an early sign, when looked out for, is a certain sloppiness of the conjunctivæ which is best observed by pushing up the lower eyelid at the outer angle of the eye. This is known as the 'Bright's eye.' In myxœdema the same condition exists caused by the presence of mucin. When I find the conjunctivæ thus affected without any local cause I invariably examine the urine, and when this fluid is of normal specific gravity and is devoid of albumin I look out for myxœdema. I have more than once been put on the right track by these means."

**The Sequelæ of Iritis.**—Charles D. G. Hailes (*Edinburgh Medical Journal*, October), in an article entitled "The Clinical Aspects of Iritis," says: "The sequelæ of iritis, when treatment has been omitted or begun too late, are: (1) formation of posterior synechiæ binding down the margin of the iris, so that the mobility of the pupil is interfered with; (2) occlusion of the pupil, or filling in of the pupillary space with membrane formed from the inflammatory exudates, causing permanent dimness of vision, but, if incomplete, dangerous; (3) exclusion of the pupil, with iris bombé, not necessarily causing dimness of vision, if the pupillary area be free, but interfering with the escape of fluid into the canal of Schlemm, giving rise to excess of tension, and destructive glaucoma is always to be feared as a further complication; (4) total posterior synechiæ, with cyclitis, is always present, followed by disorganization of the globe."

**Trophic Pemphigus.**—Lalanne publishes an instance of pemphigus in a subject of general paralysis, followed by a suppurating dermatitis. There was a prodromal period and preceding vomiting. An erythematous plaque appeared which became rapidly bullous; at first the fluid was rose-colored, then violaceous, and finally purulent with secretion of thick pus becoming greenish-yellow. The course was progressive with extensive ulceration. Following the outbreak there was an infectious dermatitis (pustules with turbid contents) transmitted to the ward nurse. The pustules after abundant discharge dried up and ended in desquamation of the raised epidermis. Although the patient was regarded as syphilitic, the eruption was believed to be of trophic origin, chiefly for the reason that specific pemphigus is only encountered in young infants, or in the adult occupies the palms and soles.—*Le Progrès Médical*, September 23d.

**Abortion of Uncomplicated Immature Cataract by Combined Manipulation and Instillation.**—Dr. Richard Kalish (*Medical News*, October 14th) summarizes an article on this subject as follows: (1) Immature cataract is due to local conditions dependent upon general systemic causes. (2) Senility is rarely a direct, but may be a predisposing, cause. (3) Fluids containing perverted aliments resulting from defective metabolism supplied to the lens through its nutritive stream may be considered an exciting cause. (4) Deficient blood supply, thus reducing the quantity furnished, may be considered a contributing cause. The following conclusions may be drawn: (1) Immature cataract may be regarded as a largely preventable disease. (2) It may, by properly directed treatment, local and constitutional, be arrested, retarded, or cured. (3) The circulation of the blood must be regulated. (4) The faulty digestion must be rectified. (5) Constant supervision of the eye must be maintained by a competent ophthalmologist, that eye strain may be relieved, and all changes in refraction be promptly remedied. (6) Treatment by conjoined manipulation and instillation should be instituted at the earliest possible moment. (7) Finally, if local and constitutional treatment should not provoke a favorable issue they will establish a more nearly normal state of the ocular tissues, and if an early operation be found necessary, this improved condition of the ocular structures will insure a larger degree of success.

**The Present Position of the Neuron Theory.**—Hoche, of Strasburg, before the annual meeting of German alienists at Halle (*Centralblatt für Nervenheilkunde und Psychiatrie*, vol. 22, 1899), gives a critical résumé of the present status of the neuron theory. He holds (1) that the conception of the neuron, in the full sense outlined by Waldeyer, is no longer tenable; (2) the truth of the fibrillar theories of Apathy and Bethe does not interfere with the embryological data on the individuality of the nerve cell; (3) the histological individuality of the neuron is, in developed vertebrates, no longer to be held; (4) the experiences of human and animal experimental pathology show that there is a trophic and functional individuality in the neuron, even if the evidence for such histological unity is lacking.

**The Testicles and Phosphoric-Acid Metabolism.**—That the testicles are important elements in the elimination of the phosphorus compounds of the body is evidenced by the recent experiments of Schultz and Falk (Hoppe-Seyler's *Zeitschrift für physiologische Chemie*, 27, 1899, p. 250). These observers found that following castration in the dog there was a marked retention in the body of the phosphoric-acid derivatives, as well as marked qualitative changes in that part of the nuclein and nucleo-proteid derivatives eliminated by the urine.

**On the Relation of Epilepsy to Sleep.**—A. Pick, of Prague (*Wiener med. Wochenschrift*, 1899, No. 30), gives some interesting measurements of the blood

pressure during the condition of sleep, and attempts to draw some inferences from them with reference to nocturnal epilepsy. He states that, since two-thirds of all epileptic attacks are apt to occur in sleep (a statement that needs more extensive material, such as is to be found in the Craig Colony statistics, to be accepted), and most of these occur either within the first hour after sleeping or just before awakening, or some in the deepest sleep, plethysmographic tracings of the blood pressure have shown that just at such times there is the least quantity of blood circulating in the vessels of the brain. He further observes that perhaps such a quantitative variation in the amount of blood flowing into the brain may constitute one of the factors that render the bringing about of an epileptic attack probable.

**Renal Semiology.**—Dr. L. Suarez (*Annales des Maladies des Organes Génito-Urinaires*, September) presents a paper in which he states his belief that a large number of chronic catarrhs of the bladder which do not correspond to any of the known causes (prostatitis, stricture, calculus, tuberculosis, etc.) are in reality due to pyelitis, or pyelo-nephritis, of rapid development, giving symptoms worthy of attracting attention. In conclusion he says that in these cases a cystoscopic examination should always be made if it is possible, and if no lesion is found in the bladder the ureters should be catheterized. In suppurative lesions of the kidney, the ureters should be catheterized if possible and the test made of permeability at the same time with methylene blue, reserving the cause and the class of intervention for the moment of operation.

**Vanadium Medication.**—Létienne (*Archives Générales de Médecine*, September, 1899) reports upon the action of the salts of vanadium, and more recently Berthail (Thèse de Paris, 1899) gives his experiences with some one hundred and fifty cases with the preparations of this metal. The salts of sodium, lithium, and iron have been most extensively employed and also the phospho-vanadate of sodium. Berthail concludes that apart from some transitory gastric disturbance and at times a fugitive diarrhœa no harmful after-effects are to be encountered in the use of these preparations. Most of the Lyons observers have found that the best vehicle for these is water, and the dose is about gr. $\frac{1}{6}$ to i. in the twenty-four hours. The indications which are marked are for the treatment of the lithæmic and gouty diathesis and for diabetes. Neurasthenia is also helped. In gout the subacute arthritic pains are markedly relieved, and in diabetes the glycosuria has been known to disappear entirely. The urea is increased, showing the oxydizing action of the drug. The phospho-vanadate of sodium is of especial service in the treatment of neurasthenia. The reports also would indicate that the drug was of limited applicability in the treatment of malaria and of certain skin affections due to poor general metabolism.

**Elimination of Methylene Blue.**—A series of observations were conducted by V. Czyhlarz and Donath on the eliminating powers of healthy and of diseased kidneys (*Wiener med. Wochenschrift*, No. 28, 1899). Eighteen subjects having healthy kidneys were experimented upon, as were also eighteen patients suffering from Bright's disease and three cardiac patients showing albuminuria. In two instances only out of six cases of interstitial nephritis with contracted kidney was there a delayed appearance of chromogen in the urine. Relative to the prolonged elimination of phormogen, it is found to be frequent in all forms of nephritis, but is also observed in other affections in which the kidneys have not been implicated.

**Central Neuron Endings.**—Semi Meyer (*Archiv für mikroskopische Anatomie*, July, 1899) contributes a careful study on the manner of nerve termination in the central nervous system. He believes that the old Gerlach reticulum has some place in modern histology, with modifications. In the light of recent work of Golgi and Cajal with the intra-vitam methylene blue method, supplemented by some observations here made, he holds that the ending of the nerve fibres about nerve cells is more complicated than was formerly held, and that it is probable that a nerve fibre comes in contact with the body of a nerve cell and spreads about it and completely encompasses it about with fine processes. He states that the neuron theory, in the Waldeyer sense, still holds, and the continuity of fibrils, as claimed by Apathy and Bethe, is not yet by any means proven.

**Convulsions in Infancy.**—After a consideration of the frequency, etiology, pathology, and treatment of convulsions in infancy, Gossage and Coutts (*British Medical Journal*, August 19, 1899) submit the following conclusions: The frequency of convulsions in infants has been vastly overrated. The immediate danger of a fit has been overrated, while the danger as regards future neurotic manifestations has been underestimated. Predisposing causes are of much more importance than the exciting causes; slighter exciting causes will not produce convulsions except in predisposed infants. In the attack the clothing should be loosened and the child laid on its back, with the head slightly raised. Inhalations of chloroform or of amyl nitrite may be practised, chloral and bromide injected into the bowel or a small dose of morphine beneath the skin. Subsequently bromides or borax should be employed systematically.

**The Relation of Hæmochromatosis to Bronzed Diabetes.**—Opie (*Journal of Experimental Medicine*, vol. iv., Nos. 3 and 4) reports a case of hæmochromatosis, from a study of which, in conjunction with an analysis of the literature, he arrives at the conclusion that hæmachromatosis is a distinct morbid entity, characterized by widespread deposition of an iron-containing pigment in certain cells, and an associated formation of iron-free pigments in a variety of localities in which pigment is found in moderate amounts under physiological conditions. With the pigment accumulation there occur degeneration and death of the containing cells, and consequent interstitial inflammation, notably of the liver and the pancreas, which become the seat of inflammatory changes, accompanied by hypertrophy of the organ. When chronic interstitial pancreatitis has reached a certain grade of intensity diabetes ensues and is the terminal event in the disease.

**The Morbid Anatomy of Tuberculosis in Childhood.**—As the result of observations made in two hundred and sixty-nine cases of tuberculosis in children, Still (*British Medical Journal*, August 19, 1899) concludes that the commonest channel of infection with tuberculosis in children is through the lungs. Infection through the intestine is less common in infancy than in later childhood. Milk, therefore, is not the usual source of tuberculosis in infancy, perhaps owing to the precautions taken in boiling, sterilizing, etc. Inhalation is much the commonest mode of infection in the tuberculosis of childhood, and especially in infancy. The overcrowding of the poorer population in the large towns is probably responsible for much of the tuberculosis of childhood, and prophylaxis must be directed to the prevention of this overcrowding, the improvement of ventilation, and the inculcation of the extreme importance of fresh air during the earliest years of life.

# MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 51 Fifth Avenue.

New York, October 21, 1899.


## THE TREATMENT OF TETANUS BY INJECTIONS OF CARBOLIC ACID.

AN article upon the above subject appeared in the New York *Medical Journal* of September 9th, contributed by Dr. Flavel Woods, of Philadelphia. A case is cited in which, by means of large doses of carbolic acid administered hypodermically, a satisfactory recovery from tetanus was made, and Dr. Woods is of the opinion that carbolic acid used in this manner is a far more reliable curative remedy than any serum at present in use. However, many eminent scientific men are of one mind with Dr. Woods on this point, and testimony as to the efficacy of carbolic acid has been forthcoming from several different quarters for a considerable time. The treatment, in fact, is generally known as that of Baccelli, he having been the first to advertise to the world its excellent results. In the article on tetanus by Babes, in the seventeenth volume of the "Twentieth Century Practice of Medicine," that distinguished authority speaks in very high terms of the injection of carbolic acid as a remedial agent in tetanus, and describes the history of its first use and of his own experience in regard to its beneficial properties as follows: "Injections of carbolic acid were first recommended by Baccelli, on the strength of a cure obtained in a very grave case of tetanus. . . . Through the marked success of experiments on animals suffering from tetanus by carbolic acid, I was induced to try Baccelli's treatment, which, according to Italian observers, at first furnished good results, but is becoming obsolete, probably on account of the modern specific treatment. I am nevertheless constrained to mention it, as it has given me such good results. We will see that the statistics of the antitoxin treatment do not show any better results. As a result of my experience, I feel justified in urgently advising the injection of a carbolic-acid solution in all cases in which the tetanus antitoxin cannot be obtained."

This is the method employed by Babes: A half-per-cent. solution of carbolic acid is injected along the spinal column beginning at the neck, in doses of 5–10 gm. (℥ i.–iiss.) every two hours.

In the MEDICAL RECORD of September 17, 1898, is published an extract from the *Accademia Medica* of Rome, telling of the mode in which Ascoli carried out Baccelli's treatment. Ascoli injected subcutaneously 0.03–0.04 gm. of carbolic acid in the form of a two- to three-per-cent. solution, so that the patient received 0.35 gm. per day.

Comparing this treatment with that by serum injections, the *Accademia* publishes these statistics:

Baccelli's treatment, 1 death in 30 cases; Tizzoni's serum, 8 deaths in 40 cases; Behring's serum No. 1, 4 deaths in 11 cases; Behring's serum No. 2, 2 deaths in 9 cases. Lieut.-Col. W. G. H. Henderson reports in the London *Lancet* of June 3, 1899, that he has treated in India both human beings and horses with carbolic acid with marked success. Of twenty patients treated with 2 ♏ of carbolic acid in 20 ♏ of water three times a day seven recovered. Kitasato has demonstrated that carbolic acid acts as an anæsthetic, then as an antiseptic, and as an antidote to the toxin of tetanus. Dr. Woods recommends the use of carbolic acid in large and heroic doses, and argues from the recovery of the case under his care that it is effective only when administered thus, premising—and probably correctly—that if given boldly and as early as possible, so that the system may be quickly and completely saturated, its antiseptic properties will be manifest in the blood. Nevertheless this point will require further and more decided confirmation before it can be accepted as proven, especially, too, in face of the excellent results referred to above, and which were effected in a number of cases by the use of comparatively small doses of weak carbolic-acid solution. It is well that attention has been again called to a remedy which has in the past given such good results in the treatment of tetanus, but the merits of which appear to have been disregarded in the prevailing craze for serum therapy.

## GLYCERINIZED VACCINE LYMPH.

THE prevalence of smallpox of late in various portions of this country, though greatly to be deplored, has at least afforded excellent opportunities of testing the merits of glycerinized vaccine. In Great Britain opinions are unanimous as to its superiority over any other kind of lymph, and this view would seem to be shared by those physicians who have used this new mode of preparing vaccine in America. Dr. Albert Barnes, of Philadelphia, has thoroughly investigated the matter by means of statistics by letter and by personal inquiry, and the result has been that the testimony in favor of glycerinized vaccine was convincing. In Baltimore conservative estimate places the number of successful takes as ninety-five per cent. in primary cases. In Minneapolis there was a proportion of ninety-five per cent. successful takes in primary cases, and seventy-five per cent. in secondary cases. Reports of a like nature come from every portion of the country. Dr. Barnes draws the following conclusions from his investigations:

This investigation proves conclusively that the recommendation of the United States Marine-Hospital service, that "glycerinized vaccine only should be employed," is well substantiated by experience, because:

(1) Properly prepared glycerinized vaccine is pure

and free from staphylococci, streptococci, and other pathogenic organisms which are invariably found on vaccine points.

(2) Glycerinized vaccine affords absolute protection against smallpox; vaccine points are uncertain in this regard.

(3) Vaccination with the glycerinized products does not cause excessive inflammation of the vaccinated area. Cellulitis and inflammation of the lymph vessels and glands, amounting at times to abscess formation, is a not infrequent sequence of the use of vaccine points.

(4) Vaccine points are apt to lead to a false sense of security, inasmuch as they induce a local staphylococcic or streptococcic infection which is entirely distinct from true vaccination. Such a result is not protective against smallpox.

(5) A high estimate of successful takes from vaccine points is by these and numerous other reports shown to be not over sixty per cent. in primary cases and a much lower percentage in secondary cases.

(6) Glycerinized vaccine has been officially adopted by the governments and health authorities of the United States, Great Britain, Germany, France, Russia, and Belgium. It should be universally adopted in private practice.

## DISCUSSION OF THE PLAGUE IN BRITISH LAY JOURNALS.

The British journals, both medical and lay, are naturally devoting a considerable portion of their space to a consideration of the plague, and are eagerly debating the possibility of its gaining an entrance into Great Britain. As may be well imagined, agreement on this point is by no means unanimous. Some altogether pooh-pooh the idea as a fantasy of the wildest nature, and aver that even if a case or two is brought into the country, there is no more likelihood of its becoming domesticated than of a prairie fire occurring in the early spring. On the other hand, there are those who contend there is no accounting for the vagaries of the plague, and assert that if it once made a lodgment in the poor districts of some of the large cities it would find a congenial home. One of the most thoughtful papers on the plague yet published was that read by Professor W. J. Simpson, at the annual Congress of the British Sanitary Institute at Southampton. Professor Simpson, although not a pessimist, does not regard the position of Great Britain in reference to the plague as absolutely safe, and thinks it will not be advisable for the inhabitants of the United Kingdom to "live in a fool's paradise." He says: "Since its advent plague had caused in India over two hundred and fifty thousand deaths, the worst feature being its annual recurrence. Poona was but recently in the throes of its third epidemic, over one hundred and fifty dying per day. If a similar mortality prevailed in London the metropolis would lose over ten thousand persons a day. The mortality in Poona was all the more serious, as from a personal inspection of the town he could state that, if inefficient drainage be excepted, which allowed of waterlogging of the soil, it was no worse as regarded sanitation and overcrowding than hundreds of towns of similar size in Europe, and was certainly in a much better condition than many. The reappearance of plague in Egypt after fifty years, with its extension into Portugal, was a matter of profound interest, because it indicated that this plague from China partook rather of the nature of a pandemic than an epidemic, and possessed that which other plague epidemics for nearly the last two hundred years had lacked, namely, the quality of diffusiveness which defied the precautions even as revised by the Venice conference and hitherto adopted against its progress." We are of the opinion, as has been stated in former numbers of the Medical Record, that the plague has but little chance of appearing in epidemic form in Great Britain, but the truth must be confessed that the poorer sections of many of the large towns—for example, the Whitechapel and Bethnal Green portions of the East End of London—with their narrow, dirty, and overcrowded streets, might provide a suitable condition for the propagation and dissemination of the disease. The bacillic origin of plague is now recognized as settled. The bacillus is able to live and multiply in dirt outside the human body, and can, after being cast out of those attacked by the disease, exist for periods of varying length in dirt, and this fact undoubtedly partly explains why it is that the dwellers in uncleanly localities are more liable to plague infection than persons of the better class.

Plenty of ventilation and of fresh air will probably go further toward checking a plague epidemic than any other means. In the case of Great Britain, however, it is certain that stringent measures will be taken to prevent the disease from even entering the country.

## SEMI-TEMPERANCE SALOONS IN GREAT BRITAIN.

The English papers record the opening of a new saloon (public house in England) at Grayshot in Hampshire. In itself this is not so unusual an event as to justify notice even in the last week of August. What gives it interest is the exceptional character of the house. The "Fox and Pelican" is a fresh experiment on lines originally suggested by the Bishop of Chester, and already in operation on a small scale under the control of an association of which he is president. The object of the association is to turn saloons into refreshment rooms to push the sale of food and non-intoxicating drinks, in comparison with that of alcohol, and to exact from the customers a stricter observance of order and decency. The association and its kindred houses mean to wage war with drunkenness and rowdyism, while giving decent people, whether workers or wayfarers, all that they can get at a saloon and something more besides. The way in which they mainly hope to secure these ends is by enlisting the interest of the manager on their side. He is charged for alcoholic drink the full retail price, and on non-alcoholic beverages he is charged such a rate as to enable him to make a profit of twenty per cent. He has

a positive inducement, therefore, to push the consumption of the latter, and none at all to push the consumption of the former. Add to this that he is paid a good salary, and is constantly urged by his employers to be very strict in keeping order and in refusing to serve drunken people, and we have the main particulars of the scheme. This plan reminds us somewhat of tea saloons recently established in New York; the only difference is that in the New York tea saloons no alcoholic beverage is sold at all. But at any rate the object is the same, and it goes to show that the tendency of the times is, in both Great Britain and the United States, to restrain as much as possible the drinking-habits of the people.

## News of the Week.

**Overcrowding in a Hospital.**—So extensive is the number of inmates in the Pennsylvania State Hospital for the Insane at Norristown that of the eleven hundred and three male patients six hundred and eight are compelled to sleep in the corridors and on mattresses on the floors.

**Tuberculosis in Alaska.**—The captain of a steam whaler recently arrived in San Francisco reports that a disease resembling acute tuberculosis is prevailing among the natives in many parts of Alaska. During his stay at Point Barrow, from August 14th to September 7th, there were nineteen deaths, and during a few hours that the ship was at Cape Bathurst three of the Indians died.

**"Contract Doctors" in the British Army.**—Owing to the folly of Her Majesty's "military advisers," the medical service of the British army is inadequately supplied, and the authorities have been obliged to employ a number of civil practitioners. They are not paid a fixed salary, but receive compensation at the rate of four shillings per annum for every person in the command to which they may be assigned. It is said there is no dearth of applicants for these poorly paid jobs.

**A Large Drug Store.**—The pharmacy of K. I. Ferrin, at Moscow, Russia, is thought to be the largest in the world. Two hundred and ninety-three men are employed in the wholesale and retail departments. As many as twelve hundred prescriptions are put up in one day. If poisonous drugs are used in putting up a prescription, the checking of weights is done by a weigher specially employed for that purpose.—*The Medical Age.*

**The International Conference on Syphilis,** which was held at Brussels in September, accomplished little or nothing in the way of mitigating the evil of this disease, though it was prolific of resolutions. Those resolutions were (1) to urge upon governments the absolute suppression of juvenile prostitution; (2) to take steps for the organization of an international society of sanitary and moral prophylaxis; (3) to urge upon university authorities the establishment of obligatory courses in venereal diseases; (4) to provide for the protection and moral training of orphans; (5) to secure the execution of all laws looking to the punishment of men or women who live upon money earned by others by prostitution; (6) to secure the appointment of a commission in each country to collect statistics regarding the frequency of venereal disease, institutions for the treatment of these diseases, and measures best adapted to the repression of venereal diseases; (7) to secure the general dissemination of knowledge regarding the danger to health of syphilis and other venereal diseases, and (8) to secure a uniform basis for the arrangement of statistics of venereal diseases in the various countries of the world.

**Relics of Volta.**—Among the few relics of Volta saved from the burning down of the Como electrical exhibition are the original Voltaic pile, about twenty manuscripts and some autograph letters, a few books from his library, and about fifty drawings, paintings, and medals.

**The Smoke Nuisance.**—Two men were fined this week in the court of special sessions for burning soft coal, the charge having been brought by the board of health. This is a most encouraging beginning. There are several chimneys very near the building of the Health Department which pour forth black smoke daily, and we would commend the persons responsible for this to the kind offices of the health officials. One of the chimneys is connected with a power house, another with a newly built club house. Here is an excellent opportunity for the chastisement of sinners in high places.

**Typhoid Fever at Newport.**—The newspapers report the occurrence of a mild epidemic of typhoid fever among the naval apprentices at the training-station in Newport. Up to October 11th, there were sixteen cases. The patients are in the naval hospital on Coasters' Harbor Island. There are about three hundred and fifty apprentices at present at the station. In the city of Newport there are only six or eight cases of typhoid fever. Nine years ago there was an outbreak of the disease at the training-station and several deaths occurred.

**The Plague.**—There has been a slight recrudescence of the plague in Oporto, some eight or ten new cases being reported daily. The disease has appeared in North China and on the Ladrones Islands. A steamer arrived at Plymouth, England, on October 14th, from Bombay with one of the crew ill with the plague. The disease developed only a few days before the arrival of the vessel at Plymouth. It is announced that Lord Curzon, Viceroy of India, and his staff will shortly visit the districts where the people are suffering from famine and the bubonic plague. Before leaving Bombay they will be inoculated with the anti-plague serum.

**Fire at the Loomis Sanatorium.**—The administration building of the Loomis Sanatorium in Liberty, Sullivan County, was entirely destroyed by fire at noon on Saturday last. Very few patients lived in that building, and they were all out at the time the fire

broke out. Very little of the furniture and other contents of the building was saved. This building, known as the Loomis Memorial, was a stone structure, the gift of Mr. J. P. Morgan, and was built some years ago. In addition to the administration building there are nine cottages and a casino, none of which was injured. The house that was burned was used as a residence for the physicians, and in it were also the dispensary and dining-hall in addition to the administration offices.

**Typhoid Fever from the Thousand Islands.**—The death from typhoid fever of several persons, and the illness of a number of others who summered at one of the large hotels in the Thousand Islands, have been reported to the State board of health from Syracuse, Auburn, and other places. An investigation will be made of the sanitary condition of the hotel.

**Diphtheria in Newark.**—The board of education and the board of health of Newark are at loggerheads regarding diphtheria in two of the schools. It is said that the schools are in an insanitary condition, and the health officers threaten to close them unless the board of education makes the necessary repairs and alterations. There have been eleven cases of diphtheria in one of the schools and fifteen in the other.

**Three Aged Physicians.**—Drs. v. Hochberger, of Carlsbad, and Nieberding, of Vasel, near Oldenburg, recently celebrated the completion of their seventieth year as practising physicians. The first is ninety-six years old and the second ninety-four. Dr. Kohlschmitt, of Oldenburg, is, however, the dean of German medical men, having begun practice over seventy-one years ago, but he is younger than either of the other two, being but ninety-three years old.

**Typhus Fever on Shipboard.**—The German steamship *Aragonia*, from Antwerp, which reached Philadelphia on October 11th, brought two passengers suffering from typhus fever, and the body of one dead from the same disease. The latter was a Russian, who embarked at Libau, where typhus is epidemic. Through the neglect of some one the facts were not made known to the authorities until after the passengers had been landed. The names and residences of six of the passengers who reside in New York City have been given to the board of health, and the health officers have taken the necessary precautions to prevent the spread of the disease in this city.

**Public Funds for Private Charities.**—At a recent meeting of the board of estimate and apportionment the plans of Comptroller Coler for a more equitable distribution of the funds of the city to charitable institutions came up for consideration. These plans include the making of all donations from the budget to the exclusion of the excise and theatrical funds; the payment of a uniform rate of $2 a week for the maintenance of children over two years of age, and thirty-eight cents a day for infants; the abolition of lump-sum payments to hospitals, and the substitution of a uniform rate of $1 a day for surgical cases and seventy cents a day for medical cases; the limitation of the amount paid by the city to be fifty per cent. of the amount received by institutions from private sources; a gradual reduction of appropriations in support of homes for the aged; the discontinuance of out-door relief, and the placing of all institutions on the same footing as regards the receiving of pecuniary aid from the city.

**Typhoid Fever at the Virginia Military Institute.**—Owing to the prevalence of typhoid fever at the Virginia Military Institute in Lexington, the superintendent has furloughed the entire corps of cadets for thirty days. The corps numbers two hundred and fifty young men from all parts of the United States.

**Gift of a Hospital Ship to Great Britain.**—The Atlantic Transport Company, which gave the United States government a ship for hospital purposes during the war with Spain, has now done Great Britain a similar service in offering the *Maine* free to the government. The Admiralty has accepted the vessel.

**The Yellow Fever** at Key West is gradually dying out, apparently because the number of susceptible individuals is being reduced. There are ten or twelve new cases daily, and the mortality is slight. Santiago threatens to quarantine against Key West and Havana because of the arrival at that port of several steamers with yellow fever from those places. There has been no case of the disease in the province of Santiago since the beginning of this month. A dispatch from Madrid says that the *Gaceta Oficial* of that city has published an order of quarantine against all vessels arriving from New Orleans, as a precaution against yellow fever.

**Two States at Law Regarding Quarantine.**—The attorney-general of Louisiana is about to institute proceedings before the supreme court of the United States at Washington praying for an injunction in the name of the State of Louisiana against the State of Texas, to restrain the latter from interfering with the commerce of Louisiana by her quarantine restrictions imposed on account of yellow fever in New Orleans. The suit was brought at the demand of the merchants of New Orleans, who complain that Texas has kept in operation an embargo against Louisiana since May that is unreasonable and unjust. There have been several of these quarantine wars between the Southern States during the last three years, notably between Alabama and Mississippi, and between Louisiana and Texas, but this is the first time that the quarrel has been carried into the Federal courts.

**The Clinical Society of Maryland.**—At the first meeting of the season of the Clinical Society of Maryland, held at the hall of the Medical and Chirurgical Faculty on Friday, October 6th, the following officers were elected for the ensuing year: *President*, Dr. James M. Craighill; *Vice President*, Dr. W. J. Todd; *Recording Secretary*, Dr. H. O. Reik; *Corresponding Secretary*, Dr. Nathan Herman; *Treasurer*, Dr. N. R. Gorter; *New Member of Finance Committee*, Dr. J. W. Lord; *Executive Committee*, Drs. Henry B Jacobs, W. S. Gardner, and J. R. Abercrombie.

**Navy Department,** Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending October 13, 1899. October 6th.—Medical Inspector J. A. Hawke promoted to medical director. Surgeon P. A. Lovering ordered to the Mare Island navy yard. Surgeon D. O. Lewis detached from the Mare Island navy yard and ordered to the *Iowa*. Surgeon M. H. Simons detached from the *Iowa* and ordered to Washington, D. C., October 23d, for examination for promotion, and then home to wait orders. October 9th.—Surgeon L. W. Atlee detached from the *Solace* and resignation accepted. Passed Assistant Surgeon C. P. Bagg detached from the *Pensacola* and ordered to the *Solace*. Passed Assistant Surgeon J. E. Page ordered to the *Pensacola*. Assistant Surgeon W. M. Wheeler detached from the *Solace* and ordered home to wait orders. October 12th.—Medical Inspector C. A. Siegfried detached from the torpedo station, Newport, R. I., October 17th, and ordered to continue in charge of the naval hospital, Coasters' Harbor Island, R. I. Surgeon J. M. Steele ordered to duty at the torpedo station, Newport, R. I., October 17th.

**Insects in Relation to Foot-and-Mouth Disease.**—At the recent congress of veterinary surgeons at Baden-Baden, Dr. Hecker, of Halle, maintained that foot-and-mouth disease can be carried from the sick to healthy animals by flies and other insects.

**The New Brunswick Medical Society.**—At the annual meeting of this society, held at Fredericton, N. B., July 19, 1899, the following officers were elected for the ensuing year: *President*, Dr. William Bayard, of St. John; *First Vice-President*, Dr. R. L. Botsford, of Moncton; *Second Vice-President*, Dr. T. F. Sprague, of Woodstock; *Treasurer*, Dr. Foster McFarland, of St. John; *Corresponding Secretary*, Dr. B. M. Mullins, of St. Mary's; *Recording Secretary*, Dr. W. Leonard Ellis, of St. John. The next meeting will be held in St. John, N. B., in the summer of 1900. The meeting of the Maritime Medical Society will be held at the same time and place.

**A Young Boer Surgeon.**—Paul Hendrick Krüger, a nephew of President Krüger, is a recent graduate in medicine of the University of Edinburgh, where he won the Syme surgical scholarship.

**American Public Health Association.**—The twenty-seventh annual meeting will be held at Minneapolis, Minn., Tuesday, Wednesday, Thursday, and Friday, October 31st, November 1st, 2d, and 3d.

**A Physician Heavily Mulcted.**—A verdict for $13,092 was given on October 14th at Reading, Pa., against Dr. John Edge, as damages for the result of a surgical operation upon a woman; $8,092 to the patient herself, and $5,000 to the husband for the loss of his wife's services.

**American Electro-Therapeutic Association.**—The ninth annual meeting of the American Electro-Therapeutic Association was held in Washington, D. C., at Willard's Hotel, on September 19, 20, and 21, 1899. The convention was very successful in point of attendance and interest and a number of papers of scientific value and importance to the medical profession were read and discussed. The programme included thirty-six papers and the reports of seven standing committees on scientific questions relating to the medical application of the electrical current with the best electrical apparatus extant. The proceedings of the convention will be found in their annual Transactions, to be published at an early date. The officers elected for the tenth year are: *President*, Walter H. White, M.D., Boston, Mass.; *First Vice-President*, D. Percy Hickling, M.D., Washington, D. C.; *Second Vice-President*, Charles O. Files, M.D., Portland, Me.; *Treasurer*, Richard J. Nunn, M.D., Savannah, Ga.; *Secretary*, George E. Bill, M.D., Harrisburg, Pa. The next annual meeting will be held in New York City on September 25, 26, and 27, 1900.

**A Reception to Drs. Keen, Osler, and Fitz.**—A reception will be given by the New York State Medical Association to Drs. Keen, of Philadelphia, Osler, of Baltimore, and Fitz, of Boston, on Wednesday evening, October 24th, at the Academy of Medicine.

**Clinical Lectures on Diseases of the Skin.**—Dr. L. D. Bulkley will, on Wednesday, November 1st, begin his second course of clinical lectures on diseases of the skin in the out-patient hall of the Skin and Cancer Hospital, Second Avenue and Nineteenth Street. The lectures, which are free to the medical profession, will be given each Wednesday at 4:15 o'clock.

**Obituary Notes.**—Dr. John H. Cochran, a prominent physician of Harford County, Maryland, died on October 10th, at the age of sixty-six years. He graduated at the University of Maryland in 1860, and at the time of his death was surgeon for the Philadelphia, Wilmington and Baltimore Railroad. Dr. Cochran was mayor of Havre-de-Grace in 1892.—Dr. William Ralph McAdam, Assistant Surgeon Marine Hospital service, died of yellow fever at Key West, Fla., on October 12th. He was born in Mercer, Pa., February 23, 1870. His father was a chaplain in the United States army. Dr. McAdam was a graduate in arts of the Iowa Wesleyan University and in medicine of Jefferson Medical College of Philadelphia in 1897. He was appointed an assistant surgeon in the Marine Hospital Corps August 3, 1898, and was assigned to command the Marine Hospital at Key West, February 25, 1899.—Dr. James Campbell, of Hartford, Conn., died on October 17th at the age of fifty-one years. He was a graduate of the Medical Department of the University of Vermont in the class of 1871. He was for several years professor of obstetrics and gynæcology at the Yale Medical School, and last year was appointed lecturer on life insurance. He was also president of the Hartford board of health.—Dr. David C. Card, of Willimantic, Conn., died at his home there on October 16th, after an illness of several weeks, aged seventy-four years. He was a graduate of the New York University Medical College in the class of 1850, and had practised in Willimantic for thirty years. He is survived by a widow and one son.

# Society Reports.

## MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

*Proceedings of the Twenty-fifth Annual Meeting, Held in Chicago, October 3, 4, 5, and 6, 1899.*

### MEDICAL SECTION.

(Continued from page 571.)

Dr. Charles T. McClintock, of Detroit, Mich., presided. He read a paper on "Enzymes and Immunity," in which he deduced the fact that the enzymes are unorganized ferments and are directly responsible for immunity.

**Recent Physio-Chemical Researches as to the Physiological Action of Lecithin and Other Phosphorus Compounds.**—Dr. L. H. Warner, of Brooklyn, read a paper with this title. He said that by means of numerous experiments he had demonstrated that the organic phosphorus compounds were tissue builders, performing an important part in the tissue metabolism, especially in the causation of subsequent changes in the animal cells and controlling the formation of tissue. No abnormal conditions resulted if the food contained a sufficient amount of lecithin, phospho-carnic acid, and other phosphorus compounds. The most beneficial results followed their use, and they therefore were indicated in the treatment of all wasting diseases. Lecithin was always found in mother's milk, in lesser quantities in cow's milk, and rarely ever in the artificial foods for infants; hence their inefficiency. Organic phosphates, lecithin, and phospho-carnic acid were necessary in order to maintain perfect health. These salts were derived from any of the body tissues, and especially from beef when they were to be added to any artificial foods.

**Quinine in Some Phases of Malaria.**—This paper was by Dr. William B. Burns, of Deckerville, Ark. The author was of the opinion that malarial and typhoid fevers were never found present in any one individual at the same time; furthermore, he made the positive statement that any fever which did not yield to the proper administration of quinine was not malarial, and if typhoid had been excluded by diagnosis, the condition was due to an auto-intoxication. He cited one case of malaria developing marked purpura hemorrhagica and hæmoglobinuria, which responded readily to quinine and tincture of perchloride of iron. Another case simulating pneumonia, with the hæmatozoön present in the blood, however, also yielded to alterative treatment and quinine. Symptoms of abnormal renal function, such as albuminuria and hæmoglobinuria, so often found in malarial cachexia, completely disappeared after the use of quinine. He had not been able to demonstrate the malarial organism in any stage of development in the mosquito, although he found an abundance of pigment, but not of the malarial variety. He administered quinine in doses of from gr. iii. to v. every three hours, for from twenty-four to forty-eight hours, beginning at the commencement of the decline of the fever, as the plasmodium at this time was less capable of resistance and phagocytosis was at its best. In malarial cachexia quinine should be administered in doses of from gr. iii. to v. three times daily, preferably on a full stomach, in order to avoid tinnitus and nervousness. Relapses might be prevented by doses of gr. x. on the fifth, sixth, and seventh days at bedtime.

Dr. L. H. Warner, of Brooklyn, remarked that Dr. Burns made a rather bold statement by saying that any fever which did not yield to quinine was not malarial. Quinine was a poison only to the full-grown germ, but did not kill the spore; consequently, if it was given even for thirty or forty days, it killed the germ, but the spore escaped, and it might for years lie dormant until a favorable moment arrived for it to develop and produce a new paroxysm. The amount of chlorides in the blood constituents and in the blood plasma exceeded the total amount of sulphates and chlorides. The parasite attacked the red blood corpuscle and destroyed it. Now, if there was a superabundance of chlorides, the corpuscles were not destroyed; therefore we must use chlorine, and it would destroy not only the organism but its spores as well. In cases coming from the hot-beds of malaria the patients were dosed with quinine up to gr. xl. at a time, and still the parasite grew, but as soon as the patients were put under treatment with quinine simplex plus chlorine, or chlorine plain, there was neither organism nor spore left. He thought that chlorine was one of the most important factors in the treatment of malaria, and it might be used alone or with quinine plain, but not with the sulphate.

Dr. T. B. Greenly, of Meadow Lawn, Ky., mentioned that in the good old times they did not give quinine until the fever was modified. They bled, purged, and salivated, but gave no quinine. In many cases the patients were far gone when the time arrived for the administration of quinine. This finally forced him to the conclusion that if quinine was good for fever, it was good while fever was present as well as when it was not. After regulating the bowels with rhubarb, he administered the quinine. With this method he had lost only one case in a period of over six months, and that was a case of the congestive variety. In every instance he effectually combated malaria by the administration of quinine.

Dr. Warner mentioned having had a case of undoubted typho-malarial fever in which were found both the malarial organism in the quartan form and the typhoid bacillus. After the patient's death the question arose between Dr. Warner and Dr. Sternberg as to how to make out the death certificate, as both germs had been present. Under the existing circumstances during the last war, and also during the Civil War, there were undoubtedly cases in which there was a combination of malaria and typhoid, and the term "typho-malarial fever" would be the proper one to use, as both germs were found present.

**The Successful Treatment of Graves' Disease as an Auto-Intoxication.**—This paper was read by Dr. Charles L. Minor, of Asheville, N. C. After reviewing the various theories of the etiology of Graves' disease, and especially the thyrogenic theory, he reported two cases which he treated on the supposition that the disease was dependent on an intestinal auto-intoxication. A positive cure resulted in one of them. He based his belief on the constant presence in excess of ptomaines in the intestine, and their violent effects on the system and especially on the gastro-intestinal tract. The treatment consisted of a strictly regulated diet, in which the starches, sugars, and table dainties were cut down to a minimum or entirely eliminated, with rest at first, followed by carefuliy graded exercises, and good hygiene. Medication consisted of the administration of the lactate or albuminate of iron, anti-ferments at meal time, with an occasional mercurial purge and intestinal lavage, to which the author had given the unique name of "liver wash." Large quantities of water were used at a temperature of 102° F., and were retained one-half hour. This increased the liver activity, and all the emunctories were stimulated, thus effectually eliminating all toxins. Lavage was continued at intervals for over a year, and in one case was followed by an apparently complete restoration to health, except for a slight, almost imperceptible, prominence of the thyroid. The second case, while

still presenting objective symptoms, was entirely free from any subjective symptoms.

Dr. George W. Webster, of Chicago, remarked that the treatment at present was based on an increased activity of the thyroid gland with altered secretion, which acted on an unusually nervous system. He referred to a reported case which had been treated by injections of bile as high as gr. c. a day on the supposition that bile acted as an antiseptic. A cure resulted. At the same time he called attention to the fact that nearly fifty per cent. of these patients get well without any treatment whatever; others by surgical means, and still others by means of various medicinal agents. This did not furnish any clew, however, as to the real cause for the increase and perversion of the thyroid activity. Dr. Minor's paper established a primary cause in at least two cases, and his paper must therefore be considered as an important contribution to the study of Graves' disease.

Dr. Hugh T. Patrick, of Chicago, did not agree with the essayist in that the poisons generated in the intestinal tract, and which were absorbed from it, played any part in the causation of Graves' disease. These noxious substances from the bowel were etiological factors only in so far as were alcohol, syphilis, over-exertion, etc., in any other disease, and to draw conclusions from only two cases was a practice which was not to be recommended in medical research. Proper care must be given to the intestinal tract in any disease, and the numerous investigators on this subject had as yet not been able to adduce anything which might be considered as a positive proof that auto-intoxication of the intestinal tract could have any bearing as a cause of Graves' disease. After briefly referring to the various methods of treatment, the speaker mentioned one case which had been subjected to every known treatment without avail, and the patient was finally taken home in a very serious condition. All treatment was discontinued, and inside of three months the patient had perfectly recovered.

Dr. Minor, in closing, stated that he did not intend to use these two cases as an argument for all cases of Graves' disease, but intestinal auto-intoxication he believed to be one of the primary causes of the affection, and it certainly was worth while to give this condition of the bowel proper attention, as it had been almost entirely overlooked by previous investigators, who laid most stress on shock, fright, dietetics, etc.

**The Treatment of Pulmonary Tuberculosis by the Inhalation of Antiseptic Nebulæ.**—Dr. Homer M. Thomas, of Chicago, read a paper with this title. Nebulization was supportive only, but was of great value as a secondary factor in the treatment of tuberculosis. It aided in establishing a barrier around the tuberculous area by stimulating cellular structure to resist the germs and their toxins. The beneficial effects of nebulization were: (1) to control the cough; (2) relief of dyspnœa; (3) intimate contact of the nebulæ with much of the respiratory cavity; (4) inhibition to the extension of the tuberculous foci. The cough was best relieved by tincture of stillingia and beechwood creosote with a lavolin base. For dyspnœa he gave expectorant combinations with carbonate of ammonia, syrup of squills, and prunus virginiana, with lavolin for a base. Various other remedies were mentioned, and special attention was called to formalin in from four- to twenty-per-cent. solution, depending upon the patient's ability to stand a weak or strong solution. The nebulæ penetrated wherever the air did, and were by means of phagocytosis conveyed through the blood and lymphatics to the tuberculous overgrowth. While the nebulæ did not reach the encapsulated tuberculous area, they inhibited extension of the disease. The atmosphere of the room as well as the respiratory passages must be saturated with the medicament. Clinical experience having proven the value of vaporized medicaments in tuberculosis, further trial and investigation were justified.

Dr. T. B. Greenly, of Meadow Lawn, Ky., stated that he had for some time past been using a mixture of formaldehyde and ammonia with the most salutary results. The ammonia enabled the patient to bear more of the formaldehyde vapor, and the system thus became more rapidly immune to the toxins of the tubercle bacillus. He had lately been using urotropin, a combination of formaldehyde and ammonia, and inside of ten to fifteen days it thoroughly disinfected the sputum, and it was absolutely free from bacilli. This treatment, with the addition of tonics, increased the patient's appetite, the cavities healed more rapidly, and a speedy recovery resulted. Urotropin acted equally well in bone tuberculosis. He also used in phthisis iodine and theobromine with massage twice daily, so as to get the action of the iodine in the circulation without imposing on the stomach. Perfect satisfaction had followed this treatment in his experience of over one hundred cases of tuberculosis.

Dr. Charles L. Minor, of Asheville, called attention to the fact that a combination of formaldehyde and ammonia destroyed completely the action of the former, and therefore the good results which Dr. Greenly obtained could not have been due to the inhalation of formaldehyde. He expressed his gratification that Dr. Thomas regarded the inhalation of medicated vapors as an adjuvant only. In his experience patients who inhaled simply the air around them did as well as though medicated vapors had been used, and pure air had the advantage of producing no irritation whatever.

Dr. J. M. Patton, of Chicago, congratulated the essayist on the conservative view taken of the therapeutic effects of inhalation of medicated vapors. Neither inhalation nor the injection of different oils into the respiratory tract had given any definite results so far as a cure was concerned, which really could not be expected in view of the existing pathological changes. Councilman had demonstrated a collateral zone of congestion around the tuberculous area, which contained no tubercle bacilli, but had sufficient circulation to admit of absorption and poisoning. These areas prevented anything from reaching the tuberculous area itself. The failure of serum therapy demonstrated the futility of reaching these areas through the circulation; nevertheless beneficial results followed the use of these measures, as they lessened the cough, diminished bronchial secretion, and improved the respiratory function. In chronic bronchitis great good followed the use of vaporization, as anything that would lessen bronchial secretion would correspondingly lessen the danger of secondary infection from the tuberculous areas. As to the possibility of considerable good arising from the absorption of the vapor through the bronchial membranes into the system, Dr. Thomas was illogical.

Dr. Thomas, in closing, expressed his gratification at hearing the good results which Dr. Greenly had had with formaldehyde and ammonia. Inhalation was advocated only as an adjuvant, the only value, if none other, being in the deep breathing which it excited and the psychical impulse created in the use of nebulæ, which was not the case when air was used. This effort at deep breathing was very much to be desired in the impaired respiration of tuberculosis. The author expressed the belief that "we were strong in medication, and weak in therapeutics."

**Do We Need to Think?**—This paper was read by Dr. William O'Neal Mendenhall, of Richmond, Ind. He presented a report of a peculiar case of hereditary nervous diarrhœa in a young man, indirectly caused by a fall of the mother producing a fracture of the coccyx. Treatment consisted of strychnine,

to act as a nerve tonic, and ergot to act on the circular muscle fibres of the bowel, with regulation of diet and hygiene. A complete recovery resulted.

**The Evils; Their Causes and the Remedy that will Edify Medicine in the United States.**—Dr. A. M. Osness read this paper. He said that the evils were held to be "mushroom schools," antagonistic pathies, overcrowding in the profession, lack of scientific spirit among medical teachers, undue ostentation, and unscrupulous intrigues in the profession. The causes of these evils were, first, paltry remuneration for professional services; second, the fallacy of a profitable notoriety. The author suggested as a remedy the regulation of schools and professorships; obligatory interneships of all who were graduated; conditioning that diplomas should be revocable for unprofessional conduct; charity hospitals to be under the supervision of medical men; the encouragement of strictly prescription pharmacies.

Dr. William F. Barclay, of Pittsburg, Pa., felt that there was an implied disparagement of the American physician. He was of the opinion that physicians in this country compared favorably with those educated abroad, and that our schools and colleges were equal to any and superior to many of the foreign schools. We had the advantage over the foreign physician in understanding thoroughly our own language, but that ought not to be offered as an excuse for any disparagement of American physicians and American institutions. Much that the essayist had said was worthy of appreciation, and especially his reference to charity work, as it was difficult to know just where charity ended and imposition began. The points about the dispensing pharmacists were well taken, but much had been done to lessen the demand for proprietary medicines by placing them in the general stores at the least rates. The question as to how to remedy all these evils was a very difficult one to solve, and would consume too much time.

Dr. E. M. Epstein, of Chicago, remarked that in his experience he had found that all American physicians are very well received in Europe. The only remedy for all the evils portrayed by the essayist in his estimation was to have representation in the Cabinet of the President of the United States, by a secretary who is to be appointed or elected irrespective of politics. Then physicians would have some one to speak for them and to look after their interests.

Dr. John Punton, of Kansas City, Mo., believed the remedy rested with the physicians themselves, who must enter politics and be willing to go to the legislature to demand the rights which were due the medical profession, and as long as this was not done they could not expect to be recognized by the government.

Dr. C. M. Skinner, of Hartland, Wis., speaking for the pharmacists, said that they had been forced by the doctors to resort to counter prescribing, as, in the majority of instances, the doctors used their own medicines and even went so far as to dispense hot-water bottles, syringes, etc.

Dr. C. J. Lewis, of Chicago, agreed with the essayist that it was impossible for a scientific investigator to be engaged in any commercial pursuit at the same time. Physicians certainly ought to have a supervising mind in the Cabinet at Washington, and only in this way could their many professional evils be remedied.

**Two Cases of Typhoid Fever with Unusual Complication in Very Young Children.**—This paper was read by Dr. E. B. Montgomery, of Quincy, Ill. The author reviewed the literature on typhoid fever occurring in infancy and childhood, and reported two cases. One, in an infant of nine months, presented symptoms simulating a tuberculous meningitis, recovery taking place on the twenty-third day. The second case developed a suppurative parotitis about the twenty-fifth day with aphasia. After surgical treatment of this condition recovery resulted on the forty-fourth day. A search revealed but three cases in which there was involvement of the submaxillaries. He also mentioned one unreported case which occurred in the practice of Dr. Rook, of Quincy.

Dr. J. O. Malsbury, of Peru, Ind., believed that typhoid fever in infants under six months was more common than was generally supposed, and that cases were often wrongly diagnosed, being termed "catarrhal fever." A very important diagnostic point was to determine the proximity of typhoid in the neighborhood, or whether it had existed in the family some months prior to the present case. This had occurred in his practice several times.

Dr. Archibald Church, of Chicago, believed that meningeal symptoms were very common in typhoid, but were taken too much as a matter of course, and little attention was paid to them. It had been proven by culture experiments that the typhoid bacillus or its product entered the cerebral cavity. A certain amount of cerebral disturbance was expected in every case of typhoid, and it was the symptoms which made the diagnosis between typhoid and meningitis a difficult one. In the case presented there was no doubt an invasion of the cranial contents, the same as occurred in the intestines and elsewhere. That recovery took place after a severe invasion was proven by noting the percentage of recoveries from typhoid with marked cerebral symptoms.

**Further Observations on the Treatment of the Abdominal Viscera through the Colon.**—Dr. Fenton B. Turck, of Chicago, read this paper. It was a very interesting one, and the author dwelt particularly on the importance of colonic lavage in the treatment of all diseased conditions of the bowel. He explained his method very fairly, illustrating it by a series of experimental reports.

Dr. William F. Barclay, of Pittsburg, expressed himself as being very much opposed to the indiscriminate injection of large quantities of water into the bowels. He was pleased to learn that Dr. Turck used only a small quantity of water, as large quantities had in his experience proved injurious. He especially condemned the use of syringes, as they destroyed the muscular tone of the bowel, and a constipation was set up which was almost irremediable. Cathartics, too, were unpleasant to use, but cathartic medication in conjunction with regulation of diet was to be recommended.

Dr. T. Wertz, of Evansville, Ind., saw no reason why the bowel should not give out the same as any other organ. Many persons were incapacitated for business on account of constipation, and from the constant use of cathartics their stomachs had become irritable, so that they were obliged to resort to water enemas. In cases in which there was a paralysis of the bowel or insufficient peristalsis, water enemas were the remedy. Many lives had been prolonged by the use of food enemas when the stomach was non-retentive and needed a rest.

Dr. C. J. Lewis, of Chicago, thought that there was a general agreement at the present time that the saprophytic bacteria in the intestinal tract were the cause largely of appendicitis. Colonic lavage facilitated diagnosis, as we needed only to unload the bowel of its accumulated bacterial infection in order to make possible more accurate palpation of the appendix and thus determine its condition of inflammation.

Dr. Thomas J. Schuell, of Parnell, Ia., for many years believed himself to be the originator of colonic lavage in the treatment of appendicitis. The usual idea was to unload the cæcum, but by using water at 110° F. it would not only unload the cæcum and colon, but it would at the same time excite the peristalsis of

the cæcum as well as the appendix. Many cases of appendicitis were due to impaction of the colon producing paralysis of the muscle fibres and the formation of a ball-valve action of the cæcum, and by means of a slight shock, such as jumping, the fecal matter was forced into the appendix, and bacterial decomposition set in, with inflammation, necrosis, and pus formation. Colonic flushings should be given every three or four hours for the first twenty-four to thirty-six hours, and after four or five flushings beneficial results were very apparent.

Dr. Turck, in conclusion, emphasized the value of using the colon as a means of treating the abdominal viscera. It was not the quantity of water so much as the temperature which procured the characteristic reaction. Hot water drew out the water from the intestines, and the originally injected quantity was thus increased. The temperature raised the body temperature two or three degrees, and like cold was a vasomotor stimulant. Fecal matter was a normal stimulant to peristalsis, and the same effect could be produced by artificial stimulants. This could be done by means of small quantities of water, and when it was desired to produce gymnastics of the bowel hot air was urged, and it acted on all the abdominal viscera at the same time as a stimulant.

**A Case of Complete Hernia of the Pregnant Uterus, in a Xpara.**—Dr. W. V. Anderson, of Toledo, Ohio, reported this case. After thirty-six hours' duration of labor examination revealed separation of the recti muscles with a complete uterine hernia, the fundus reaching to the knees. The uterus was freely movable and the os was dilated. Contractions were good but ineffectual, owing to the position of the uterus; expulsion was interfered with by constriction of the cervix. Under anæsthesia the uterus was returned, the forceps applied, and a living baby was delivered without any difficulty.

**Pathogenesis of Functional Nerve Diseases and Its Prophylactic Indications.**—This paper was read by Dr. John Punton, of Kansas City, Mo. In the pathogenesis of nervous diseases heredity stood foremost, as the results of injurious living on the part of the parents were often transmitted to the offspring. Pathological changes were produced in the blood, which acted on the nervous system in such a manner as to cause actual disease. In certain nervous diseases the red blood corpuscles disintegrated and the plaques were much multiplied. Good diet and tonics tending to improve the system and the condition of the blood speedily restored health. In this connection the study of sociology ought to claim earnest attention, as it was a most important factor in the causation of nervous diseases.

Dr. Philip Zenner, of Cincinnati, thought that much could be done to lessen the tendency to the development of diseases of the nervous system when hereditary influences existed, by taking proper care of the child from the time of birth. He believed that the essayist was too optimistic as to the condition of the blood being an etiological factor, although improvement of the system was essential and productive of good results. The mental condition of the patient must also be improved by suggestion.

Dr. Daniel R. Brower, of Chicago, made it a routine practice to ascertain the exact condition of the blood in all cases of diseases of the nervous system. With the improved methods of investigation which we now had, there was absolutely no excuse for any one to overlook this important factor, any more than to neglect to make a urinary examination. A knowledge of the exact state of the blood materially aided the treatment of diseases of the nervous system.

Dr. J. A. Witherspoon, of Nashville, Tenn., believed that a child born with neurotic tendencies should receive especial care at the time of teething and at the period of puberty, when the nervous system was subjected to exceptional strain and irritation. This was especially true of girls, in whom a crisis was often precipitated by an overcrowding of their minds at school, during the development of their nerve force, by the taking away of blood from the genital organs, and by faulty hygienic surroundings. All depressing influences and critical periods had an important bearing in neurotic patients, as they impoverished the blood.

Dr. William Oldright, of Toronto, Can., called attention to the improper hygienic conditions existing in our schools and colleges. Improvement of these conditions would materially lessen the occurrence of blood and nervous diseases.

Dr. Punton, in closing, regretted that every advance in medicine was met by more or less opposition, and he expected his blood theory of nervous diseases to share the same fate, only to be subsequently acknowledged, just as several other of his theories had been in recent years.

**The Association of Hysteria with Organic Diseases of the Nervous System.**—Dr. Philip Zenner, of Cincinnati, read this paper. He said that organic diseases of the nervous system often followed hysteria, but were frequently obscured by the hysterical manifestations. Diagnosis was facilitated by noting the personality of the patient, the relation of symptoms to organic diseases, and the clinical picture presented. Prominent among these were hysterical temperament, stigmata of disease, anæsthesia, paralysis, contractures, and visual changes. In hysteria special attention must be given to globus hystericus and concentric contraction of the visual field. In organic disease, the alteration of the deep reflexes, rigid pupils, and the reaction of degeneration must be noted.

Dr. Albert E. Sterne, of Indianapolis, discouraged the practice of informing patients of their real condition, if at all serious, as it often led to serious results. They should be told only so much as was necessary to gain their intelligent co-operation in the treatment of the disease with which they were afflicted.

**Temperament and Its Influence.**—Dr. Albert E Sterne, of Indianapolis, read this paper, in which he divided temperament into the acid, alkaline, and neutral varieties, each one of which caused diseases peculiar to itself. This study was still in its infancy, but was one of vast importance in its relation to diseases of the nervous system, and was deserving of further investigation.

Dr. William F. Barclay believed that there was more in the theory of temperament than was at present appreciated.

**Bacteriological Diagnosis in all Diseases of the Conjunctiva and Cornea.**—Dr. J. O. Stillson, of Indianapolis, read this paper, in which he set forth the importance of the bacteriological diagnosis in all diseases of the conjunctiva and cornea. Water curettage was advocated in certain ulcers of the cornea. A small stream of either sterilized water or antiseptic solution was thrown against the cornea with sufficient force to dislodge the necrosed epithelium and clean out the ulcer. This method had been found salutary in the hands of the author.

Dr. Dudley S. Reynolds, of Louisville, favored the curette in the treatment of persistent ulcer of the cornea, as this was an infection and required antiseptic treatment. The best antiseptic in his opinion was carbolic acid, applied carefully with the point of a needle so as not to puncture the posterior layer of the cornea.

Dr. Stillson found that the carbolic acid had a tendency to burrow into the layers of the cornea and cause serious separation of these layers, and it was for this reason that he adopted the water curettage.

**Intestinal Auto-Intoxication, Its Prevention and Treatment.**—This was the title of a paper by Dr. W. F. Barclay, of Pittsburg. The author deduced the following conclusions: Daily evacuation of the bowels would prevent decomposition of matter in the intestines, and subsequent auto-intoxication. Rectal injections of water, for the purpose of producing a bowel movement, or for cleansing the bowel, were not approved of, but cathartics were recommended, especially calomel, papoid, salines, saline mineral waters, cold baths, etc. Proper food, at regular intervals, was important.

**Indigestion in Infants and Children.**—Dr. James H. Taylor, of Indianapolis, read this paper. He discussed the causes of indigestion, such as improper food and over-feeding. The treatment consisted in washing out the stomach, ridding the alimentary tract of all irritating matter, and then regulating the diet and time of feeding. He insisted on absolute rest. Medicinal treatment was not so essential. Tincture of nux vomica and arseniate of copper were given.

Dr. Albert D. Sterne attributed the sclerotic change in the blood-vessels of young men to intestinal auto-intoxication. As to the feeding of infants, and even adults, milk, being absorbed and not digested, should always be given alone, and at frequent intervals.

Dr. Henry B. Favill, of Chicago, mentioned the importance of properly using the terms auto-intoxication and auto-infection, as they were not synonymous, and should not be used in that sense. Products of imperfect metabolic activity, such as uric acid, xanthin, etc., he classified under the term of metabolic intoxications.

Dr. J. O. Malsbury, of Peru, Ind., believed that if the system was kept well flooded with water, both inside and out, constipation would rarely result. This was demonstrated in the case of people who were accustomed to drinking large quantities of water, as they were never constipated. If intestinal auto-intoxication existed, the tract should be cleaned out with calomel, and then kept clean by withholding all food. A weak infusion of ordinary tea was to be given, as it was astringent, stimulating, and satisfied the want for food. The best food for infants was cow's milk, well diluted, and mixed with lime-water and a little sugar of milk. Milk should never be boiled, as it destroyed the efficiency of the milk. Plenty of water must be given in the intervals.

Dr. Charles L. Minor, of Asheville, N. C., believed that the use of water by mouth or per rectum should be encouraged in all cases of intestinal fermentation. It stimulated all the emunctories and the liver functions, thus relieving the system of the products of improper metabolism.

Dr. R. E. Haughton, of Richmond, Ind., indorsed the use of water in intestinal intoxication, as it regulated blood pressure, thus preventing decomposition. He took exception to the term metabolic auto-intoxication, as metabolism was a physiological function and not a pathological one.

Dr. Thomas H. Stucky, of Louisville, was a firm believer in colonic lavage, as cathartics would not empty a bowel which had been in a state of rest for some time. He believed in the use of water internally, externally, and eternally, except during meals. Auto-intoxication would never result when food was properly prepared and properly eaten, and the alimentary canal was in a clean condition. The best eliminant was three to four quarts of saline solution, to be repeated as often as necessary.

Dr. James T. Jelks, of Hot Springs, Ark., took exception to Dr. Barclay's reference to the intoxication present in typhoid-fever patients as a result of micro-organisms, for if this was true we would have to resort to the antiseptic treatment in order to destroy these germs. While the germs might start in the intestinal canal, they were rapidly disseminated all through the system, and it was futile to attempt to combat such a fire with a small dose of an antiseptic. Phagocytosis was the real element with which to fight this affection, and it can be done only by the free use of water.

Dr. Barclay said he had learned from experience that the continued use of syringes was detrimental to health.

**Lithiasis.**—This was the title of a paper by Dr. R. Alexander Bate, of Louisville, in which the author, after referring to the etiology and symptomatology, concluded by saying that the only proper treatment of this condition was the free use of salicylates and alkalies.

**Nephrolithiasis.**—Dr. A. H. Cordier, of Kansas City, Mo., read a paper bearing this title, in which he dwelt especially on the clinical diagnosis and treatment of this disease.

**The Therapeutics of Infectious Conjunctivitis.**—Dr. Dudley S. Reynolds, of Louisville, read this paper. He advocated irrigation with saline solution. He condemned caustic applications, believing they were often responsible for many of the disastrous sequelæ and deformities following infectious conjunctivitis.

**Introversion of the Iris.**—Dr. L. W. Bearsdley, of St. Louis, read a paper on this subject.

**The Study of Lung Reflexes.**—The last paper in this section was contributed by Dr. Marian K. Bowles, of Joliet, Ill. She called attention to the fact that examination of the lung should be made more frequently in cases that were clearly not of lung disease, for it often cleared up the diagnosis, as some trifling cause might excite reflex contraction of the fine muscle fibres. This was especially important in life-insurance examinations.

## NEW YORK NEUROLOGICAL SOCIETY.

*Stated Meeting, October 3, 1899.*

Frederick Peterson, M.D., President.

**Cerebellar Tumor.**—Dr. W. B. Noyes presented a boy of five years who had been well up to last June. At that time he had had an obscure illness which had been diagnosed by the attending physician as an auto-intoxication. He had remained unconscious for two days. During July he had been in fair condition. In August it was noticed that he staggered when walking. When sitting down he could move his legs, but there was absolute ataxia. There was a slight spastic condition of the legs which interfered with properly obtaining the knee jerk. Ankle clonus could be occasionally elicited. There were no sensory disturbances of any sort. His mental condition was becoming slowly worse. Examination of the eyes showed papillitis with hemorrhages over the disc. The pupils were dilated and did not respond to light. There had been neither headache nor vomiting. The case was presented as probably one of cerebellar tumor. The speaker said that it was not impossible that the sickness which had occurred last June might have been a meningitis; it was also possible that there was a hydrocephalus.

Dr. George W. Jacoby said that he had been impressed with the general laxness of the body and the bending forward of the thorax. This general loss of muscular tone made him believe the diagnosis of cerebellar tumor to be correct.

Dr. Hughes, of St. Louis, said that while the case suggested cerebellar tumor, it seemed to him not im-

probable that there had been a cerebro-spinal meningitis, and that the present condition was the result of this meningitis.

Dr. Edward D. Fisher inclined to the view that the case was one of cerebellar tumor, although admitting the force of the statement of the last speaker.

Dr. Noyes said that he thought the condition of the eyes alone seemed competent to settle the question of the diagnosis. He had been unable to find the report of a case of hydrocephalus producing optic neuritis, although it might cause optic atrophy when very far advanced. The case was evidently progressing rather rapidly now.

**Brachial-Plexus Pressure Paralysis.**—Dr. William M. Leszynsky presented a young woman having a brachial-plexus paralysis affecting both arms, the result of pressure (see page 583).

Dr. Fisher said that these cases of pressure paralysis were quite commonly observed after operations, as, for example, for appendicitis, but he had never before seen a case in which both sides had been involved. Negligence in attending to the position of the arm during operation was often responsible for such paralysis.

Dr. Fraenkel said that while many cases of post-operative paralysis had been reported, it should be remembered that in some the paralysis had been ascribed to the ether, although in others the influence of pressure had been definitely shown. This made it difficult to hold the surgeon liable in many instances.

Dr. G. W. Jacoby said that the various cases had been recently tabulated, and the conclusion had been reached that all the paralyses could be explained only by pressure. The consensus of opinion at the present time seemed to be that the ether could not give rise to this form of paralysis. Surgical assistants were often very negligent about these matters. For example, he had found an assistant making hypodermic injections of ether and brandy in a case of collapse, directly over the musculo-spiral nerve, and the ensuing paralysis he would have found difficulty in explaining had he not seen these injections being made. Again, he had known it to be positively asserted that there had been no pressure, and yet he had personally seen the etherizer resting his elbows heavily over the patient's clavicles.

Dr. Frederick Peterson said that he had seen even the peroneal nerve affected in this way after ether narcosis. In every case that he had investigated he had found that there had been a possibility of the paralysis having been produced by pressure. The question was of great importance, for he believed it would be perfectly possible for such a paralyzed patient to collect damages from the surgeon on account of such negligence. Nearly all the pressure paralyses occurring at night developed during alcoholic sleep, and he had come to look upon these as occurring in nerves which had been rendered especially vulnerable by ether or alcohol, or, as suggested by Dr. G. W. Jacoby, the inhalation of carbonic oxide in close sleeping-rooms. In cases of musculo-spiral palsy the nerve was generally pressed upon when the patient slept with the arm raised, and the hand under the back of the head.

Dr. Hughes said that the paralyses following the comatose state in epilepsy exhibited local peripheral expressions. Neurologists had been accustomed to consider these as of central origin. His own opinion was that ether was a factor which could not be ignored; that it was a toxic factor, acting on the peripheral cells, thus rendering the nervous system vulnerable, just as did alcohol. He had not yet been convinced that these cases were exclusively peripheral paralyses, and owing to this lack of unanimity among neurologists regarding the causation of these cases their medico-legal aspect assumed grave importance. Many of these paralyses seemed to be recovered from just as in the case of epileptic paralyses, and he was inclined to think that the toxic condition of the brain found associated with etherization was an important etiological factor.

Dr. Leszynsky said that he could not agree with the views of the previous speaker regarding the effect of etherization. When a healthy person was etherized it could hardly be said that the toxic condition could so soon be responsible for the paralysis; it was rather a case of extreme pressure made during unconsciousness. In his own mind there was no question that all of these cases were directly due to pressure made during unconsciousness. Ether, like other stimulants, might give rise to cerebral hemorrhage, or induce hemiplegia of the hysterical type. If these cases were due to a lesion in the anterior horn they would not all result in recovery, as occurred invariably in the class of cases under discussion.

**The Central Nervous System in Acute Malarial Infection.**—Dr. James Ewing read this paper. He introduced the subject by reporting the three following cases:

Case I.—Æstivo-autumnal malaria, with marked cerebral symptoms and infection, with a single, well-defined group of parasites. The patient was a soldier who had just returned from Cuba. The stupor lasted thirty-six hours prior to death. Two days before death there had been many ring-shaped organisms in the blood. The stupor began twelve hours after sporulation occurred. At the autopsy the viscera showed the lesions of severe malarial infection. The capillaries of the cerebrum, cerebellum, medulla, and cervical cord contained a large number of cells harboring parasites. Many capillaries were occluded by thrombi. The ganglion cells showed everywhere a reduction in size, irregularity and splitting or loss of the chromatic bodies. Death was due to the massing of the parasites in the capillaries. The case was a good example of comatose malaria of the cerebral type.

Case II.—This patient had chills on alternate days for several days, and on admission had a pulse of 110, and was much prostrated. There were marked insomnia and mild delirium for a while; then the delirium became more marked, and finally there was coma, lasting for some time before death. There was no evidence that the coma was uræmic. The temperature reached 108° F. shortly before death. On October 12th the blood contained an enormous number of ovoidal, spherical, and crescentic bodies. On October 25th, or eight hours before death, very few crescents could be seen. None of the younger forms was found. The antopsy showed moderate œdema of the brain, the basal vessels normal, and very few parasites present. The deposit of pigment in the brain was slight. Throughout the cortex the cells showed no marked change further than a uniform diminution in the chromatic substance. In many of the pericellular lymphocytes were peculiar structures—elongated fibres or rods with tapering ends—of undetermined nature. Similar deposits were found in other cases of malaria, and in one case of tuberculous meningitis. The chief feature of this case was the prolonged delirium and coma, yet the post-mortem examination showed far less change in the kidney than was usually seen in profound malarial infection.

Case III.—This was a case of fatal malaria associated with hæmoglobinuria. This man had contracted malaria in Santiago in July, 1898. He was comatose, extremely emaciated, excessively anæmic, and moderately jaundiced. He was at Camp Wykoff for three days prior to death. The dura and pia were distinctly jaundiced. The cerebrum, cerebellum, and

medulla showed the usual injection of vessels with blood, but the vast majority of the vessels were free from the parasites. An abundant deposit of hæmatoidin in the kidneys was interesting.

Commenting upon the foregoing cases, the speaker said that when the brain cortex was markedly brownish it indicated usually the presence of a large number of parasites, but this was not an invariable rule. The majority of cases of comatose malaria did not exhibit the massing of the parasites in the brain. Of eight cases in which he had examined the brain after death, in none was there a distinct brownish discoloration of the brain. Hemorrhages had been found in some cases, as had also a moderate degree of œdema. Usually the parasites were uniformly distributed in the brain and cord, but a case had been reported in which they had been localized in the medulla. The number of these parasites was often enormous, and complete occlusion of the vessels was not at all uncommon. While most of the fixed pigment was found in the endothelium, the parasites were rarely seen in the endothelial cells. To the general condition of the obstructed circulation it was probably safe to refer the cerebral symptoms observed in these severe cases of malarial infection. The ganglion cells, in cases of comatose malaria, had been studied, and the changes found to consist chiefly in the various degrees of chromatolysis. The dendrites were usually involved before the cell body. The ganglion cells appeared to suffer less than in the average case of typhoid fever. The mere presence of the parasites in the tissues seemed to exert no bad influence except in a mechanical way. In one of the cases reported in the paper the deepening of the coma could be apparently connected with the progressive filling of the capillaries with the parasites and the formation of thrombi. In the other two cases the parasites were few and the pigment was scanty. In both of these cases the malarial infection was exceedingly severe. These cases showed that the coma of malaria was not always referable to the presence of the cerebral parasites. Of the writer's sixty-four cases reported of malarial coma, there were five simple tertian infections. In the æstivo-autumnal cases, with crescents only in the blood, there were thirty-four instances from the Montauk camp. Coma appeared to be rather frequent in cases showing only crescents in the blood. Crescents did not exhibit such a tendency to unequal distribution as did the fertile forms. From the condition of the viscera found in the second and third cases reported—and this variety occurred especially in cachectic individuals in whom the disease had existed for some weeks—it seemed probable that the coma was the result of the general and profound malarial infection. The writer did not believe that much importance should be attached at the present time to the condition of the ganglion cells in malaria. When the coma resulted from the massing of the young parasites in the brain, it was generally gradual in onset, and the prognosis was very unfavorable. In some cases the coma developed suddenly, and was more amenable to appropriate treatment. The general clinical character of these cases indicated that an embolic process was concerned in their causation. Of eleven cases of the first class, reported by the writer, ten proved fatal. To summarize: The three anatomical conditions were: (1) The mechanical obstruction of the cerebral capillaries by large numbers of young parasites; (2) an embolic process causing an occlusion of some vessels (usually temporary) by parasites or pigmented leucocytes; and (3) a general toxæmia, such as might occur in other infectious diseases, the blood showing few, if any, autumnal rings.

Dr. W. B. Noyes said that two years ago he had seen at the Columbus Hospital, in the service of Dr. C. H. Lewis, a case showing coma, stertorous respiration, partial paralysis, and irresponsive pupils. The blood taken from the spleen at autopsy showed the presence of pigmented leucocytes and parasites of the æstivo-autumnal variety. Sections from every part of the brain, without staining, showed that the walls of the capillaries were infiltrated with pigment. The absence of the parasites and the enormous amount of pigment were especially noteworthy. In the other organs of the body the usual lesions of pernicious malarial fever were found. In this case the diagnosis during life had been cerebral hemorrhage by almost every physician who had seen the case—certainly the clinical appearances were the usual ones found in cerebral hemorrhage.

Dr. Lewis A. Conner thought the jaundice might explain some of the comas that were otherwise inexplicable. It was surprising sometimes how an apparently moderate degree of jaundice might be associated with very marked cerebral symptoms.

Dr. Fraenkel said that he looked upon most of the nervous consequences of malaria as due to toxæmia. He was reminded of a case that had presented a well-defined picture of aneurism at the base of the brain. The patient had been under observation for a considerable time without noteworthy symptoms until suddenly he had chills and fever. At that time he was in a room in the hospital in which there had been malarial fever. The chills and fever recurred regularly for two or three days, and then he was removed to another room. He then had an acute maniacal seizure, and after half an hour talked in a typical paranoiac fashion. He next became rational, but developed the same train of symptoms the next day at the same time. The blood showed the æstivo-autumnal parasites. The man finally recovered, and was well at the present time. Another case was cited bearing upon the view that a malarial toxæmia was responsible for most of the nervous symptoms. When first seen this person had been sick only two hours. He stated that he had suddenly become unconscious, and that this had been immediately followed by an urticarial eruption. He had a very slow pulse and some fever. On the third day there was a severe chill, some jaundice, and a temperature of 104° F. The blood showed the presence of the parasites of æstivo-autumnal malaria. The patient recovered in due time, only to have a similar attack about the same time the following year. Such a case, the speaker thought, could hardly be explained by mechanical obstruction; it was rather an example of the effect of a general toxæmia.

Dr. Hughes said that the paper was very satisfactory in that it explained certain old and well-known clinical facts. Williamson, of England, had been one of the first authors to refer to the effect of malaria on the nervous system. A case of infantile paraplegia was recalled which he had seen many years ago. When first seen the child had been unable to sit or stand. The speaker had at once suspected malaria, and a vigorous course of quinine had resulted in a rapid and seemingly miraculous cure. He was inclined to believe that the effect of malarial infection was principally spent upon the vasomotor system.

Dr. William Hirsch reported a case of a gentleman sent to him from the South about one year ago, with a diagnosis of spinal tumor. The symptoms had been atrophy of the muscles of the left shoulder girdle, and associated with intense pain. The patellar reflexes were exaggerated. After having had the case under observation for some time, and studying the previous history very carefully, he had become convinced that this was not the correct diagnosis. The patient gave a history of having had a somewhat similar attack some time before, which had been recovered from. While under observation the man had devel-

oped a typically malarial temperature, and this had been associated with splenic enlargement. Examination of the blood at that time had been negative. After about six weeks of anti-malarial treatment recovery had been complete. A very peculiar symptom in this case was a decidedly tender swelling over the sternum. This had disappeared as the patient had improved. The man, against advice, had returned to his home in the South, and when seen again, a few weeks ago, had been in a worse condition than the year previous. The left clavicle then exhibited a tender swelling, like that observed previously over the sternum. There were similar swellings over one ulna and on one portion of the skull. He was now improving rapidly under anti-malarial treatment. The case was reported because of this peculiar affection of the bones.

Dr. Teller, of Memphis, said that he practised in a district in which malaria was exceedingly common and very malignant. In his neighborhood these peculiar neurotic manifestations of malaria were so common as to make the physicians be constantly on the lookout for them. The cases of cerebral congestion were all too common, and very frequently proved fatal. The physicians of his locality looked upon the disease as a profound toxæmia.

Dr. Ewing said that he had been especially interested in the remarks of one of the speakers concerning cases exhibiting jaundice. These cases commonly showed at autopsy profound and peculiar changes in the liver. In the case reported by Dr. Hirsch there were certain features that seemed to him to point to syphilitic infection. In conclusion, the speaker said that the medical profession was too prone to jump to the conclusion that a disease was malarial because it seemed to respond to the administration of quinine. A very large number of nervous conditions reported that had been referred to malaria by the older writers should be excluded at the present time, because they had not been properly authenticated according to modern notions.

## Reviews and Notices.

Kirkes' Handbook of Physiology. Fifteenth American Edition. Revised by Warren Coleman, M.D., Professor of Physiology in the Woman's Medical College, New York, etc., and Charles L. Dana, A.M., M.D., Professor of Nervous and Mental Diseases in the New York Post-Graduate Medical School, etc. New York: William Wood and Company. 1899.

The latest revision of this well-known and authoritative text-book on physiology calls for no extended review. When one edition follows another so rapidly there is, naturally, not much in the way of revision. Yet so steady is the advance in all branches of medical science, that even here it has been necessary to make some additions in order to bring the work thoroughly up to date. These changes are in the main slight, yet they are quite numerous and all are of sufficient importance to justify the revision. The most important of these changes are in the description of the cell, of the ductless glands, and of the coagulation of the blood. The book is illustrated with many black and colored woodcuts, and one chromolithographic plate of blood spectra.

A Strange Discovery. By Charles Romyn Dake. New York: H. Ingalls Kimball. 1899.

This tale, the author of which is a physician, is intended as a sequel to Poe's uncompleted "Narrative of A. Gordon Pym." It describes how the author and two friends found Dirk Peters, the companion of Pym in his wanderings, in a town in southern Illinois, and learned from him what happened after they had passed through the veil and past the gigantic female form that seemed to block their way. It is probable that Poe, had he finished the tale, would have taken his readers into Symmes' Hole; but the island on which Dr. Dake lands us is just as interesting—and just as likely to exist. The author has much to say also of the two companions who shared in the "strange discovery" of Dirk Peters, and it is possible that this sketch is from life. The town in which the scene is laid is the same, with slightly altered name, as the one in which the author actually lives, and the two companions are physicians—one a regular, the other a homœopath. They have many discussions, in which (the author is himself a homœopathic physician) the homœopath usually comes out ahead.

The Mineral Waters of the United States and their Therapeutic Uses, with an Account of the Various Mineral Spring Localities, their Advantages as Health Resorts, Means of Access, etc.; to which is added an Appendix on Potable Waters. By James K. Crook, A.M., M.D., Adjunct Professor of Clinical Medicine and Physical Diagnosis at the New York Post-Graduate Medical School; Attending Physician to the Post-Graduate Hospital; Member of the Medical Societies of the County and of the State of New York, Fellow of the New York Academy of Medicine, etc. New York and Philadelphia: Lea Brothers & Co. 1899.

It is many years since a work on the mineral springs of this country has been published, the latest prior to the appearance of Dr. Crook's work having been, we believe, Bell's "Climatology and Mineral Waters of the United States," published about fifteen years ago. The present book will, therefore, be welcomed by all who are in need of trustworthy information on this subject either for themselves or for their patients. The work is divided into two parts; the first treating in general of mineral waters and their uses, the second containing a description, in most cases with analysis, of the waters of all the important and many unimportant mineral springs in this country. The latter are arranged alphabetically by States, so that they can be readily turned to, and if the State is not known an index serves to direct the reader to the description he seeks. This book is a valuable addition to the literature of balneology.

Die Leitungsbahnen im Gehirn und Rückenmark. Ein Handbuch für das Studium des Aufbaues und der inneren Verbindungen des Nervensystemes. Von W. v. Bechterew, o.ö. Professor der Kaiserl. medizinischen Akademie, Direktor der Psychiatrischen und Nervenklinik zu St. Petersburg. Deutsch von Richard Weinberg, Assistent des Jiorgeff-Dorpater Anatomischen Institutes. Zweite, vollig umgearbeitete und stark erweiterte Auflage. Mit 589 Textabbildungen und 1 farbigen Tafel. Leipzig: Arthur Georgi. 1899.

The last decade has been a period of remarkable activity and of material advance in the domain of neurology. In the process of differentiation and in the demand for special knowledge, this department of medicine has become increasingly a more and more exclusive field of operation. Notwithstanding the complexity and the intricacy of the nervous system, the study of its diseases has been conducted upon a scientific basis, and in the hands of competent observers the diagnosis is usually a matter of great precision, being almost a direct deduction from a knowledge of the anatomy and physiology. Recent investigations by modern methods have added much to this knowledge, gross and minute, the greatest impetus being given the movement by the refinements in staining and differentiating procedures that have been effected. Among the modes of inquiry that have been pursued in bringing neurological science to its present advanced position may be mentioned the comparative study of serial sections, the treatment of tissues with stains and other chemical reagents, observations in comparative anatomy, a study of the development of the nervous system in the embryo, of the results of developmental defects or of atrophy, of secondary degenerations, physiological or vivisection methods, pathological methods, embryologico-pathological methods, and pathologico-physiological methods. In this field of activity Bechterew and his pupils have played a conspicuous part, and a not inconsiderable portion of the present work represents the results of their labors. At the same time the contributions of other investigators have been given due consideration, so that we have here an authoritative and comprehensive description of the conduction paths of the

brain and spinal cord. The work is divided into six sections, the first of which deals with the methods for studying the course of fibres in the central nervous system. The second, third, fourth, and fifth sections take up successively the conduction paths of the spinal cord, the medulla oblongata and the basal ganglia, the cerebellum and the cortex, and the subcortical structures. In the sixth section the conduction mechanism is discussed, and in the final section a general survey is made of the entire system of conduction-paths in the central nervous system. At the end of each section is appended the bibliography relating to the subjects discussed in that section. The illustrations are numerous and excellent, and for the most part original. The book is altogether an admirable exposition of the important subject with which it deals, and it must be conceded to be a valuable contribution to the histological anatomy of the nervous system.

## Therapeutic Hints.

**Rigid Perineum.—**

℞ Chloroformi ..... ℥ ij.
Etheris ..... ℥ i.
Spirit Colognien ..... ℥ i.
M. S. Apply.

—Southworth.

**Rheumatism, External Application for.—**

℞ Acid. salicyl. pulv ..... ℥ i.
Ol. terebinth ..... ℥ i.
Lanolini ..... ℥ viij.

The skin is first to be cleansed with soap and water. Friction should last for five minutes. Wrap the limb in cotton to preserve an even temperature. Repeat the treatment daily.—Husson.

**To Quiet Patients After Operations.—**

℞ Liquor potassii citratis ..... ʒ ss.
Spir. ætheris nitrosi ..... ℥ i.
Tinct. aconiti ..... gtt. i.
Morphinæ sulphatis ..... gr. ⅛
S. In water every third or fourth hour.

—Brinton.

**Anæmic Strumous Children.—**

℞ Acidi arsenosi ..... gr. ⅛
Ferri sulphat. exsiccat.,
Potassii carbonat ..... āā gr. viij.
M. fiant pil. xii. S. One pill thrice daily after meals

—Graham.

**Enlarged Lymph Nodes.**—When surgical intervention is inadvisable:

℞ Ichthyol ..... ℥ i.
Ung. hydrargyri
Ung. belladonnæ ..... āā ℥ i.
Ung petrolei ..... ℥ iv.
M. S Externally.

—Keen.

**When the Taste and Smell of Chloroform are repugnant the following mixture is recommended:**

℞ Aq. chloroformi ..... ʒ vi.
Spir. menth. pip.,
Spir anisi ..... āā ♏ iv.
Filter after twelve hours.

—Weber

**Acute Dysentery.**—Sulphate of soda (or magnesia) is given on the first day of the disease, and on the second, third, and fourth days, every three hours, a capsule containing

℞ Magnesia ..... gr. iv.
Bismuth subnitrate ..... gr. vi.
Powdered ipecac ..... gr. i.
Powdered opium ..... gr. ⅛

—Sodré.

**La Grippe.**—In nine cases out of ten all that has been necessary was to soak the feet, tell the patient to take a teaspoonful of the following prescription, and then insist upon his staying in bed for forty-eight hours:

℞ Pilocarpin. hydrochlor ..... gr. ss.
Morphinæ sulph ..... gr. i.-iij.
Aquæ ..... ℥ iij.
M. S. Teaspoonful every quarter of an hour as directed.

Especially during this epidemic have I become convinced that apomorphine is a valuable expectorant:

℞ Ammonii chloridi ..... ℥ ij.
Apomorphinæ hydrochlor ..... gr. i.
Mist glycyrrhizæ comp.,
Syrupi ..... āā ʒ iss.
M. S. Dessertspoonful every two or three hours.

—J. Howe Adams, *Medical Times*, September.

**Tonic in Incipient Phthisis.—**

℞ Acid. arsenosi ..... gr. ss.
Ext. nuc. vom ..... gr. iv.
Ferri reducti ..... gr. ij.
Quinin. hydrochlor ..... gr. xx.
Ft. pil. No. xx.

**Diarrhœa of Typhoid Fever.—**

℞ Acid. sulph. aromat ..... ℥ ij.
Fl. ext. hæmatoxyli ..... ʒ ss.
Spir. camphoræ ..... ʒ ss.
Syr. zingiberis ..... ℥ iij.
M. S. Two teaspoonfuls when the stools exceed four in a day.

—*Medical Times*, September.

**Feeble Digestion.—**

℞ Tinct. ipecac.,
Tinct. calumbæ,
Tinct. gentianæ ..... āā ℥ iij.
M. S. Take five to ten drops in a little water after eating, and repeat the dose in a half-hour, and again in an hour.

—Mathieu.

**To Relieve the Pain in Cystitis.—**

℞ Ext. hyoscyami ..... gr. ss.
Camphoræ monobrom ..... gr. ij.
Morphinæ sulphat ..... gr. ss.
Ol. theobrom ..... q.s.
M. et ft suppos No. i.

**For Irrigation of the Bladder.—**

℞ Acidi borici ..... ℥ i.
Sod. borat ..... gr. xxx.
Sodii chloridi ..... gr. xv.
Aquæ ..... O ij.
M. S. Warm to 100° or 105° F. The irrigation can be performed through a double-current catheter or a meatus nozzle, after the method suggested by Janet of Paris.

—George T. Howland.

**When Uræmia Threatens.**—Use the hot pack over the kidneys and:

℞ Pilocarpin ..... gr. ss.-i.
Hydrochloric acid (dilute) ..... ℥ ij.
Distilled water ..... up to ʒ ij.
M. S. Teaspoonful every three hours.

—N. A. Kremer, *The Medical and Surgical Monitor*, vol. ii., No. 6.

**Pertussis.—**

℞ Sodii benzoat ..... gr. lxxij.
Sodii bicarb ..... gr xlviij.
Ammonii chloridi ..... gr. xxiv.
Aq. chloroformi ..... ʒ i
Aq. anisi ..... ℥ iij.
M. S. ℥ i.-ʒ ss. in a little milk, every four hours.

—Burney Yeo.

**Laxative.—**

℞ Rhei pulv ..... 20
Sodii bisulph ..... 15
Sodii bicarb ..... 5
M. ft. pulv. S. One dessertspoonful in a wafer at bedtime

Or:

℞ Rhei pulv ..... 10
Tartar depur ..... 20
M. ft. pulv. S. As above.

—Leube.

**Dropsy.—**

℞ Uropherin salicyl..... 5.0
Aq. destill..... 120.0
Vanillini..... 0.001
Muc. acaciæ,
Syr. simplicis.....āā 15.0
M. S. 3i. t.i.d.

—Schmidt.

**In Nephritis.—**

℞ Tinct. grindeliæ rob..... 30
Tinct. convallariæ..... 10
Tinct. scillæ..... 5
M. S. Fifteen drops three or four times daily.

—Huchard.

℞ Potassii bitartratis..... 30.0
Potassii sulphatis..... 15.0
Pulveris scillæ..... 8.0
Antimonii et potass. tartratis..... 0.06
M. S. One teaspoonful in a tumblerful of water every four hours until active purgation and free diuresis occur.

—Eberle.

**Tetany.**—Up to the present time no constant anatomical lesions have been demonstrated in tetany. Its symptoms and course all indicate that it is a neurosis probably depending upon disturbances of nutrition in the nerve cells of the spinal cord and medulla.—Holt.

The nature of the disease is unknown, but it probably depends upon the action of some toxic agent in the motor-nerve cell.—Osler.

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## Correspondence.

### OUR LONDON LETTER.

(From our Special Correspondent.)

COMING SESSION—CONGRESS OF INSTITUTE OF PUBLIC HEALTH—MARQUIS OF LORNE'S SPEECH—VACCINATION RETURNS—LEICESTER RECALCITRANT—ANALYSTS' DEPUTIES—A NONAGENARIAN DOCTOR—INQUEST ON A DOCTOR—DEATHS OF MESSRS. VOSE SOLOMON, FOGO, AND JOSEPH WHITE.

London, September 29, 1899.

There are plenty of doctors now in town. Nearly all have returned after their autumn holidays, and the teachers are ready to take up their work at the opening of the winter session on Monday. The societies will follow one by one, medical work will shortly be in full swing, and the long vacation of 1899 a memory.

The congress season is also over. The Institute of Public Health, which met on the 21st, closed yesterday. Its proceedings were very various, the subjects ranging from engineering to tuberculosis, from domestic hygiene to cremation. Dr. R. McNeill would have domestic science taught as a mode of improving public health, and he included in his purview the theory and practice of cooking, laundry work, and dressmaking. This will show you the wide range of subjects admitted for discussion at this congress. Tuberculosis was introduced by Dr. Ransome, who urged on local sanitary authorities their duty in regard to this disease. Mr. Whittaker had a paper on the treatment of sewage by microbes, in which he vigorously criticised the local government board's attitude, eliciting cheers from the audience, which showed they held decided views on this matter. Dr. Graham handled smoke abatement, and urged that the community should exert its influence to bring about better administration of the public health acts and improvement of the law. He hoped to see better protection from this evil before the close of the century.

The president, the Marquis of Lorne, in his opening address alluded to vaccination and the controversy that has raged about it, as follows: "When we reach the end of another century and many other diseases besides smallpox are capable of being prevented in like manner, shall we see, as now, the very immunity and safety conferred by science produce a disbelief in the presence of danger, and the chief bulwark against the microbes of disease thrown down so as to give a fresh lesson to the short memory of the people?" This sensible and moderate remark reminds one that a parliamentary return issued on Tuesday from the local government board shows that the mass of the public still believes in vaccination; for notwithstanding the large number in certain localities who took advantage of the conscience clause in the last act, there was an actual increase of successful primary vaccinations during the first six months of this over the corresponding period of last year. The numbers are, for 1898, 278,588; for 1899, 355,987. Thus there was an increase of 77,399. The figures cover 646 unions, of which 479 show increases, but 165 show decreases. In some of the localities in which neglect or opposition had been most rife, there is an increase; for example, Ashby-de-la-Zouche has risen from 20 to 435, and Melton-Mowbray from 32 to 503. Even Leicester with all its obstinate anti-vacs returns 88 as against 32.

With regard to this town another stage has been reached in its contest with the superior authorities. On Tuesday night a solicitor's clerk attended the meeting of the guardians and served each of the recalcitrant members with a copy of the writ of mandamus on behalf of the local government board. One of the members said many proceedings had yet to be taken before they entered the prison doors. The vice-chairman declared the guardians would not withdraw from their position, and the board then adjourned.

Some medical officers of health are solemnly warning parents of the risks children incur by partaking of ice cream. One declared that recent samples showed half a million microbes in the thousandth part of a pint. This is a comparatively pure sample against one in which Dr. Stevenson's bacteriological assistant calculated there were more than twenty millions. In this case there was a prosecution, and Dr. Stevenson attended as a witness, but as he had to admit that he had not made the analysis himself the magistrate dismissed the summons. Naturally enough, the question is thereby raised as to the practice of entrusting such work to assistants engaged by public analysts. I believe the system is common enough, and that the assistants are men well qualified for the work. But there is no guarantee for their qualifications, and the authorities who appoint the analysts may well object to the system, while in cases brought into court this prosecution shows what is likely to occur. The fact is, that many of our analysts hold several appointments under the acts, and could not possibly perform all the analyses personally. I have for many year known this and seen how the work was done. As a rule there is sufficient superintendence in the laboratories, and the assistants are quite competent for their work. Nevertheless the public will not be satisfied with a system thus liable to break down, and without a voice in the selection of assistants. I should add, however, that the court decided in 1894 that it is not necessary for the analyst to carry out all the processes himself if they are done under his supervision.

Dr. W. W. Morgan, of Newport, Mon., celebrated his 90th birthday on the 24th, and received special congratulations from his brother Freemasons and other friends. He told the story of his examination in 1835, which is very amusing: "I was the young man from the country, and found the examiners sitting together horse-shoe shape, while I had to face them. One of them said, 'Mr. Morgan, are you a native of

Wales? I am, sir,' I replied; 'I suppose you took me for a foreigner.' My hair was long, curly, and black as a raven. 'I certainly did,' he returned. 'Well, sir,' I said, 'I assure you I can boast of not having a drop of English blood in my veins, much less a more foreign one.' 'Well done, Welshy,' cried my questioner—it was Sir Astley Cooper, who had married a Welsh lady, and the other examiners roared with laughter, during which I was led by an attendant to 'Paradise'—the room where successful candidates were taken—and I knew I had passed; but fancy my temerity in saying that to a full board of examiners."

An inquest on the body of Dr. Dick, of Eastbourne, shows that he met with his death through a mistake of his own. Having supplied medicine to one of his patients, he was sent for next day and told that the first dose had made her very ill. He told her this could not be, and to reassure her poured out a dose and swallowed it in her presence. He admitted it was nasty, but declared it was innocuous and that he would take another dose on leaving. He did so, and rode home on his bicycle, but on arrival symptoms of poisoning had appeared, and he was only able to suggest the stomach pump. Medical neighbors were promptly in attendance, but he sank rapidly, in spite of all treatment. Analysis showed that the medicine contained strychnine. The patient, who took only one dose, recovered. Two bottles were found in the deceased's surgery, near to each other, neither labelled (!), one containing chloroform water, the other solution of strychnine.

Mr. James Vose Solomon, F.R.C.S., consulting surgeon to the Birmingham Eye Hospital, died on the 20th, aged eighty-two years. In the course of his long and honorable career he had served in various offices, but those to which he was most devoted were connected with ophthalmology. Thus he was for a considerable time professor of this subject at the Queen's College and surgeon to the eye hospital. He was a member of our ophthalmological society as well as of the International Congress. He contributed numerous papers on his specialty to the ophthalmic and other journals.

The deaths are also announced of: Surgeon-General J. M. S. Fogo, late of the Ordnance Medical Department, aged seventy-seven years. Joseph White, F.R.C.S. Ed., consulting surgeon to the Nottingham Hospital. He was president of the British Medical Association in 1892, the year it met at Nottingham, and those who attended that meeting will remember his kindly courtesy. He died on the 24th, at Eastbourne, aged seventy-seven years.

## JOTTINGS ON A JOURNEY.

To the Editor of the Medical Record.

Sir: A tour which combined the quest for professional knowledge with recreation may furnish matter to interest some readers. The ophthalmological congress at Utrecht and the otological congress at London were the principal aims. But various opportunities arose outside of these great events which impressed the writer, and he simply proposes to set forth some notable things which seem to him worthy of mention. A visit was made to Pompeii, another to Vienna. Every one knows about the wonderful reproductions in the museum at Pompeii of the bodies found embedded in the ashes, one a corpse, one a woman during the last months of gestation—but the guide did not discern the beautiful specimen of a fractured femur properly mounted, which showed perfect bony union, but with a deformity amounting to a complete right angle and which must have crippled the patient and entailed a shortening of not less than six inches. This was a specimen of surgery nearly two thousand years ago.

Six weeks later I was inspecting the working of the sideroscope as it is used by Professor Fuchs, in Vienna. It is a magnetic needle furnished with a mirror, contained in a room from which all iron is excluded, and its deflections, imaged by electric light upon a scale, are viewed by a small telescope; and although the unavoidable vibrations of the building give rise to some errors, so delicate is the needle that it will respond to the presence in the eyeball of a particle of iron less in bulk than the head of an ordinary pin. Some experimental trials, not upon patients, convinced me that the claims made for the apparatus were not exaggerated. Such is a sample of the splendid achievements of scientific surgery of the present day, in a single department.

I want to call especial attention to what has been wrought in diagnosticating the presence of foreign bodies in the eye. The sideroscope can tell us with amazing clearness when a bit of iron has penetrated the eye. But it says nothing regarding substances which are non-magnetic, brass, lead, stone, etc. Neither can it determine the exact position of a bit of iron within the globe, nor even whether it may not have passed beyond into the orbit or elsewhere. By means of the Roentgen rays (*x*-rays), some precision has been attained in localization. This has been done in Boston, in New York, in Philadelphia, and elsewhere in our own country, and I saw a fair skiagraph in Professor Fuchs' cabinet. But it has been reserved for a London surgeon, Dr. Mackenzie Davidson, formerly of Aberdeen, to bring the use of *x*-rays to a degree of exactness and to avail himself of stereoscopic methods by which, under an exposure of eight seconds, the size and locality of a foreign body can be designated in the eye with absolute certainty; and by longer exposures and with some modifications of method, the same can be done with equal certainty in other parts of the body. Mr. Davidson exhibited his apparatus at the Utrecht congress; he showed numerous skiagraphs, and he explained his method, according to which, by mechanico-geometrical or trigonometrical methods, the depth and position of a foreign body can be recognized in three minutes after the needful pair of skiagraphs have been secured. He has spent two years in bringing his method to its present status, and he now is sought for in London on all serious occasions to make the localizing diagnosis of foreign bodies. I had the privilege of two hours' interview with him at his rooms, and he went through all the details of detecting a foreign body placed on the lower lid. The chief and fundamental improvement with him is in the Crookes tubes. He places a small flat disc at the focus of the concave reflector (the anode), and is most careful to find its focal point, and there he puts his plane aluminum reflector, which has at its centre a bead of osmium, a metal extremely dense, heavy, scarce, and expensive. Unlike all other metals it does not fuse under the concentrated *x*-rays, and from it they emanate in straight lines. It is well known that they cannot be refracted or reflected. But from the osmium bead, which is never bigger than a split dried pea, and which may be either rough or smooth, these subtle rays proceed in such pencils that an interfering object is made to cast a small and wonderfully sharp shadow on the photographic film. Mr. Davidson's method is set forth in the *British Medical Journal*, December 3, 1898, and January 1, 1899.

Another notable achievement in ophthalmology was presented by Professor Dimmick, of Innsbruck, who showed good photographs of the living human fundus oculi!—not only of the nerve, but also of the macular region. He has succeeded in obviating the damaging influence of the corneal reflex which has been the

stumbling-block to all experimenters for thirty years, and of which the writer knows much by personal experience. In the same connection, because analogous, may be mentioned a new demonstrating ophthalmoscope devised by Dr. Walther in Professor Snellen's clinic at Utrecht. It is marvellously clear and free from reflex: one-half of the pupil is used for illumination and the other half for the emergent rays to make the image, which is projected upon a table. Of course this device is not new (the writer employed it thirty years ago), but various details are introduced which remove the disturbing elements hitherto encountered and give a clean, bright picture of about the size seen with the upright image. By this apparatus we shall be enabled to make pictorial records of ophthalmoscopic cases which in the next ten years will greatly enrich our literature.

Other things which greatly impressed me related to methods of projecting upon a screen the microscopic sections of tissues, exactly as they come from the stage of the microscope. The finest apparatus was in the clinic of Professor Fuchs, and at Utrecht similar demonstrations were exhibited by Dr. Dor. At Vienna I was delighted with the beauty and perfection of the pictures thrown on the screen by an apparatus made by Zeiss, with electric light and appliances for annulling the destructive effect of heat upon the slide. The picture was bright, sharp, full of detail, and about thirty inches in diameter. Why may not we in America use arrangements equally perfect? We do this work, and I am not one to decry what we do; but the only aim in science is the very best. The Zeiss apparatus costs 1,000 gulden, rather less than $500. What is that among us, and why should not our methods of teaching at least equal those of our European confrères? Here I beg to express the decided opinion that no charitable institution or hospital will ever attain its highest efficiency or truly fulfil the purposes of its founders and supporters, unless medical and scientific investigation and instruction go hand-in-hand with the treatment of the sick and disabled. We are learning this lesson in our country, but it has not yet been apprehended as it should be. There can be no high and real charity which does not rest on knowledge; and this must not be a stationary, or historic, or even purely clinical knowledge. It must deal with the present and reach forth into the unknown. It requires laboratories, complicated and apparently unnecessary apparatus. It must deal with questions of theory and follow nature into her inner labyrinths where dwell the mysteries of life. Only by assuming this attitude can charitable institutions hold their right to care for the sick and helpless. Besides investigation instruction must not be neglected; one is brother to the other; one helps and promotes the other. The man who teaches may not always be a good investigator; he may not have the time or the gift for patient study, but he must be in the closest touch with his brother of the test tube and microscope and bacteriological research.

At the Utrecht congress, Professor Leber delivered a most instructive discourse on his favorite theme of the secretion and excretion of fluids within the globe. His remarkable modesty was sorely tried by the applause which greeted him. Another splendid effort was a résumé by Mr. Priestley Smith of his experiences in cases of strabismus convergens during the past three years. His clear, precise, and classic English would have been a charm to a mere rhetorician, but his conclusions, carefully guarded and logically wrought out, will stand almost on a plane with his imperishable work upon glaucoma. A point which he conspicuously brought out was the urgency of dealing with strabismus at a very early age, that the cerebral function of binocular vision may be duly educated. It is this which forms the barrier to success by usual modes of treatment when the squinting subjects have reached the ages of seven or more years. Mr. Smith would employ glasses as early as they can be carried on the face, and would operate under two years of age. The writer has operated at the age of one year.

A matter not so important perhaps is an improvement in artificial eyes devised by Professor Snellen, and of which samples were exhibited. They are made by Muller, of Wiesbaden, Germany. The modification consists in laying a cover upon the back of the shell, which may be flat or concave, and in some instance it is modelled after a plaster cast of the orbital cavity. Weight is not noticeably increased, and the advantage gained is the great improvement in appearance (cosmetic effect), and the diminished tendency to unpleasant catarrhal secretion, and probably it will be found after sufficient trial that there will be much less tendency to the formation of bridles and symblepharon. This may do away with the practice of Mules' operation, toward which many oculists have a feeling of uncertainty. The writer found some who approved it and others who rejected it. If a good artificial eye can be worn so as really to resemble its fellow, we gain in therapeutics and we also gain in pathology, because we shall be less indisposed to enucleation.

The otological congress at London brought together a large number of well-known aurists of Germany and France and the continent, as well as from Great Britain, and a few from the United States. A great feature of the assembly was the wonderful museum of pathological specimens, gathered with great trouble, mostly from British cabinets, some from other places. The display of instruments was very large. Mr. Urban Pritchard (who was wisely and wittily called the urbane Pritchard) kept a steady yet firm and gentle hand on all the proceedings both scientific and social. English hospitality, proverbially profuse, surpassed its own record. Among notable men present were Professors Politzer and Lucae, both of whom gave no sign that the ashes of age had yet dimmed their intellectual fires. The topics of discussion ran greatly to mastoid lesions; troubles of the middle ear proper, especially operative proceedings on the ossicula, did not receive much attention. A most interesting paper with lantern pictures was read by Dr. Alden Turner, of London, on the cerebral origin and relations of the acoustic nerve; other highly interesting lantern demonstrations were made by Dr. Birmingham, of Dublin, on the topography of the facial nerve in its relation to mastoid operations; also by Mr. A. H. Cheatle, of London, on the petro-squamosal sinus. Mention of this brings to mind a most valuable and practical paper or address by Professor Panas, in Utrecht, on paralysis (possibly double), of the sixth nerves from injuries to the skull, whereby a fragment of the pars petrosa penetrates the above sinus where the sixth nerve crosses to the cavernous sinus. This was illustrated by some skulls in which the splinter of bone was seen entering the injected sinus, and causing the mischief mentioned: the subjects were young persons. There was a great wealth of otological papers, but the feeling remained on the writer's mind that otology as practised in the United States can hold its own with European competitors.

Such are some of the suggestions gathered from a flying trip, but no record can give account of the innumerable and precious opportunities of chatting with able men on obscure points and vexed questions, and new suggestions which are not found in papers and never get into text-books. Most truly is it true of medical congresses that the proper study of mankind is man.

Henry D. Noyes, M.D.

New York, September 23, 1899.

## FAITH CURE AND THE LAW.

To the Editor of the Medical Record.

Sir: In the issue of the Medical Record for October 7th, just received, I have read Dr. Steele's article under the above heading. He closes by saying: "I plead for justice, fair dealing, and common sense in this matter."

For whom is he pleading? Is it for the sick person? Then it seems to me he should recognize the fact that the welfare of the community depends upon that of the individual, and that laws made by the community and regulating individual action are presumably made for the good of the community, and are, therefore, not infringements upon personal liberty. Whether we have laws forbidding self-torture I do not know, but we certainly would have if it became a common practice. We do have laws forbidding suicide. We do have laws protecting children against maltreatment and neglect even at the hands of their own parents, who may think they are exercising their best judgment in that very maltreatment.

Are these laws unwarranted? Does he plead for the faith healer? Then he throws down the bars and abolishes all restriction and regulation by law of the healing art, and invites any and all who will to come in and practise upon the sick without qualification either of education or experience. He would open the door to all the charlatanism, mummery, and quackery that cursed the Middle Ages, and that still curse China, India, and darkest Africa.

I do not mean by this to place Christian Science and faith cure in the same category as the preceding, for I, too, believe they have a place of usefulness to fill, especially in certain conditions classed as "neuroses" and "psychoses," and that they are, in the main, practised by well-meaning and even disinterested persons. More than this, I believe that very many among the more intelligent of Dr. Steele's "drug doctors" are applying the real principle involved—the training of the will-power, call it by whatever name you wish—to many of their cases, and with marked benefit.

This, however, is no reason why a person who has never studied anatomy or pathology, and who claims that there is no such thing as appendicitis, should be allowed to treat people sick unto death with what we poor misguided mortals believe to be disease. That is decidedly against the best interests of the community, not to say of the poor individual.

No set of laws was ever framed which completely accomplished the end in view. Those regulating the profession of the physician are lax enough, we all know, and recognize the right to practise of many who are absolutely unqualified to do so, and we must constantly strive for better ones. They do, however, compel a man at least to show evidence of having tried to learn something about the human body in conditions of health and disease, and a man who has done that is presumably better qualified to practise the art of healing than one who has not.

"The argument for compelling a man to have a drug-doctor" is not "that he may die"—no, sir!—he may do that anyway—but that his chances for recovery are generally better if he is looked after by one who has devoted some time to the study of sickness; and therefore and thereby the interests of the community at large are better served.

How is it in other walks of life? Is the locomotive or the steamship engine entrusted to the management of any one who applies for a position? No. Human life is too precious a thing to be trifled with. He must first furnish evidence that he has some knowledge of the machines in question and is reasonably qualified to manage them. The law requires it. How much greater then is the necessity for restriction of those who care for the ills of humanity!

I am sure Dr. Steele cannot wish to throw down the all-too-feeble barriers that guard our sacred calling, but that he, with all thinking men in the profession, must earnestly wish and strive for the strengthening of them, to the betterment of the quality and ability of those who obtain the legal right to practise, and to the lasting benefit of society.

Philip F. Rogers, M.D.

1130 State Street, Milwaukee, Wis.

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To the Editor of the Medical Record.

Sir: The article under the above title written by Dr. N. C. Steele, of Chattanooga, Tenn., has attracted my attention by the brilliancy with which Dr. Steele defends the "faith healers," or "Christian Scientists," and by his pleading for justice, fair dealing, and common sense in this matter. I shall set justice and fair dealing aside (only for a while), and consider the question with pure common sense.

We live at the close of the nineteenth century, a time in which medical science is at the summit of its progress, the causes and the pathology of the majority of diseases are accurately known, the action of drugs is thoroughly investigated and settled—a time when the germ theory is accepted by the most scientific men. A clear mind and common sense can by no means understand how a man of learning can defend a theory that is based on the people's superstition, a theory that pretends to cure the gravest diseases by—by what? We positively know that the typhoid, tubercle, and anthrax bacilli cannot be destroyed even by the most devoted prayer (though that prayer possesses antiseptic properties).

We also know that all the sciences having only the slightest foundation are studied and lectured upon by the most prominent men of our time. Ancient mythology, though only fanciful to the mind, has been studied by a number of learned men, and thousands of books are written on this subject. But what of the "Christian Science" as concerned in the treatment of diseases? Has any man of learning ever advocated this theory? Has any university or medical school taken up this subject as a branch of its general teaching? As the case is not so, and as "faith cure," or "science," is embedded in the minds of a few fanatics only, common sense must and does condemn it.

As regards "justice and fair dealing," how shall we extend justice to people fleeing from it? Do the "Christian healers" preach their doctrine openly, and submit it to our judgment? No. We are aware of their real existence only by the fatal outcome of a case that was treated, or rather mistreated, by one of their members. It is true that "drug-doctors" also lose cases, and that the law cannot compel a person to be treated by a physician when he prefers a "faith healer." But a physician losing a patient, because he could not combat the fatal disease even by the most desperate efforts, surely saves the lives of numbers of others. But what means does a "faith healer" employ to prevent a death? How many people with slight affections were crippled or led to speedy death by their ignorance? Therefore, when a death is caused by their mistreatment, which very often happens, the outcry must be great, in order to warn others; and though the law cannot compel a person to use a "drug-doctor," it can and shall under heavy penalty compel the "faith healers" to give up the practice of their theory, and by doing so the people will recognize and avoid that fraud; the public will be safe, and the "faith healers," by engaging in an honest employment, may yet be beneficial to the community.

M. Gottesman, M.D.

77 Ludlow Street.

## A HISTORICAL CORRECTION IN CONNECTION WITH THE NAME, "KOPLIK'S EARLY SYMPTOM OF MEASLES."

To the Editor of the Medical Record.

Sir: In the Medical Record of the year 1898, No. 1,431, the well-known American pædiatrist, Koplik, described an early symptom of measles, under the title of "A New Diagnostic Sign of Measles." It consists in the appearance of minute bluish-white specks on a bright red ground. These spots are found on the mucous membrane of the cheeks and lips, twenty-four to forty-eight hours before the breaking out of the exanthema, and can be seen only with a strong light. This symptom was soon verified and confirmed on all sides, and earned for the author's discovery the name of "Koplik's early symptom." Every one indeed wondered how such a remarkable appearance could have remained so long undiscovered. I among others was so surprised at its being overlooked, that I was led to look through the literature of the subject, with, in short, the result that in the widely known "Compendium of Pathology and Therapy," written by H. Nothnagel, I found, under the heading of the "Acute Exanthemata," by Jürgensen, a description of the early course of the enanthema and exanthema in measles by the Danish physician, M. Flindt. I extract the following from Jürgensen's work:

"The best description is given by Dr. M. Flindt,[1] and deserves to be exhumed out of the records of the Danish 'Sundhedscollegium.'"

"Second day of fever: A spotted exanthema may be seen on the anterior surface of the soft palate, and on the mucous membrane of cheeks and lips. This shows quite a remarkable appearance due to the numerous minute, bluish-white, shining, and apparently vesicular points which lie in the centre of small red spots, and are arranged in irregular groups. One can feel as well as see the small vesicles projecting out above their surroundings. A similar miliary formation is to be seen on the palpebral conjunctiva.

"Third day of fever: Similarly grouped spots with vesicles are visible on the buccal mucous membrane, especially on that part of it lying opposite to the space between the upper and lower back teeth. At this stage the skin eruption first makes its appearance."

The above is a translation of the original. I wish merely to add, that the first writer was more exact in his observations, in that he palpated the vesicles and described the conjunctival appearances, which Koplik, so far as I am aware, has not mentioned. I may also mention that the time of the appearance of this symptom, namely, before the rash, was defined by Flindt in the year 1880.

Dr. Siegfried Weiss,
*Assistant Physician, Carolina Children's Hospital, Vienna.*

Vienna, September 20, 1899.

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**Treatment of Tetanus.**—In the treatment of tetanus, prevention is naturally the first point, and as tetanus in aseptic wounds is quite unknown, it is clear that strict purification of wounds likely to be infected with the tetanus bacillus must be carried out. Hence in all cases where a wound is soiled with earth and where lacerated wounds have occurred from falls in stables, gardens, and so forth, the wound must be very thoroughy purified, a nail-brush being used to scrub away earth and the whole wound thoroughly sponged out with undiluted carbolic acid.—Cheyne and Burghard, "A Manual of Surgical Treatment."

[1] Sundhedscollegiets Aarsberetning for 1880. Nothnagel: "Spec. Path. und Therapie," Exantheme, S. 92.

## Medical Items.

**The Causation of Night Terrors.**—Dr. Little, in an article in the *British Medical Journal* of August 19, 1899, expresses the opinion that night terrors are, in the great majority of cases, caused by disorders productive of moderate but prolonged dyspnœa. A preponderating number of cases are found in rheumatic subjects with early heart disease. A considerable proportion of cases are due to obstruction of the nasal cavities and fauces. Digestive disturbances do not play the important part in causation that is often assigned to them. The evidence for their causal connection with epilepsy or allied neuroses is scanty. The attacks occur in the subconscious stage of early sleep, and are confined to young children under puberty.

**A Vegetarian King.**—The king of Italy, according to an English journal, is a vegetarian, and lives entirely on vegetables and fruits. The doctors have also forbidden him to drink coffee, so his beverage is claret well diluted with water. The king never feels so well as when his fare is bread, potatoes, and oranges, although peaches are his favorite food. The queen has made repeated attempts to become a vegetarian, but finally has given up in despair, being fond of a generous diet.

**A Pediatric Physician at King's College Hospital.**—The London correspondent of *The Therapeutic Gazette* says that Kings College Hospital, London, has just appointed a special physician for diseases of children. In America and in several continental nations, this would hardly seem worthy of comment, but as a fact this is the first appointment of the kind in a general medical school that has been made at any general hospital in Great Britain.

**Physicians in Germany.**—The statistical office has just published returns relative to medical qualifications in Germany, which show that 1,314 candidates became qualified in 1898. Of this number 20 were foreigners, including 8 Russians, 4 Swiss, 3 Dutchmen, 2 South Americans, 1 Englishman, 1 Mexican, and 1 African. The total duration of medical study varied considerably with different candidates; 936 studied for nine semesters, 158 for ten semesters, and 211 for eleven semesters and upward.—*The Lancet.*

**A Vegetarian Sanatorium in Great Britain.**—On the borders of Epping Forest, a few miles from London, is a sanatorium at which the fresh-air treatment is pursued together with strict dieting, the consumption of flesh, fish, or fowl being absolutely prohibited. The results of this system, it is claimed, are most beneficial to the patients, especially in cases of tuberculosis, but cases of cancer (in the early stages) are dealt with on the lines of the experiments tried by the celebrated Abernethy many years ago. Patients also suffering from chronic dyspepsia, from debility and wasting are admitted. The hospital was opened in 1895, and has proved so successful that it frequently happens that applications for admission have to be refused owing to lack of room.

**The Hygiene of Railways.**—For a long time those concerned with the question of public health in France, as in other countries, have been complaining of the carelessness of railway companies in taking sanitary precautions to guard the health of their patrons. The minister of public works in France has, at the instance of the committee of hygiene, issued a circular in which it is suggested to the railway companies that they

should cause the floors of carriages and waiting-rooms to be washed every day with some antiseptic solution, and that a notice should be posted in carriages and other public places, as is the custom in all the chief towns, forbidding people to spit on the floor. The railway companies, however, have ignored the circular, and owing to numerous representations in the medical journals the minister has just sent to the railway companies a more pressing circular than the first, and has organized a system of surveillance in order to ascertain whether his instructions are properly carried out.

**Several Quivers Full.**—Queen Victoria has seventy-one direct descendants. The queen has seven sons and daughters living, thirty-three grandchildren, and thirty-one great grandchildren.

**Poisoned Bullets Required by the Boers.**—In a bi-lingual journal published in an Orange Free State town appeared recently the following advertisement: "War! War! Wanted two genuine Bushmen, woman and man, for the purpose of making their well-known poison; salary £10 ($50) per month. The above-named poison must be suitable for the immersion of our bullets, as I think it would be very unfortunate that our enemies should be shot with bullets not so immersed."

**Teaching University for London.**—Sir Philip Magnus, speaking at the meeting of the British Association concerning the proposed university for London, said: "A feature of the new university will be the faculties. These will be at first eight in number. They will consist of the professors and teachers interested in each great branch of learning. To the older faculties of law, medicine, theology, arts, and music will be added the newer faculty of science and the newest faculties of economics and engineering."

**Effect of Emotion on the Liver.**—Jonathan Hutchinson says that it has often struck him that we may perhaps infer from what is so easily observed in the case of the salivary glands as to what may not improbably be possible in that of such glands as the pancreas and even the liver itself. We know how easily certain kinds of emotion may cause the mouth to become dry and the salivary glands to cease their secretion for a time. We know also that in some persons the arrest of secretion may be permanent, and that probably in many more a partial arrest may become more or less habitual to the individual. If similar occurrences are possible in the liver, we have an easy explanation of the phenomena of bilious disturbances with or without jaundice.

**Sudden Changing of Color of Hair.**—M. Schmidt, of Frankfort, reports in *Virchow's Archiv*, vol. 156, No. 1, 1899, a case of sudden turning of the hair to gray. The patient was a laborer thirty-six years of age, who at the time was suffering from some affection of the neck. His hair showed two white patches, one in the middle line of the head, the other over the right ear. Eight years previously the patient had had a severe mental shock while on a railroad journey, and it was noted by his friends and relatives that these patches appeared almost immediately after. The possibility of its having been a congenital or gradually acquired defect, covered by hair dye, as has frequently been shown, seemed remote.

**Tallest Children Born in Summer.**—According to Combe, boys born in the months of September, October, November, December, January, and February are not so tall as those born in other months. Those born in November are the shortest. Those born in July are the tallest. Girls, according to the same authority, born in December, January, February, March, April, and May show a less length of body than those born in the remaining months. Those born from June to November are taller, but the tallest are born in August. The investigations of Wahl, in Denmark, and Wretlind, in Gothenburg, and especially those of Malling-Hausen in Copenhagen, on the deaf show that the length of body of boys from March till August increases greatly, but very little from September to February. Dr. Macdonald attributes this fact to some extent to economic conditions, for a child born in summer has generally better food and air. A large number of parents are poor, and in winter they are forced to economize on account of the expense of heating. They generally live also in small and ill-ventilated rooms. The influence of such conditions on a very young child would be much more detrimental than when the child is older and better able to resist unfavorable surroundings.—Dr. Macdonald, in *Child Study*.

**Inoculation for Rabies.**—At the Pasteur Institute in Paris, 1,465 persons were treated in 1898, and all but three were cured. For the thirteen years from the foundation of the Institute to the end of the year 1898, 13,181 persons were treated in Paris, and out of this number only 99 died.—*Scientific American.*

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended October 14, 1899:

| | | Cases. | Deaths. |
|---|---|---|---|
| **Smallpox—United States.** | | | |
| Arkansas, Jefferson County | October 4th | 20 | |
| Pulaski County | October 4th | 6 | |
| Kansas, Butler County | October 2d | 5 | |
| Massachusetts, Chelsea | September 30th to October 7th. | 1 | |
| Ohio, Cincinnati | September 30th to October 7th. | 2 | |
| Cleveland | September 30th to October 7th. | 1 | |
| Dayton | September 30th to October 7th. | 2 | |
| Pennsylvania, Allegheny | September 30th to October 7th. | 3 | |
| Tennessee, Memphis | September 30th to October 7th. | 2 | |
| Virginia, Portsmouth | September 30th to October 7th. | 2 | |
| Washington, Seattle | September 22d to 30th | 1 | |
| **Smallpox—Foreign.** | | | |
| Canary Islands, Teneriffe | September 16th to 23d | | 2 |
| Greece, Athens | September 16th to 23d | 7 | 2 |
| India, Bombay | September 5th to 12th | 10 | |
| Madras | September 2d to 8th | | 1 |
| Italy, Naples | September 14th to 21st | | 1* |
| Mexico, Chihuahua | September 22d to 30th | | 7 |
| City of Mexico | September 10th to 30th | 21 | 11 |
| Cuchio | September 29th | 25 | |
| Mulatto | September 20th | 12 | |
| Nuevo Laredo | July 1st to August 24th | | 3 |
| Ojenega | September 29th | 50 | |
| Pilares | September 29th | 15 | |
| Progreso | October 7th | 30 | |
| San Antonio | September 29th | 20 | |
| San Felipe | October 7th | 100 | |
| San Francisco | September 29th | 5 | |
| San Juan | September 29th | 100 | |
| Suarez | October 7th | 40 | |
| Vado de Piedras | September 29th | 20 | |
| Russia, Moscow | September 8th to 16th | 2 | |
| Odessa | September 16th to 23d | 4 | |
| St. Petersburg | September 8th to 16th | 1 | |
| Straits Settlements, Singapore | August 19th to 26th | | 3 |

* Imported from British East Africa.

| | | | |
|---|---|---|---|
| **Yellow Fever—United States.** | | | |
| Florida, Key West | October 6th to 10th | 137 | 4 |
| Louisiana, New Orleans | October 5th to 12th | 8 | 2 |
| **Yellow Fever—Foreign.** | | | |
| Cuba, Matanzas | October 3d | 1* | |
| Nuevitas | September 10th to 16th | 1 | |
| Santiago | September 16th to 23d | 4 | |
| Mexico, Vera Cruz | September 22d to 28th | 9 | 4 |
| Victoria | October 6th | Reported. | |
| Salvador, City of San Salvador (vicinity of) | September 1st | 11 | 1 |

* Soldier.

| | | | |
|---|---|---|---|
| **Cholera.** | | | |
| India, Calcutta | August 25th to September 2d | | 4 |
| Karachi | September 2d to 9th | 1 | 1 |
| **Plague.** | | | |
| Africa, Egypt, Alexandria | September 17th to 24th | | 1 |
| Lorenzo Marques, Magudo | September 22d | Reported. | |
| India, Bombay | September 5th to 12th | | 87 |
| Calcutta | August 25th to September 2d | | 54 |
| Karachi | September 2d to 9th | 3 | 3 |

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 56, No. 18.
Whole No. 1512.

NEW YORK, OCTOBER 28, 1899.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### STATE CARE OF CONSUMPTIVES, WITH AN ACCOUNT OF THE FIRST STATE HOSPITAL FOR TUBERCULOSIS IN THIS COUNTRY.[1]

BY ALFRED MEYER, M.D.,

NEW YORK.

To a medical man who began his professional work twenty or more years ago, there are few changes of professional opinion more gratifying than the one involving the prognosis of pulmonary consumption. The hopelessness with which these cases were generally regarded at that period led either to an excess of empirical medication, or to a therapeutic nihilism which more or less resignedly (according to whether it was the doctor or the patient) awaited the fatal end. Andral[2] said: "No fact demonstrates that phthisis has ever been cured, for it is not art which operates in the cicatrization of caverns," etc. Strange to say, Laennec's view was that phthisis of the first degree was incurable, but that if the case had advanced to the formation of a cavity there was a possibility of recovery by cicatrization. In 1870 Niemeyer wrote in his text-book of practical medicine: "It follows from what has been said, that death is the most frequent result of all forms of pulmonary consumption, and that it is the sole termination of tuberculosis, but that, in the forms of the malady which are dependent upon pneumonia, an improvement and approximative recovery are not so rare an occurrence as is usually supposed." Even the concluding and more favorable part of this opinion appears "to damn the prognosis with faint praise."

In the history of medicine there were not wanting voices raised energetically from time to time in favor of a more active outdoor life in the treatment of this disease. Burton-Fanning[3] mentions even Aretæus, Hippocrates, Celsus, and Galen among the number. But until recently the medical profession as a whole took a pessimistic view of the disease and was slow to appreciate at their full value the benefits of the outdoor treatment—*i.e.*, the outdoor treatment under daily medical supervision—the outdoor sanatorium treatment.

It is nearly fifty years since Dr. Brehmer, of Goerbersdorf (then a young medical man), published his book upon the curability of pulmonary consumption and set to work to give his ideas practical shape and practical results, in the teeth of much hostile criticism. And these results were before the medical world many years before they were estimated at their true worth. This appears all the stranger when we remember that during all these years of slow evolution of opinion regarding prognosis, confirmatory evidence of the curability of the disease was already at hand from the post-mortem table—overwhelming evidence accumulated by innumerable pathologists the world over of healed tuberculous lesions in the lungs of people who had died of other diseases. The value of this evidence was made almost irrefutable by the discovery of the tubercle bacillus, which simplified the diagnosis both ante mortem and post mortem, and removed the long-standing confusion and conflict in classification. These various factors have gradually moulded professional opinion not only to the importance of an early recognition of the disease, but also to the true value of the sanatorium treatment, and of the principles underlying it. And now the end of our century witnesses all over the world an intensity of interest and earnestness of purpose in the prophylaxis and cure of this disease that would scarcely have been believed possible a quarter of a century ago. The spirit of pessimism has been replaced by one of reasoning and reasonable optimism. The efforts of individuals for the relief and suppression of the disease, especially among the poor, have been supplemented by the efforts of societies and of organized bodies of professional and lay men, so that there is scarcely a country in Europe in which sanatoria for rich and poor do not exist; and in some countries, notably in Germany and France, their number is rapidly increasing. In the Orient, Japan was preparing to erect a sanatorium under the patronage of H. I. M. the Empress so long ago as 1897.[4]

In our own country excellent preliminary work has been done in the eastern States by Trudeau, Loomis, Bowditch, and by institutions like the country sanatarium of the Montefiore Home, the Seton, Gabriel, and de Peyster Sanatoria, the St. Joseph's Hospital in New York, the Brooklyn Home for Consumptives, and the Philadelphia Home for Consumptives. Finally the establishment of the Massachusetts State Hospital for Consumptive and Tuberculous Patients marks an era in the fight against the disease in the United States—not because of the additional number of invalid poor thereby provided for, but because it recognizès for the first time, distinctly and unequivocally, the principle of State aid for this class of people, and opens up a promising vista of imitators in all the States of the Union. Just as forty years ago in the movement for the emancipation of the slaves this New England State was in the forefront of the fight, so to-day, in the quickened movement against tuberculosis, Massachusetts is again leading the way—an example to her sister States in well-directed, public-spirited, humanitarian work.

In view of the fact that a bill was before the New York legislature last winter to appropriate $200,000 for the establishment of a State sanatorium in the Adirondacks, and that this bill, or a similar one, will be re-introduced next session, it may be of interest to the members of this section to learn more definitely what has been accomplished in Massachusetts, and how it was done. A recent visit to Rutland, where the Massachusetts State Hospital for Tuberculosis is located, has given the writer an opportunity to see for himself what is being done. He is indebted to Judge Hammond, of Northampton, for certain data of the earlier steps.

[1] Read before the Section on Medicine, New York Academy of Medicine, October 17, 1899.

[2] Reynolds' "System of Medicine."

[3] The Lancet, March, 1898.

[4] Walters, "Sanatoria for Consumptives."

After the preliminary agitation the movement in Massachusetts finally took shape in 1895 by the appointment by the legislature of a board of trustees of five members, and an appropriation of $150,000. The first step of the board after organization was to send a circular letter of inquiry to all the registered physicians of the State. Much valuable advice was thus obtained and the judgment of the profession as a whole ascertained upon a number of points. The next step was the selection of Rutland, near Worcester, as the site. It is an interesting fact that the site chosen is the exact geographical centre of the State; it has an elevation of eleven hundred and sixty feet above the sea, sheltered by a hill to the north which is about one hundred feet higher, and included in the hospital grounds are about two hundred acres of land. The plans of a Boston architect were accepted; they called for detached wards one story high, alternately long and short, separated sufficiently for the best sunlight and air, and connected only by a convenient corridor. The hospital was opened October 1, 1898, and the first patient was received on October 3, 1898. At the date of my visit early in April, 1899, the institution was full, and contained one hundred and seventy-five patients, male and female. The superintendent, Dr. Marcley, was absent, but I was most cordially received into the hospital family by Drs. Butler and Dunham. The wards are arranged like the spokes of a wheel, all leading at their northern end to a long corridor which connects them all, forming, as it were, the rim or tire of the wheel. At their southern end they are provided with a large glass-covered solarium and outside of this with a broad veranda having three different exposures, and giving excellent opportunity for the out-door rest cure. The central and present administration building is two stories high and separates the male wards from the female wards. On the exterior the buildings are all finished in Portland cement (slap-dash finish), and above each ceiling is a ventilating space connecting with a series of openings under the eaves. All corners are rounded, and the corridor has no stairs, but follows the natural grade; both of which details prevent the accumulation of dust and thus add to the sanitary perfection of the buildings. Each long ward has twenty-two beds, and there are besides five rooms with one or two beds each, for the accommodation and isolation of cases developing complications. The lighting is by electricity throughout, the heating by both steam and hot air. A large open fireplace and chimney in the centre of each ward rather serves the purpose of ventilation than of heating. The hospital management is in charge of a superintendent who is a medical man and a salaried officer. The medical care of the patients devolves upon two attending physicians, Drs. Bowditch and Clapp, of Boston, representing the two schools of medicine—both salaried officers. Each one visits the institution once a week and also has a stated office hour once a week in Boston for the examination of patients for admission.

Fig. 1.—Long Ward.

Residing at the hospital and representing them in their absence are the two house physicians, who receive their appointment for one year and are unsalaried. Patients (or their counties) pay $5 per week, and have their choice of either the allopathic or homœopathic division.

The general routine of the establishment is very much on the order of other similar institutions. Each patient is furnished with a note-book in which he enters the number of hours spent out of doors daily and condition of sleep, bowels, and appetite. In addition each patient is encouraged to buy his own clinical thermometer, and to keep a record of his temperature. Every patient is furnished with a sanitary pasteboard sputum cup for indoor use, and these together with their expectoration are burned daily; when away from the institution, he expectorates into pieces of Japanese paper, which he puts into a self-closing rubber pouch (old-fashioned tobacco pouch) carried in the pocket. Napkins of Japanese paper are used at table, and are burned after use. Three hearty meals and three light ones are served daily.

The out-door life of the patients during the winter has been encouraged by permitting the hardier ones to fell dead timber on the State lands adjoining the institution, and to burn this at three winter camps built by the patients themselves. The patients gather about their winter camp-fires like veritable backwoodsmen, spin their yarns, smoke a sly pipe, and grow young in spirit and in body. One of these camps, "Camp Welcome," may serve as illustration. It is merely an open space among the hemlock trees, screened from the wind on all sides by woven hemlock boughs, the handiwork of the patients. Alongside these screens are ranged plain board benches for the patients to sit on, and in the centre, over the fireplace, there is a piece of old discarded ventilating pipe to improve the draught of the fire. The healthful exhilaration of these winter camps has made them a great attraction to the patients and a great adjuvant in the treatment of their disease.

There is no special provision for hydrotherapy, cabinet treatment, or the employment of the Roentgen rays for diagnostic purposes. By the system of ventilation in vogue, which is under the supervision of trained nurses, the patients are soon accustomed to sleep with windows wide open on the leeward side all

night; and, as a matter of fact, the temperature of the wards, day and night, has seldom been above 40° F. all winter. There are no male nurses. In the daytime there is one female nurse assigned to each ward and adjacent private rooms, being one attendant for about thirty-two patients. At night there is one nurse each for the entire male and female services respectively, a total of about ninety patients each. This is undoubtedly an insufficient number of nurses, a fact very well recognized by the management, but not remedied, from motives of economy. Patients who are able will be employed to do light work: grading and gardening. There is no special amusement hall, but there is a small library, one of the inmates acting as librarian, and once a week there is an entertainment in the way of music, lecture, or a reading by volunteers from different parts of the State. The general atmosphere among the patients is one of cheerfulness and hopefulness, a natural consequence of the adoption by this institution of that fundamental idea in the sanatorium treatment of phthisis, the absolute separation of the hopeless cases from the hopeful ones. And this means, not their admission to a separate floor or a separate wing, but their entire expulsion from this institution. Cases whose prognosis was sufficiently favorable to secure their admission are discharged if they do not show improvement within four or six weeks—the improvement being gauged by the weight, temperature, dyspnœa, cough, expectoration, and general strength. The interesting fact was noted that scarcely any coughing was going on—a fact frequently observed at similar institutions, and often commented upon by those who have had occasion to visit them. The writer confesses to being almost the only one whom he heard cough during a stay of nearly twenty-four hours.

In the first six months of its existence two hundred and twenty-four patients had already availed themselves of its benefits, a very large number of whom had been improved by an average stay of four months only.

Roughly sketched, this is what has been accomplished in the direction of State care of the consumptive poor by the State of Massachusetts. Is there any good reason why the State of New York should not accomplish as much as her sister State? It may have been said that there were theoretical objections against such institutions in our country—that they savored too much of a "paternal" system of government, and that the solution of the tuberculosis problem should be left to the individual citizens or to organizations formed by them. But, with a few striking exceptions, we have waited in vain for such united efforts, and these few exceptions have made more striking the inadequacy of our provision to deal with this great problem—a problem made still more difficult by the tendency to exclude cases of tuberculosis from the general hospitals, which has followed the modern view of its infectiousness.

Now, when analyzed, what is the value of the theoretical objection to State care? "The State exists as a commonwealth by virtue of its constitution, and all State authorities, legislative, executive, and judicial, are the creatures of, and subject to, the State constitution."[1] Now there is probably no State constitution in the Union that does not contain provisions relating to State hospitals, as well as to State prisons. Nor is it clear why the State should not control its helpless sick, as well as its criminal classes, in the case of tuberculosis, for its own protection as well as for the interest

Fig. 2.—Patients Out in the Snow.

[1] Bryce "The American Commonwealth," vol. i., p. 420.

of the sufferers. In fact, after a study of the form of government of every State in the Union, Bryce[1] says: "A spirit of humanity and tenderness for suffering,

Fig. 3.—Patients Tramping through the Woods.

very characteristic of the American people, appears in the directions which many constitutions contain for the establishment of charitable and reformatory institutions." State care of the poor consumptive would not belie one of the great merits of the American form of government, namely, "that it relies very little on officials and arms them with little power of arbitrary interference," because it would devolve "functions that serve to aid the individual and the community rather than to interfere with or supersede the action of private enterprise."[2] In the case of the State care of the insane this step was the natural outcome of the county care, to the extent at least that there was the example or precedent of care by the smaller unit of the body politic. In respect of State care of the consumptive the situation is somewhat different. It would be on a par with the State provision for the epileptic, in that no separate provision had been made by the constituted authorities for either type of sufferers; with this important difference, however, that while there were supposed to be about twelve thousand epileptics in the State at the time of the agitation for their State care, there are upward of thirteen thousand deaths from consumption annually in this State. This is a larger number than all the deaths from scarlet fever, measles, whooping-cough, and diphtheria combined. It is just this enormity of the problem that seems all the more to justify State aid. But even granted that the theoretical objection be valid, must we not in all fairness ask ourselves whether they weigh in the balance against the good to be obtained?

And for that matter did not the theoretical objection apply with equal force to our sister State? And if the practical blessings, direct or indirect, to be expected for all citizens in that State outweighed the theoretical objections, may they not reasonably be presumed to do so in the State of New York? Where is the fundamental difference, either of people or of policy?

As for the practical objections, what are they? Mainly those of expense—the same argument that was raised effectually for some years against the State care of the insane. In the year 1889 one of the great New York dailies said of this matter: "In the interest of the good name of the State of New York it is greatly to be hoped that the present legislature will not again treat this question, purely one of humanity, as a matter of dollars and cents." These words are just as applicable to-day to the question of State care of consumptives, and additional force is lent to the argument by the vastly greater number of people whose interest, nay, whose very life, is at stake.

The bill before the legislature last winter to appropriate $200,000 for a State sanatorium in the Adirondacks, though acceptable in principle to senators and assemblymen generally, was not reported favorably by the finance committee because of the expense involved and a desire to economize. Regarding this phase of the question permit me to quote what was said by a medical paper (whose identity I am at the moment unable to recall) when a similar objection was urged against the Massachusetts bill: "When the worthy but poor consumptive is taken in time to an institution where his chances of recovery are still good, he will have little chance to infect the other members of the family, and he is likely to return, after a relatively short sojourn, restored to health and hygienically educated, ready to become again a bread-winner and a supporter of his family. Now, the maintenance of this patient in a municipal (or State) sanatorium for from three to six months or longer, during the earlier stages of the disease, will cost the commonwealth no more than if he

Fig. 4.—Outdoor Rest Cure.

[1] Bryce: *Loc. cit.*, p. 443.
[2] Bryce: *Loc. cit.*, vol. ii., p. 467.

had been taken to the general hospital for perhaps the same period of time, but in a much farther advanced and more hopeless state of his disease. If the family were absolutely destitute, the members would have to be supported by the municipality, whether the head of the family were in the sanatorium or general hospital. But since when treated in time and in a special institution he has twenty-five to thirty-five more chances of getting well, the likelihood of the community being obliged to support a widow and several orphans has thus also been reduced by nearly one-third."

In certain quarters there has been a tendency to lay too much stress upon the gradual but steady diminution in the death rate from pulmonary consumption in various parts of the world. After a study of the vital statistics of England and Wales, Ransome[1] concludes that "if phthisis diminishes there at the same rate as it did during the last fifty-eight years, during another thirty years it will have entirely disappeared by the end of that period." Even accepting this as a truthful horoscope for our country and countrymen, it is of no more practical value to us to-day than would be the promise of a generous meal a year hence to the starving beggar of to-day—with this difference, perhaps, that such calculations add another element of hopefulness to a situation so long regarded as hopeless, and give renewed encouragement to the profession and the world.

It ill becomes us to sit down with our hands in our laps and to await this millennium. Even if we are too late to be leaders in this great modern movement let us at least be good followers, profiting by the example and experience of others, and ranging ourselves alongside the great European countries in this fight of humanity for humanity.

1 Madison Avenue.

## THE SPHERE OF DRAINAGE IN SURGERY OF THE APPENDIX.

By WILLIAM STEVENSON MacLAREN, M.D.,

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The sphere of drainage in the surgery of the appendix may, I believe, be well defined, and is, I also believe, very limited.

For convenience in discussion, cases of suppuration about the appendix may be divided into two classes; the first class comprises those cases in which the abscess is localized, being shut off from the general cavity by adhesions; the second includes all those more serious cases in which the pus has entered the general abdominal cavity and caused greater or less inflammation.

Cases of the first class are simple abscesses and should be treated like abscesses of any other region. In these cases drainage is a perfectly proper, though sometimes unnecessary procedure.

The second class, however, are totally different in all their conditions, and there is no more propriety in treating them like abscesses than there would be in giving ulcer of the stomach treatment that would be proper for ulcer of the leg.

My reasons for feeling so strongly opposed to drainage in these cases are two. In the first place drainage, properly speaking, in them is an impossibility. In the second place, I am opposed to it because there is another procedure which is feasible, more rational, and must give better results.

Attempts at drainage usually take one of two forms: the glass tube or gauze strips. We all know how quickly a foreign body in the abdomen becomes shut in by adhesions. During my service as interne at Bellevue Hospital, some years ago, when drainage was more fashionable than it is at present, I watched this phase of the question very closely, and I have seen isolation complete at the end of twelve hours. If this occurs in those cases in which we are able to perform an autopsy, how much more certain to occur it must be in the body of a person having sufficient vitality to recover! Not only does the drain accomplish no good purpose, but it is in itself a factor on the wrong side. It cannot help recovery, but directly militates against it, for it irritates a surface already inflamed.

That this irritation is a fact is proven by comparing the dead-house findings in undrained abdominal sections with the histories of those cases that result in recovery in spite of the drainage tube. When section has been performed for simple ovariotomy, and death ensues from causes other than inflammation of the peritoneum, we do not expect to find serum in the pelvic cavity. If, however, a glass tube is used, the house surgeon, with his little syringe, is able to draw from the small pocket thus formed from two drachms to half an ounce of bloody serum every two hours for two or three days, if the visiting surgeon deems it wise to keep the seton in place for so long a time. If gauze strips are used, the irritation caused increases directly in proportion to the number of strips employed.

Why should a man who, in operating for a wound of a viscus in which infection is feared, introduces strips of gauze to encourage the formation of adhesions shutting off this region from the general cavity, expect that gauze introduced for purposes of drainage will not become isolated with equal promptness? The only good which may be rationally hoped for from drains used in this way is that among the many lines of irritation there may be one which passes close to a pocket in which pus is forming, and that this pus may break through into the line of the drain. This is a possibility; if, however, no drains had been employed, and such a pocket had formed, it would be equally possible for the pus to find its way into a hollow viscus, and the certainty of drainage irritation would be obviated.

The procedure which I would urge as a substitute for drainage is the same that has been recommended by Wiggin for a variety of other purposes, and is its exact opposite. I refer to leaving the abdomen filled with saline solution. We all, I believe, admit that the peritoneum has to a certain degree the ability to resist infection. I believe this resisting-power is enormously increased by the presence of the fluid. The reasoning which brings me to such a belief is this: In the first place, let us suppose that in a given case, after the peritoneum has been cleansed as thoroughly as possible, there is a small corner, an inch square, which is still infected; let us call the amount of this particular variety of infection, which a square inch of peritoneum can destroy, one; but let us further suppose that the actual amount of infection on the square inch in this case is equal to three. It is evident that if two-thirds of the total amount of infecting material could be removed from the surface, and prevented from multiplying while the one-third was being destroyed, and then, a little at a time, brought again in contact with it, the entire amount of that infecting material could be destroyed by the one inch of peritoneum. This is one thing which the saline solution accomplishes. If an amount of fluid is placed in the peritoneal cavity, which will require four or five days for its absorption, it can readily be seen that the infecting material, which, instead of lying in contact with the peritoneum, is diffused throughout the mass of the fluid, will be returned, little by little, to the surface during the absorption of that fluid; and the original

[1] Weber-Parkes Prize Essay, 1897.

amount of infecting material will not be markedly increased, as saline solution is not a culture medium.

In the second place, taking the same supposititious case, in which the amount of infecting material that may be destroyed by an inch of peritoneum is one, but the amount present is three, if we could take that infecting material and, instead of leaving it in contact with one inch of peritoneum, could spread it over three inches or more, we would by this means again render possible the destruction of all the infecting material. This is another thing which the saline solution definitely accomplishes. The infecting material, instead of being left in contact with a small area of peritoneum, is diluted and brought in contact with the entire lining of the peritoneal cavity.

To demonstrate that this procedure, which seems to me so sound in theory, may also lay some claim to soundness in practice, I would briefly mention two cases. The first of these came under my own observation; for the notes regarding the second I am indebted to Dr. W. L. Platt, of Torrington, Conn.

On March 29, 1898, Dr. Elias Pratt, of Torrington, was called to see William W——, aged sixteen years, who gave the following history: There have been several attacks of pain in the right iliac region. The last of these occurred in July, 1897, at which time he was ill for three days. No physician was called. Since this time there have been occasional ill-defined colicky pains. The present illness began during the night just passed. The patient was kept awake by colicky pains referred to the right iliac region. There was some vomiting. Examination disclosed slight tenderness at McBurney's point. The pulse was 65; temperature, 99° F.

March 30th: Pulse, 70; temperature, 99.5° F. There was slight pain, and the tenderness was increased. The bowels moved during the preceding night. 11 A.M.: There was chill accompanied by vomiting. Pulse, 85; temperature, 101.5° F. 4 P.M.: Pulse, 100, temperature, 102° F. There was no further vomiting; the pain was not marked. The tenderness was increasing. 9 P.M.: Pulse, 90; temperature, 101.5° F. There was perceptible resistance on palpation; the percussion note was dull.

March 31st, 6 A.M.: Pulse, 95; temperature, 100.5° F.; the condition was much the same as the previous night, except that resistance was increased. At about 11 A.M. on this day I saw the case with Dr. Pratt, and, on his agreeing with me as to the need of immediate surgical interference, I decided to operate as soon as preparations could be made. By 2 P.M. the pulse had reached 110, temperature, 102° F.

The operation was performed with Dr. Pratt's assistance at 4 P.M. Under ether anæsthesia the abdomen was opened by a three-inch incision parallel with Poupart's ligament. On opening the peritoneum there was an immediate escape of extremely foul-smelling pus and a small quantity of gas. The appendix was readily found in a pocket opening freely into the general abdominal cavity. It was about two and a half inches in length and gangrenous at its extremity. Some difficulty attended the removal, owing to lack of assistants, extreme rigidity of the abdominal muscles, and a broad, short mesocolon. The appendix was partially surrounded by a fold of omentum, which, as it was in a sloughing condition, was removed. The remaining adhesions were broken up, and the peritoneal cavity was washed as thoroughly as possible with decinormal salt solution, by means of a long glass tube used as an irrigator nozzle, and introduced into the lower part of the abdomen and pelvis. Owing to the rigidity of the muscles I feared that the washing through the original incision could not be thorough, and for this reason made a second opening parallel with and to the left of the median line. Through this second opening I was able to remove about an ounce of pus, which would otherwise have remained between the bladder and rectum. Eight ounces of the peroxide of hydrogen, full strength, were poured into the abdomen and allowed to remain for several minutes. The washing was then repeated. The first incision was then closed; the abdomen was filled with saline solution, and the second incision was closed, leaving no opening for drainage. The coils of intestine in the upper part of the abdomen had appeared normal; those in the lower part were congested and dotted with a few fine flakes of fibrin. At 9 P.M. on this day the pulse was 130; temperature, 102° F.

April 1st, 7 A.M.: pulse, 124; temperature, 101.2. 7 P.M.: Pulse, 114; temperature, 101.8°.

April 2d, 9 A.M.: Pulse, 74; temperature, 99.2°. 10 P.M.: Pulse, 78; temperature, 99.8°.

After this the pulse remained normal and the temperature never reached 100° F. The bowels were moved with Seidlitz powder on the fourth day.

The second case occurred in the practice of Dr. W. L. Platt, of Torrington. In February, 1899, he was called to see Daniel C——, who presented signs of appendicitis. These signs became steadily more marked, and three days later Dr. Platt decided to operate. When the abdomen was opened the appendix was found to be perforated and was removed. The adhesions were few. There was an abundance of pus in the general cavity. The intestines were found to be inflamed and covered with an exudate, which could be washed off only with difficulty. By the advice of Dr. Pratt, who was assisting him, he employed the technique which had proved successful in my case. The peritoneal cavity was washed thoroughly; the peroxide was used, and the washing was repeated; the abdomen was filled with saline solution and closed tight.

This patient, just before the operation, had a pulse of 125, temperature, 103.5° F. The day following the operation the temperature came down to 100° F., and stayed down until three days later, when a temperature of 101.5° F. marked the beginning of the formation of a mural abscess. This abscess was opened, and from then on recovery was without event.

Both of these patients are strong, hard-working young men to-day.

These cases, coming together in this way, impress me as being worthy of consideration. They belong to a class of cases in which the prognosis is never any too favorable.

I believe that drainage in these cases is irrational, because it does not drain, and because any foreign body must add to the already existing irritation. Filling the abdomen with saline solution I believe to be rational, because it dilutes the poison which is generated during the few hours immediately following the operation, and vastly increases the area of the peritoneum which is called upon to resist that poison. In this belief I earnestly commend these thoughts to your consideration; feeling confident that, if this method is followed, some of those patients which now almost get well will have the balance tipped in their favor.

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**Symphyseotomy.**—I can conceive of no possible valid objection to uniting them (the bones) firmly with stout silver wire. . . . Lusk says, "The weak side of symphyseotomy is the imperfection of all methods thus far devised to secure coaptation of the parted surfaces after the operation." I believe that the weak side may be made strong, and that we are entirely wrong in blaming silver wire with bad results due to infection or other causes. The safest of all material to bury is silver, and the safest material to bury it in is bone.—William S. Carr.

## A BRIEF HISTORY OF FIVE CASES OF MASTOIDITIS.[1]

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Case I.—On December 29, 1896, De Witt H——, the son of a physician, aged nine years and six months, was taken ill with scarlet fever. On January 2d nasal diphtheria added its complications, and on January 6th the disease was still further complicated by an acute inflammation of the middle ear of the right side. Dr. Albert H. Buck saw the case on January 11th and performed a paracentesis of the right membrana tympani. He ordered douching with a bichloride solution of 1 : 6,000. Two days later, mastoiditis was well marked. Dr. Buck referred the case to me, and I, with the assistance of Drs. Burnett and Strong, opened the mastoid cells in the usual manner. There was marked involvement of the mastoid with considerable pus. Four days later, the lymphatic glands of the neck on the same side became involved in the pyæmic advancement and on the next day had to be opened. They were found to be very necrotic. On the 22d, an inflammation of the left ear set in, and paracentesis of the membrana tympani was done on this side. On the 24th the left mastoid was opened, and a condition similar to that on the right side was found. About the 27th, pericarditis and endocarditis, with mitral regurgitation and aortic obstruction, were discovered to be present. On February 22d the child was sent to his home in the centre of the State, the left ear having entirely healed, and with only a slight discharge from the right. By the middle of March, this latter discharge had also ceased. The boy died on May 10th, having—to quote from a letter of his father's—"for the past two months suffered from cardiac pain and dyspnœa and with a pulse having a range of from 120 to 140." It seems to me that this case, briefly related, well illustrates the fact that the mastoid operation, *per se*, is entirely devoid of danger, for, notwithstanding the marked pyæmic disturbances present, the rapid distribution of poisonous foci from one point to another, and the rapidity with which the tissues succumbed to the influence of the bacterial invasion, and, further, notwithstanding the weakened condition of the boy's physique, after each operation his condition temporarily improved, and the boy eventually recovered from the mastoid operation. The fatal result was due to the fact that such an important organ as the heart became involved.

Case II.—On January 16, 1899, I was asked by Dr. D. M. Marvin, of New York City, to see with him in consultation, A. K— —. From the doctor I obtained the following history: A. K——, a college professor, who was visiting, during the Christmas holidays, friends in New York City, was attacked with acute tonsillitis on December 31, 1898. He was very ill for about five days, when he began to convalesce, and by January 13th he was contemplating returning to his college duties. On that day he was attacked with acute inflammation of the middle ear. Dr. Marvin ordered douching with a warm bichloride solution, and the administration of a saline purge. On the morning of the 15th, the patient arose to dress and suddenly fell over in a faint. Dr. Marvin was called, and upon his arrival found the patient in marked collapse, almost pulseless, and for over two hours the doctor feared he would lose his patient. With strychnine, digitalis, whiskey, and hot saline injections, the heart action was improved. Dr. Marvin could not find anything to account for such marked collapse; all the patient's organs, with the exception of the right ear, seemed to be in a normal condition. The next day he asked Dr. Richard Van Santvoord to see the case with him, and this gentleman also was unable to detect any lesion outside the aural inflammation. (Otorrhœa was now present.)

The next day I saw the case and found the man in a very weak and exhausted condition. The pulse was compressible, intermittent, and about 120. The temperature was 103.2° F. The patient was pale and listless; there was no tenderness, œdema, or redness over the mastoid. The membrana tympana was bulging, especially in the upper posterior quadrant, in which was a small perforation which afforded escape to a purulent discharge. The patient was so weak that we feared even to move him for the purposes of examination; but, as an operation was imperative, we stimulated him with a hot saline injection containing brandy (half an ounce) and gr. $\frac{1}{20}$ of sulphate of strychnine. We also gave him gr. $\frac{1}{4}$ of sulphate of morphine hypodermatically. The operation was performed under rather adverse circumstances, it being found necessary to use lamplight during the latter half of the operation. While this was in progress the ether had to be stopped a number of times, and the patient further stimulated. The cortex of the mastoid was found to be very dense and hard, but when once a way had been chiselled through this a large pneumatic space filled with creamy pus was entered. The bony cell walls were all eroded, and this erosion had extended over the bony covering of the sigmoid sinus, which it was necessary to expose from the bulb to the knee, and the surface of which was found to be covered with exuberant granulations. An opening existed in the tympanic roof, but the overlying dura was found to be healthy, and no granulations of any size were present. After the operation the patient's temperature rose to 106° F. and his pulse to 180. Dr. Marvin kept stimulating him during the night; and during the following week he gradually improved so that at the end of seven days his temperature had fallen to 99° F. and his pulse to 100. Shortly afterward, a phlebitis of the left leg and a perihepatitis set in, and these affections complicated and prevented a rapid convalescence. He was unable to go out before the middle of March. The last time I saw him (about March 30th) I found that the aural lesion had entirely healed. This case seems to be of special interest on account of the absence of marked symptoms; only the bulging of the membrana tympani and the purulent discharge being present. And this absence of decided symptoms is especially remarkable when we take into consideration the rapid invasion of the disease and the extensive erosion of the tissues which occurred. This case, as well as the first, also illustrates how trifling is the shock which is associated with the mastoid operation. Especially is this true of the second case, as the patient had been in marked collapse for a period of forty-eight hours before the operation, and indeed was so weak when the time for this arrived that we feared moving him from the bed to the operating-table. It is true that his temperature rose and his pulse increased in rapidity to an alarming extent after the operation, but in the course of twenty-four hours the temporary shock had passed off.

Case III.—Elizabeth G——, aged thirty years, was seen by me on January 27, 1899, in consultation with Dr. J. H. P. Hodgson. Five weeks before she was taken ill with scarlet fever and two weeks later complained of pain in the right ear. The next morning the membrana tympani ruptured with prompt relief from pain. From that time forward the discharge varied from day to day and was treated by douching with warm antiseptic solutions. Five days ago, pain and œdema developed in the region of the right mastoid process.

[1] Read at the thirty-second annual meeting of the American Otological Society, at New London, Conn., July 18, 1899.

On examining the ear I found, besides the marked tenderness over the mastoid process and the œdema, decided bulging of the membrana tympani, and a drooping of the upper posterior wall of the cutaneous external auditory canal. I advised immediate operation. On January 28th, assisted by Dr. J. H. P. Hodgson and E. L. Dow, I opened the mastoid process. Extensive destruction of the bony structures was found, and at least half an ounce of pus filled the cavity. I exposed the sigmoid sinus from the bulb to the knee and opened it, but no clot was present in its lumen, the blood flowing free and clear. The hemorrhage was easily controlled by means of a pledget of iodoform gauze. The dura mater was apparently healthy. Having thoroughly curetted the walls of the cavity I packed the wound firmly with gauze.

January 30th: The wound was dressed and the gauze removed; there was no hemorrhage from the sinus, which looked healthy and was well contracted. Much pus was present.

February 1st: The wound was dressed; the discharge was less.

February 4th: The wound was dressed; it is granulating nicely.

February 8th: The wound was dressed; the patient is steadily improving. From this last date onward, the patient's condition steadily grew better, and by March 9th the wound had entirely healed. The body temperature reached the highest point—101.6° F.—on the third and fourth days following the operation. During convalescence it ranged from 98.2° to 100.4° F.

Case IV.—Elizabeth S——, aged five and one-half years, daughter of a physician, had an attack of the grippe in the early part of February of the present year. An otitis media purulent acuta developed about the 14th of February, and Dr. John Dorning asked me to see the case on the 17th. I found a slight tenderness over the right side of the mastoid, but so slight as to render it doubtful whether it really existed. The discharge from the ear was mucoid in character, and the membrana tympani was only slightly bulging. Adenoids were present. Their removal was advised, but I could not obtain the necessary permission. At this point I would like to suggest for discussion the question whether we should operate for adenoids of the vault of the pharynx during an attack of acute aural inflammation, or should wait until all the acute symptoms had abated. The removal of these growths certainly provides for better drainage of the middle ear through the natural passage, the Eustachian tube, and also gives us the beneficial effect of a considerable local loss of blood. On the other hand, it is undoubtedly true that many cases of acute middle-ear inflammation have arisen from the operation. However, in all cases of acute catarrhal or purulent inflammation of the middle ear, in which I have removed the adenoids (when present) early enough, I have never had occasion to regret taking this step. Of course it is possible that these cases might not have gone on to develop mastoiditis, even if the adenoids had been left *in situ*; but, comparing cases in which the symptoms have been equally severe, I may say that the patients from whom the adenoids have been removed have certainly been discharged cured much earlier than those in whom they were allowed to remain. But to return to the case: I made a thorough paracentesis of the membrana tympani at this time. On February 27th, as the ear was getting worse and the discharge more purulent, I obtained permission to remove the adenoids. At the same time I made another free paracentesis, extending the incision along the upper wall of the canal.

Three days later the discharge was again more marked. The body temperature reached 103.4° F. and the pulse 120, and a slight tenderness was found to exist over the mastoid. An operation was advised. At the father's request, Dr. Fred. Whiting, of this city, was asked to see the case. He agreed with Dr. Dorning and myself as to the advisability of the operation, and kindly consented to present and give us the value of his experience and assistance. The mastoid was thoroughly opened. Although the amount of pus found was small, all the mastoid cells contained appreciable masses of granulation tissue.

On March 4th, the left ear became involved, and a paracentesis of the membrana tympani was done on this side.

On the 8th, the body temperature rose to 102° F., and on the 10th to 105.6° F. Dr. Dorning, for the fourth or fifth time, thoroughly examined the child and found all the other organs of the body normal. The blood was examined for the malarial parasite, but it was not found. It is true, a slight bronchitis existed, but it was so slight that it could not have had any bearing on the temperature.

On the 15th, I again made a paracentesis of the left drum membrane.

On the 18th, the body temperature having risen to 104.8° F., and Dr. Whiting having approved of the proposed step, I opened the mastoid on the left side. The conditions found here were very similar to those found on the right side.

On the 19th the body temperature rose to 99.2° F. at 1 A.M., and to 104° at 1 P.M., falling back to 99.8° at midnight.

On the 20th the temperature record was as follows: 99.2° at 4 A.M.; 105° at 3 P.M.; 102.4° at 8 P.M.

On the 21st, the record was: 102.4° at 8 A.M.; 100.4° at 7 P.M.; 105.4° at 9 P.M.

On the 22d: 105.6° at 1 A.M.; 101° at noon; 106.2° at 5 P.M.; 101° at 11 P.M.

On the 23d; 105° at 1 A.M.; 100° at noon; 106° at midnight.

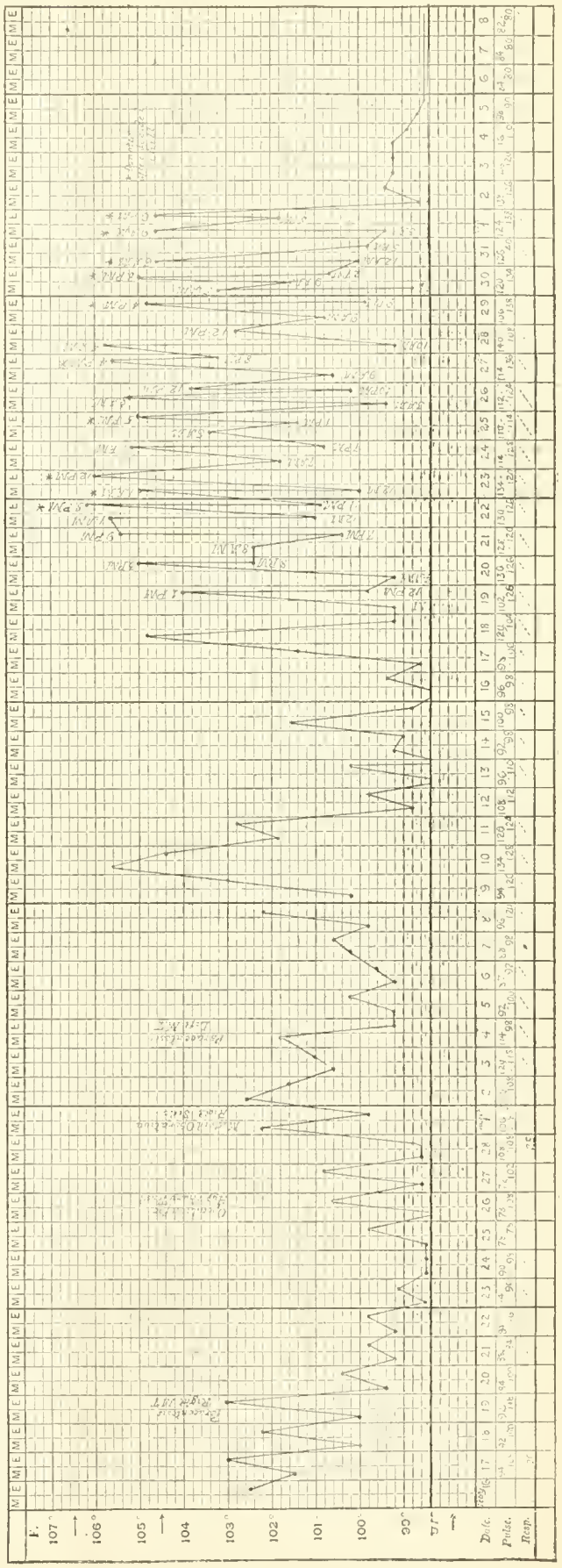
On the 24th: 101.8° at 7 A.M., and so on, as will be seen by the accompanying chart, for fourteen days. (See Chart, Case IV.)

The rise of temperature usually took place after a chill. Absolutely no other symptoms, except a slight tenderness over the right femoral artery, which lasted for four or five days, were at any time perceptible. Drs. Dorning and Whiting joined with me in urging that we be allowed to explore further the mastoid region, to uncover the sigmoid sinus, and if necessary to explore the sinus as also the middle and posterior cranial fossæ. There were absolutely no symptoms besides this fluctuating temperature to warrant this step; but in view of the fact that this was the region which was primarily involved, and in view of the further fact that we could find no other cause for the existing pyæmia, we thought we were justified in the position which we took. But the father, Dr. S——, would not listen to further operative interference.

On the 19th, Dr. Robert F. Weir was asked for his opinion, and he thought that, in view of the lack of other symptoms, we ought to wait a few days for other evidences before exploring. He considered that if, at the end of forty-eight hours, we got no further evidences of disease, and yet the temperature continued to fluctuate, it would then be good surgery to explore. I contended at the time that it was better surgery to explore before we got further symptoms, which latter would mean a further extension of the disease. Dr. Francis L. Delafield was also called in consultation on the 21st, and he advised non-interference until more marked symptoms should appear. I felt at the time that the case was hopeless; but, on the morning of the 2d of April the temperature fell to almost normal and never rose appreciably after that date. The child, after a tedious convalescence, fully recovered.

Though our prognosis was happily proven to be incorrect, and our desire to operate further was proven to be unnecessary, I still feel that the stand we took was the only correct one, and that in a similar case in the future I would not allow the result obtained in the present case to tempt me from further exploring the field of operation. It was suggested by one of the gentlemen that the infection was a wound infection; but as the mastoid was most thoroughly laid open, and as the wound, though sluggish, remained healthy, and with but little suppuration, this did not seem to me to be a likely cause. I had the privilege of seeing one of Dr. Gorham Bacon's cases in which, after a mastoid operation, the body temperature rose to a high point (106° F., I think), while the respiration fell to about ten per minute. In this case Dr. Bacon made an exploration of the sinus and posterior fossæ, and although he found no further lesions, yet after the operation the patient's temperature fluctuated only slightly above the normal, the respirations rapidly rose to about sixteen per minute, and the man proceeded to make an uneventful recovery.

Case V.—On April 5th, Dr. Albert H. Buck was called by Dr. X——, to see a gentleman who was in a comatose condition, and obtained from the former the following history: Acute middle-ear inflammation beginning about six weeks previously, with discharge lasting for one week. On the 4th of April the patient was awakened by severe pain in his head. He called upon his physician, who advised him to go home and apply ice to his head. That evening the patient became unconscious, and he had remained so up to the time of Dr. Buck's visit. During the winter, on two occasions, sugar had been found in the patient's urine. Dr. Buck found no bogginess or redness over the mastoid, but a profuse discharge from the middle ear with stenosis of the canal. He advised an operation as the only means of saving the man's life, and at his request I operated early in the afternoon, the man still being unconscious. With Dr. Franklin Stevens' assistance, I exposed the mastoid cells, and found them infiltrated with pus, but only in small amount. I exposed the sigmoid sinus, and wounded it slightly, causing some hemorrhage. Its walls were very thin. On exploring the tegmen tympani, my probe entered the cranial cavity. I then removed the tegmen tympani, exposing the middle fossæ, and found the dura mater of a dark bluish-red color, bathed in pus, and bulging. I introduced an exploring needle and withdrew about a drachm of pus. I then incised the dura; but although I searched in all directions, I found no further collection of pus. The patient never recovered consciousness; he died a short time after having been placed in bed. I bring this case before the society in the hope that it may call forth a discussion in regard to the question whether we are justified in operating when the patient may be considered to be *in extremis*. The patient certainly, in the case just narrated, had no chance for life without an operation, and while I think his chance with an operation was at best only a very small one, I nevertheless believe we were warranted in taking that small chance. I also cite this case as another one of those unfortunate ones which ought to be a warning to the general practitioner against treating diseases of the ear, acute or chronic, in a slighting manner. There are more patients than we know of, who die primarily from disease of the ear, and which, if seen in time by the aurist, would have their lives prolonged. Dr. Eugene Hodenpyl only recently told me of a case upon which he had performed an autopsy. The man was found unconscious in the street, and the hospital authorities thought it likely that he had been sandbagged. Dr. Hodenpyl,




Case IV.—Elizabeth S——, Aged Five and One-half Years. Mastoiditis (double) complicating the "grippe."

on autopsy, found the man had been a sufferer from purulent otitis media, the discharge having gradually burrowed through the tegmen tympani, and a cerebral abscess having developed, suddenly rupturing, caused the man's death. The statement of Dr. McEwen that "when the tympanic cavity has become the seat of chronic suppuration with ulceration of the mucous membrane into the antrum and mastoid cells, it becomes a standing menace to the safety of the patient. The disease progresses insidiously, and one cannot be certain as to when or where it may end. A person might as well have a charge of dynamite in the mastoid antrum or cells, as one cannot know the moment when accidental circumstances may arise, which may cause infected matter to become widely disseminated all over the cerebro-spinal system. Chronic otorrhœa is much too lightly regarded, and is frequently considered as a mere inconvenience instead of a menace to life"—might only to a less degree be applied to acute cases as well.

It is not so many years ago that I attended the medical school, and yet at that time one of our college professors summed up diseases of the ear in the one word, "wax." There are to-day too many men in the practice of medicine who look upon aural disease as possessing a scarcely larger sphere.

## MAJOR AND MINOR TECHNIQUE OF BASSINI'S OPERATION, AS PERFORMED BY HIMSELF.

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While in northern Italy I made three trips to Padua to see Professor Bassini, who was so kind as to invite me to see some private operations at his house as well as those in his hospital service.

Although doing considerable general and abdominal work, this great Italian surgeon and teacher has an especially large number of hernia operations. His private patients come from distant lands in some cases. Among them I met a Greek gentleman, one from Germany, and a patient from Paris.

An average of more than one radical-cure operation a day is done here, and the wards of the hospital, of course, contain cases in every stage of recovery.

The ancient university at Padua now has thirteen hundred students. It once had an attendance of many thousand, surpassing any university in the world. Among its professors was Galileo. Petrarch, Dante, and Tasso were educated here, as well as Savonarola, Giotto, and many famous men.

Half a mile from the university, near the east wall, is the Spedale Civile, or hospital where the students attend clinics. This hospital is an old and very large building. Professor Bassini speaks of it as not quite modern enough to suit his ideas, but it would be hard to plan one better suited in certain respects to hospital purposes. It surrounds a large court with galleries like cloisters of an abbey, and is spaciously and massively built in three stories. At the entrance gates a room is provided (as is also done in Paris now) where visitors may leave automobiles and bicycles.

The operating-theatre, dressing-rooms, etc., are closely like those in German hospitals. The interesting large wards, four in number, are the largest rooms I ever saw used for this purpose. They extend through two stories—that is, they are at least ten to twelve metres high and have galleries four or five metres above the floor, above which are the only windows. Each ward must be fifty or sixty metres long and one-third as wide, as there are rows of twenty-four beds on each side without crowding, and a double row was placed down the centre for half the length. The male surgical ward contained seventy-six occupied beds and space for ninety-six in all. The adjoining ward of the same dimensions was separated only by a low screen, so that the two rooms were in reality one immense chamber of an L shape, which, but for this separating screen, would have formed one ward of over one hundred and fifty beds.

The great size of these rooms, like some public hall or cathedral, took away all sense of crowding, and I can see no real objections to the plan unless it might be difficulties in administration and nursing.

The hour for operating is 6 A.M. In order to see all the minor preparations one must be present at 5 A.M.

Those who care to read what follows will find a rather minute account of the little steps in the work as I saw it, the general features of the Bassini radical-cure method being assumed to be known to the reader. I have received so many visits and inquiries from physicians who were looking up radical-cure work at home that I am sure a very general movement in the direction of treating hernia surgically must be on foot in America.

Whatever may be the value of either of the American methods, it must be remembered that they follow the Bassini rather than the Kocher or Macewen type. Bassini must be given the credit of having started us all on the right path, hence too careful a study of his own technique cannot be made.

I have seen the Bassini operation done by many operators in Europe and America, sometimes poorly and sometimes very skilfully, but nowhere is it done in all details as it is here in Padua. Perhaps it may interest some to know just how Bassini himself puts in each suture, ties his knots, holds his knife, etc.

Personally, I believe that success in radical-cure operations is a result of smooth and rapid work. So much seems to depend upon getting the parts united with a minimum of handling and stretching that an unvarying routine in the technique is quite essential. Only by uniformity can the operator train himself and assistants to know each step in advance, and to avoid all tentative and experimental efforts and all false moves.

The technique in the operations of Bassini, and his assistant Dr. Stiasni, who sometimes takes his place, is unvarying in the precision of its smallest detail. With either operator the work moves from start to finish with a smoothness almost rhythmical.

Dr. Gaetano Facchetti, another assistant, gives anæsthetics when Bassini operates, but acts as first assistant to Stiasni when he operates. Both these gentlemen are with Professor Bassini in his private work also. All can speak German in a measured, scholarly way. Some of Professor Bassini's best papers have been in that language.

The time required by Bassini for an inguinal herniotomy is twenty or twenty-five minutes, for a double rupture thirty-five or forty-five minutes. In Gussenbauer's and other Vienna clinics I have observed the time to be about double this on the average for the Bassini operation, although a fairly large goitre was removed in eighteen minutes.

No difference in any detail could be noticed in different operations by Bassini, whether in the clinic or his private practice. The same early hour is set for all cases, at least in summer. One description applies, therefore, to all the operations I saw.

The patient is shaved and cleansed on the previous day, but not dressed with sublimate gauze or indeed any covering. About 5 A.M. the assistants start the sterilizers in which the various rubber aprons and table covers, as well as the sheets, towels, etc., are placed. The hands of the operators receive an exceed-

ingly prolonged scrubbing—nearly thirty minutes—before being placed in sublimate solution, which is strong—3 : 1,000.

The patient is prepared before anæsthesia by (1) prolonged scrubbing with soap and water; (2) copious washing with decinormal saline solution; (3) 3 : 1,000 sublimate solution copiously applied on compresses and poured over the parts. Rubber cloth leg covers like boots are now drawn up over the legs and thighs. Thick red rubber cloths are placed over the upper part of the body. Gauze pieces one metre square are laid over the intervening parts in several layers, and more sublimate 3 : 1,000 is poured over them. The usual tying of gauze over the penis is attended to. Sublimate solution is used rather frequently before the incision and after the wound is closed, but none is poured into the cut tissues, although the hands and sponges are washed in bowls of it.

During the last part of the preparation the patient is rapidly put under chloroform, his knees having been secured by straps to the table.

The gauze over the inguinal region is now cut open from the pubes to the iliac spine, uncovering a space a little larger than the skin incision. The latter is made by drawing the skin and fat into a fold transverse to Poupart's ligament. This is seized by the operator's left thumb and forefinger, while the assistant grasps the same fold about an inch away. About 7 to 10 cm. is the height of the fold drawn up, and this is quickly incised between the operator's and assistant's hands, making an incision 12 to 18 cm. long and 3 or 4 cm. above Poupart's ligament. This method is rapid, the aponeurosis of the external oblique being laid bare at a single stroke and the pillars of the ring exposed. Half a dozen bleeding points are at once seized. The superficial epigastric vessels are divided near the middle of the incision. The canal is laid open, not by dividing the ring and external oblique on a director, but merely with a stroke or two of the scalpel from above downward parallel to the coarse tendinous fibres of the aponeurosis. The dissection of the external oblique is quickly made with the handle of the scalpel until Poupart's ligament is exposed on its inner aspect. The cord mass, containing the cremaster, hernial sac, and spermatic cord, is now raised by a blunt dissection and any lobules of loose fat stripped away as high up as possible. The cremaster muscle, when developed into large strings, is removed in the same way, often between ligatures.

The isolating of the sac is usually begun at its neck. After being stripped from the cord, it is often seen that the testis has been drawn up into the wound, but this is not objectionable. Even in congenital hernia the isolation of the sac is usually accomplished at least at its cervical portion. The neck of the sac is now detached from the internal ring by loosening the parietal peritoneum for 2 cm. all around it. The deep epigastric vessels will always be seen if this has gone far enough. It is now certain that the sac can be removed at a point high enough to insure that no funnel or even dimple will be left leading down into the repaired ring. Contrast this with the Kocher method in which such a tubular process must always remain, inasmuch as the stump of the sac is left in the internal ring. The sac is now opened widely at its fundus, and its whole interior inspected. If no adherent contents are found a clamp is at once placed upon its neck as high as possible. Adherent masses of omentum are returned after careful hæmostasis, and such masses are removed only when they have become much thickened and hardened as in certain old hernias.

The method of removing the sac is by tying around its neck above the clamp a strong silk ligature. In small sacs this is sufficient; in large ones the ends of the same ligature are threaded upon a needle passed through the stump and tied around over the first loop. The sac is now cut off just outside the clamp and the latter removed. The elastic peritoneum draws the stump well inside the abdomen, and, of course, the subsequent work is purely extraperitoneal.

Now the dissection of the peritoneum away from the internal ring, which has already been mentioned, has also had the effect of loosening the transversalis fascia and internal oblique muscle so that the margins of the internal ring are free and even undermined. These, as every one knows, are the structures to be included in the Bassini operation in the first or deep line of suture, intended to restore the enlarged ring to its normal size. To facilitate the insertion of these stitches a forceps is made to grasp the transversalis and internal oblique, pointing from the internal ring inward, one blade being just outside the peritoneum, *i.e.*, the blades grasp the whole of the posterior wall except the peritoneum. This gives a ready means of handling and raising the structures in placing the deep stitches. A flat director is also used in some cases at this stage, thrust into the internal ring to push the posterior wall forward, and to steady it as the needle enters its substance. I attach some value to this little step in the technique, since it is obviously difficult without it to know the exact depth to which the needle enters the muscle, and whether it gets any of the transversalis fascia, unless one goes deep enough to risk puncturing the peritoneal cavity.

The insertion of this deep suture line is the essential and important feature of the operation. The divided external oblique aponeurosis is held apart by retractors, so that the inner aspect of Poupart's ligament is accessible and visible. The cord is held outside the canal by a loop of silk clamped with an artery forceps to the gauze covering the abdomen. Good-sized silk previously sterilized by boiling in glycerin is taken from the antiseptic and threaded by the operator's own hands upon a semicircular self-threading needle. This is done at the moment of using. A needle holder is used for the two deep suture lines, but for the skin suture the needle is held in the fingers.

The deep stitches are placed beginning very close to the pubic bone. The first one or two may, in some cases, include part of the rectus muscle and sheath. Each stitch enters the transversalis and internal oblique 1.5 cm. from their lower margin, and makes exit at that margin. The needle then penetrates the shelving edge of Poupart's ligament from within outward. From four to six such stitches are placed behind the cord, the last one narrowing the internal ring until it fits tightly around the cord and forceps blade. The order of tying these stitches is the opposite of their insertion. The upper one, that nearest the cord, is first adjusted and the others follow in succession downward. The distance between these stitches is considerable—1.5 or 2 cm. Their effect is not only to restore the length and obliquity of the canal, but to invert the upper or muscular segment like a Lembert suture, and to draw it somewhat behind the ligament and not merely against it. In other words, we have a sort of overlapping or imbrication here, giving broad surfaces of union.

The cord being replaced in the repaired canal, the second suture, that reuniting the external oblique aponeurosis, is placed as follows: The outer angle is lifted on a blunt hook and two silk stitches are placed here and tied. A running or continuous suture is then rapidly inserted until the pillars of the external ring are reached. Here one or two separate stitches are now placed to bring it to the proper size. This form of suture is rapid and gives abundant tension at the two ends without danger of puckering or shortening the incision. All the arteries are now tied with silk.

The final step of closing the skin is by a continuous silk suture, inserted with a half-curved needle held with the fingers only.

The pinched-up flaps are both transfixed by the needle about 1 cm. from their cut edges. While the needle is sticking through the skin, the slack of the thread is wound twice around its point, after which it is pushed through. This forms a continuous buttonhole suture. Each part is easily given the proper tension, as there is no back slip. When completed, it is somewhat ridge-shaped, the deeper parts being well coapted. Professor Bassini also uses this suture after cœliotomy and in operations in general, with good results.

Drainage is seldom employed in these herniotomies, but in occasional cases in which there is obstinate oozing a rubber tube is inserted at a point some distance from the suture line.

The first and practically the only dressing is by moist sublimate compresses of gauze. Over this are large masses of salicylic cotton made to envelop the hips, thighs, and abdomen, front and back. The patient is then drawn down upon two steel rods projecting from the end of the table, and the whole enveloped in wet starch and lime bandages from the middle of the thighs to the middle of the abdomen. This forms a firm support when dry, but is not so rigid as plaster of Paris The steel rods are included in the bandage and are drawn out when the patient is laid upon the car or bed. A similar dressing is used by Bassini after many operations—nephrectomy, hip and shoulder resection, and amputation of the breast.

The post-operative history of these herniotomies is of great interest. The time of the first and only redressing is about the eighth day. I had opportunity to study the history charts and see the dressings removed in a large number, and saw without exception the same result, viz., definitive primary healing with a level temperature below 99° F. after the first forty-eight hours. Not a drop of secretion or sign of infection was present in any case.

When the skin suture is removed on the eighth day, a light gauze dressing is placed over the wound. The patient is at once allowed to leave his bed and go home, with advice to remove this dressing in a few days himself. No truss or support is ever used, and no limit to exercise is enjoined.

Recurrences are very rare, less than five per cent. in all probability, after two or three years have elapsed. Of course no relapses occur immediately. There is practically no danger to life from this operation. As I have often insisted, the question of recurrence is bound up with that of stitch abscesses. I do not know with what success such accidents are avoided here, and there are no exact statistics accessible, but in a large series I saw not one instance of infection.

In talking over this side of the subject with Professor Bassini, he stated the case very concisely by remarking: "Naturally, as this is a plastic operation, primary union is essential to success. Sepsis prevents this union as in all plastic work." To this may be added another and earlier saying of Bassini, made when he first began his operative work on hernia: "*L'ernia è una malattia meccanica.*"

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**Phlegmonous Infiltration.**—In cases of phlegmonous infiltration I favor, above all other measures, the application of an ointment composed of resorcin, 5 parts; ichthyol, 10 parts; mercurial ointment, 35 parts; lanolin, 50 parts. Under the influence of this antiseptic and sorbefacient preparation and of moist heat, one may see many phlegmonous infiltrations assume a kindlier type, and may even perhaps secure the actual absorption of pus.—Roswell Park.

## Progress of Medical Science.

**Tuberculosis.** — In concluding an essay entitled "The Struggle against Tuberculosis," Dr. Edward O. Otis says, in the *Boston Medical and Surgical Journal* of September 21st:

"Let me outline a plan for a systematic scheme of prevention in a city like this.

"1. Knowledge of all cases of tuberculosis and their habitat, and the power to control and supervise them; this knowledge to be obtained either by including consumption among the infectious and communicable diseases and requiring notification as with them—which I believe is the only thorough way—or by urging physicians through circulars from the board of health, frequently repeated, to report all cases coming within their observation, especially among the poor, or wherever there is doubt as to the proper disposal of the sputum.

"2. Instruction of the public as to the dangers of tuberculosis and their avoidance by circulars similar to those issued by the Pennsylvania Society for the Prevention of Tuberculosis. This is already done, I believe, to a greater or less extent.

"3. Compulsory disinfection or renovation of premises occupied by a consumptive, or in which a consumptive has died, before they can again be let or occupied.

"4. Hospital accommodations in especial buildings for poor consumptives and those of limited means, situated in or near the city, and receiving free all stages of the disease alike. Two such institutions, with a capacity of one hundred and fifty beds each, or three with one hundred beds each, would probably afford accommodation for nine hundred cases annually on the basis of an average residence of four months.

"5. One or more sanatoria proper in the country for the open-air treatment, not more than two or three hours distant from the city, where the incipient cases and those likely to be benefited by such treatment can be transferred from the city institutions. Rutland already accomplishes this to a limited extent.

"6. Free examination of sputum for tubercle bacilli, as is already done by the city and State.

"7. Regulations against spitting in public halls, conveyances and upon the sidewalks, such as already are in force in our street-car system, and, in addition, the placing of spittoons in halls, waiting-rooms, stores, workshops, out-patient waiting-rooms, and possibly street-cars. In the writer's opinion, spitting properly conducted is a cleanly habit, and the deposit of sputum in appropriate receptacles is to be encouraged rather than in handkerchiefs or in the stomach. It seems a hardship to prohibit promiscuous spitting without making provision for a safe performance of this act, necessary to many persons.

"8. The establishment of especial out-patient clinics so that the consumptive cases can be segregated, and receive more detailed attention and instruction for themselves and friends as to how they may avoid communicating the disease.

"9 Control of the city milk supply, by requiring all dealers to furnish satisfactory evidence that the cows from which their milk is obtained have been found free from tuberculosis by the tuberculin test, which test is to be repeated at stated intervals.

"10. Inspection of animals slaughtered for food, and of all meat sent into the city. Possibly compulsory disinfection of old clothes in pawnshops, as advocated by Professor Roche, of Dublin.

"Of all these, especial isolating hospitals are, in the writer's opinion, most urgent and most important."

It will be remembered that at the late international

congress much stress was laid upon several of these points, notably the establishment of sanatoria and open-air treatment.

**Intussusception.**—In a paper contributing two cases to the list of operations in the adult Dr. John C. Munro (*Boston Medical and Surgical Journal*, September 14th) adds fourteen instances of reduction or resection which have been reported since the last tables were compiled, making seventy-two cases altogether.

Of twenty-one recoveries after reduction—including the cases of Perceval (1888), Stretton (1894), and Barker (1897)—thirteen were in the ileocæcal or colic region, four were iliac, one jejunal, and three unknown Thirteen were chronic cases seven acute, and one unknown.

Of thirteen fatal reductions—including the cases of Davies-Colley, White (1889), Richardson (1892)—nine were ileocolic, one each was iliac and jejunal, and two were unknown. Seven were acute and six were chronic, probably some of the latter being operated upon during an acute exacerbation. Shock and peritonitis were the main causes of fatal issue.

Of seventeen recoveries after resection—including the cases of Hartley (1892), Wassiljew and Munro (1898)—fourteen were ileocolic and one each was iliac, colic, and jejunal. Six were acute or chronic with acute exacerbations, and nine were chronic, while two were unknown. In two cases (Mikulicz and Wassiljew) the resection was secondary to an artificial anus.

Of twenty-one fatal resections—including the cases of Abbe (1891), Senn, Robson, and Monro (1897)—nine were ileocolic, seven iliac, one colic, two jejunal, and two unknown. Fourteen were acute or chronic with acute exacerbations, five were chronic, and two unknown. One (Esmarch) was secondary to artificial anus. Nearly all the patients died of peritonitis or shock.

The jejunum was involved in only five of these cases, including the one now reported: (1) In White's case, an acute invagination ten inches long and two and one-half feet from the pylorus, the patient died on the table, the operation being abandoned. (2) In Stutsgaard's case, caused by a lipoma and of unknown duration, the patient died in five days of peritonitis after resection of 128 cm. (3) Robson's case, of seven days' duration, ended fatally after resection of four feet and an end-to-end anastomosis. (4) Borch's case of acute ileojejunal invagination resulted in recovery after disinvagination.

The first of the author's patients died, the second recovered after resection of thirty-two inches of jejunum.

**Increase of Weight in Artificially Fed Infants.**—Koplik (*Jahrbuch für Kinderheilkunde*, September) after an experience of nine years at the laboratory of the Good Samaritan Dispensary, with artificially fed healthy and sick infants, presents a method of modifying and preserving milk which has given very good results. For purposes of study, infants under nine months of age were carefully observed for as long a time as is possible in such an institution, each infant having a special card upon which its weight was noted at stated intervals. He divides his cases, all of which were under nine months of age, into (A) infants who from birth or soon after were fed on modified cow's milk, (B) infants who were fed with the breast and cow's milk.

(A) All milk was sterilized at 90–92° C. and then rapidly cooled. The modified milk in both classes of cases was the same and was composed of equal parts of cow's milk and distilled water, with the addition of six per cent. recrystallized sugar of milk, *i.e.*, the so-called Heubner-Hofmann's mixture. Infants under three months of age were given three ounces, older infants one ounce more for each month of life until eight ounces were taken, when pure milk was substituted. The number of daily feedings varied from seven to eight. In newly born infants under one month, the mothers were advised to give one and a half ounces. All infants were weighed systematically. This Heubner-Hofmann mixture contains water 90.57, proteids 1.78, fat 1.85, sugar 5.44, ash 0.36, and is practically the same as that recommended by Soxhlet. From the foregoing it is seen that the mixture is poor in fat and well diluted. Lime-water was not added. It was deemed advisable to procure a mixture in which the solution of albuminoids and casein was such as to assure their easy assimilation, and the aforementioned mixture answered the purpose. Under all circumstances, the loss in feeding with cow's milk is far greater than in feeding with mother's milk. Again, the increase of weight in an infant fed on cow's milk, with or without additional substances, is very irregular, and this becomes all the greater when the quantity and quality of the food vary Cammerer first showed that infants who were nourished according to the methods of ten to twenty years ago were not, as a rule, so well nourished as those who have been fed according to the more recent methods of preparation, modification, and sterilization. Koplik then gives tables of his own and of Cammerer, showing the daily increase of weight, and points out how closely they correspond. Thus at the twelfth to sixteenth week Koplik has a daily increase of 23.6 gm. and Cammerer 22 gm.; at the twenty-eighth to thirty-second week Koplik has 15.6 gm. and Cammerer 16 gm. Comparing his results with those of Cammerer, Koplik says that they are very encouraging and lead us to the conclusion that the results of infant feeding, when relatively large numbers are concerned, and when the same methods of general dilution and preparation are used, are practically the same in all countries. The difference in the daily increase is relatively very small, although it must be admitted that in individual instances the difference in certain infants may be greater than in others. In other words, with constant care and avoidance of everything which tends to make the infant ill or reduce its weight, some infants will gain in weight, but not necessarily in such a distinct ratio as breast-fed infants. Some infants increase in weight with great strides, others more gradually. Allowance must be given in these cases for poor hygienic surroundings and lack of parental care, which results in diarrhœa or other diseases which necessitate the discontinuance of the milk diet or its diminution. In private practice the results have been far better, in the author's experience. In those cases in which the babies were fed on the breast and bottle, the results have been remarkably good, even though the baby received a full breast-feeding once, twice, or three times in twenty-four hours in addition to the bottle. The number of bottle-feedings to be given in these cases daily was calculated from the quantity of milk which could be furnished by the deficient breasts. If the breasts furnished two feedings, the remaining six feedings for the twenty-four hours were given from the bottle. The number of bottles was diminished if the breast was capable of more feedings. Briefly stated, the daily increase and the weight of such infants at the end of nine months ran quite closely to those shown by Cammerer for exclusively breast-fed infants. The author then takes up the modern methods of modifying milk for infant feeding, and after discussing the methods of Meigs, Rotch, and Gaertner, thinks that even with exact percentages obtainable through such elaborate methods as that of Rotch, we do not solve the problem of infant feeding in every case. In other words, there is something essentially foreign in cow's milk to the

infant's assimilation. In such cases—and they are not a few—infants fail to thrive on any of the known methods.

**Survival for Three Weeks from the Passage of a Crow-Bar through the Vertical Diameter of the Abdominal Cavity.**—Miller (*Edinburgh Medical Journal*, September, 1899) reports the case of a strong Irishman, twenty years old, who, while standing on a ledge, in the process of dressing a railway embankment by means of a long pointed crow-bar, fell upon the implement, the point of which entered his right thigh in front and emerged below the right shoulder posteriorly. A companion who witnessed the occurrence hastened to the patient's assistance, and with some difficulty succeeded in the withdrawal of the crow-bar. The patient was then conveyed to the hospital, partly by locomotive engine and partly by carriage, for a distance of eighteen miles. On admission he was found to be much collapsed, with weak and rapid pulse, cyanosed face, and cold extremities. Stimulants were administered in hot milk, hot bottles were applied, and morphine was injected subcutaneously. The patient soon recovered sufficiently to permit of a detailed examination. The point of the crow-bar had entered about four inches below the line of junction of the thigh with the pubis. Its course was through the subcutaneous tissues of the limb, beneath Poupart's ligament, and through the abdominal cavity. The wound of exit was situated about one and a half inches below the angle of the right scapula. There was not much bleeding from the wound of entrance. The femur was uninjured, and the patient could flex and extend the thigh without difficulty. The femoral artery could be detected pulsating feebly to the outside of a swelling beneath Poupart's ligament. This swelling gurgled distinctly on pressure. The tenth and eleventh ribs were fractured and comminuted, and a splinter from the tenth had been thrust upward so as to penetrate the pleural cavity. There was considerable oozing from the thoracic wound. The surrounding tissues were emphysematous, and air passed freely in and out of the aperture. The wound was valvular, the opening in the skin being at a higher level than the injured ribs; but on drawing the skin and the subcutaneous tissue downward the fractured bone could be easily seen by electric-lamp light. The splinter that caused the pleural wound was caught with forceps and removed. For an hour or two after admission there was considerable disturbance of respiration, and aeration of the blood seemed to be effected with difficulty. The pulse was extremely weak and irregular, and the face was deeply cyanosed. By and by, however, respiration and circulation became quiet and regular. The patient slept at intervals, and in the evening stated that he felt no discomfort whatever. The temperature was 102.2° F. Eighteen ounces of clear healthy urine were drawn off, and morphine, gr. ¼, was administered hypodermically every four hours. Toward morning on the following day vomiting set in, and seemed to give relief. The vomited matter consisted of bile-stained fluid, tinged also slightly with blood, and it smelled sour. The temperature fell to 99° F., the pulse to 100. Flatus passed freely. The wounds appeared healthy, and after being thoroughly irrigated with 1 : 40 carbolic-acid solution were stuffed with iodoform gauze. For several days the patient remained in much the same condition, vomiting being almost incessant, relieved occasionally by ice and sometimes by the application of a sinapism to the epigastrium. Morphine was given less frequently. The urine for the most part was passed voluntarily and in small amount. Rectal enemas failed to relieve the constipation. Tympanitic distention of the abdomen set in. In the course of a week the patient's condition became critical. The nights were restless and disturbed by vomiting. The temperature was subnormal, and the extremities were cold. The pulse was small, slow, and compressible. The thoracic wound, however, was healthy, and the wound in the thigh dry and gangrenous. The bowels were now moved for the first time, and the abdominal distention became less and the vomiting not so constant. Improvement followed also in the general condition. The facies became less anxious, the pulse quieter and more regular and full, while the temperature stood at normal. Later the bowels became loose, and the pulse small, rapid, irregular, and feeble. The patient's features became more and more anxious, emaciation progressed, and the abdominal distention increased. The thoracic wound discharged a large quantity of pus, and daily irrigation with carbolic-acid solution was practised. A drainage-tube was inserted. The femoral wound became healthy and tended to granulate. After the lapse of another week the patient began to expectorate a peculiar slaty-greenish sputum tinged at times with blood. He complained of pain in the right side in the region of the wound, and relief followed each dressing, when large quantities of pus were gotten rid of. The face, nose, eyebrows, and forehead became covered with a thick herpetic eruption. The patient grew progressively worse, with exhausting diarrhœa, and death took place twenty-one days after the accident. At the autopsy, a wound was found on the right side, four inches below the pubic spine, measuring one and one-half inches vertically and two and a half inches transversely. A second wound was present in the right infrascapular region in a line with the angle of the scapula, occupying partly the sixth, seventh, and eighth interspaces, and measuring two inches vertically and one and one-quarter inches transversely. On opening the abdomen the peritoneum was found thickened and adherent to the abdominal wall. The coils of intestine were distended and matted together. The omentum was represented by a thin membranous layer, with only traces of fat on its surface. A line of redness marked the upper line of adhesion between the coils of intestine. In the right iliac region, bowel, peritoneum, and abdominal wall were closely adherent. The cæcum at its upper extremity was deeply injected. In the process of separating adhesions between the bowel and the liver a tear, of the size of a threepenny piece, was made into the upper wall of the duodenum, and from this issued a large quantity of intensely yellow, thin fluid. The liver was enlarged. On its lower aspect, in the middle line and near the outer border, was a torn, ragged surface, about two and a half inches in its longest diameter, *i.e.*, transversely to the organ. A lacerated wound, somewhat similar in size and appearance to the former, was found on the upper and external aspect of the organ. There was a wound in the thoracic wall below the insertion of the diaphragm, situated about two and one-half inches external to the vertebral column, two inches in its vertical and one inch in its transverse extent. The tenth and eleventh ribs were fractured and comminuted in this situation. The right pleural cavity was occupied by a large amount of sero-purulent fluid.

**The Concentration of the Urine and of the Blood in Relation to Disease of the Kidneys and to Uræmia.**—As the result of a careful and elaborate clinical study, reported in the *Deutsches Archiv für klinische Medicin*, Nos. 1 and 2, vol. 65, Lindemann formulates the following conclusions: The degree of concentration of the urine may be determined with great accuracy from a study of the freezing-point. This mode of determination is to be preferred to others, such as the specific gravity and the amount of dry residue, as it is not based upon the weight of the constituent sub-

stances, but upon the number of their molecules. The determination of the concentration of the urine from this point of view permits a conclusion as to the functional capability of the kidneys. The determination of the reduction in the freezing-point of the urine, together with a knowledge of the daily amount, permits of a differentiation of albuminuria unassociated with inflammatory processes in the kidneys from that dependent upon nephritis. While the freezing-point of normal urine passed in average amount varies between $-1.3^\circ$ and $-2.3^\circ$ C., and variations above or below these figures, as for instance $-0.9^\circ$ and $-2.7^\circ$ C., have been observed only exceptionally, the reduction in the freezing-point, and thus also the concentration, of the urine, is much less in the presence of inflammation of the kidneys. With average amounts of urine the freezing-point is usually below $-1^\circ$ C. The reduction in freezing-point exhibits characteristic differences between parenchymatous and interstitial nephritis. The diminution in concentration is much more considerable in the former than in the latter, and is especially conspicuous when the amount of urine is small. It is not rarely so marked that the urine has a lower freezing-point than normal blood serum. The determination of the concentration of the urine will not aid in the differentiation of acute and chronic parenchymatous nephritis from one another. On the other hand, it will permit of the recognition of the restoration to health that takes place with recovery, the reduction in the freezing-point then increasing and returning to normal. The reduction in the freezing-point frequently permits a recognition of the transition of chronic parenchymatous nephritis to secondary contraction. It again increases and attains proportions similar to those observed with primary genuine contracting kidney. Other forms of albuminuria, *e.g.*, those attending stasis, fever, cystitis, and pyelitis, are characterized by an absence of any lessening in the reduction of the freezing-point. An exception is constituted by conditions of collapse, in which small amounts of urine are associated with marked reduction in concentration. If in a case of cystitis or pyelitis reduction in the concentration of the urine with average amounts takes place, an extension of the inflammatory process from the pelvis of the kidney to the renal structure itself becomes probable. The estimation of the total amount of substances eliminated through the urine in the presence of renal inflammation frequently permits a conclusion as to the retention of urinary substances. In cases of nephritis the concentration of the blood serum remains normal so long as uræmic symptoms do not appear. When uræmia sets in, the concentration of the blood, and with it the osmotic pressure thereof, is increased. The reduction in the freezing-point may be as high as $-0.7^\circ$ C. This increase in osmotic pressure is the constitutional expression of the existing disturbance associated with uræmia. Most of the conditions found in uræmia are most satisfactorily explained upon the basis of this increase in osmotic pressure. The manifestations which appear after injection of large amounts of concentrated saline solutions into the blood are the same as those that attend uræmia. They occur with the increased concentration of the blood if the elimination of the accumulated substances from the blood can no longer take place because the receptive capability of the tissues and the organs of the body is exhausted.

**A New Blood Stain.**—Jenner recommends in *The Lancet*, No. 3,937, 1899, a blood stain that he contends is easily made, that keeps well, that fixes and stains ordinary blood films in two minutes, and that demonstrates with perfect clearness and in well-marked contrasts red blood discs, blood platelets, the nuclei of white blood cells, the fine granules of polymorphonuclear leucocytes, coarse oxyphile granules, basophile granules, and when present erythroblasts, bacteria, malarial parasites, and filariæ. Equal parts of from a 1.2-per-cent. to a 1.25-per-cent. solution of Grübler's water-soluble eosin, of yellow shade, in distilled water, and of a one-per-cent. solution of Grübler's medicinal methylene blue, also in distilled water, are mixed together in an open basin and thoroughly stirred with a glass rod. The mixture may with advantage be left for twenty-four hours. It is next filtered, and the residue is dried either in the air or more quickly in an incubator or water oven. When quite dry the residue is scraped off the filter paper and is powdered. It is then shaken up with distilled water and washed on a filter, when the washings should be of a thin, dirty purplish color. Finally it is again dried and powdered, and may be stored in suitable bottles. For use, 0.5 gm. of the powder is thoroughly shaken up with pure methyl alcohol such as is used for analytical purposes. The solution keeps well. Cover-glass preparations are made in the ordinary way, and upon them, as soon as the films (which should be extremely thin) are dry, a few drops of the staining and fixing solution are poured, no previous fixation being required. The cover glass must have been absolutely clean and free from every trace of acid or alkali. After they have been cleaned and well washed in distilled water they should be kept in absolute alcohol only. The specimen is covered with a watch-glass to prevent evaporation and consequent precipitation. In from one to three minutes the stain is rapidly poured off, and the specimen is at once rinsed in distilled water till the film has a pink color, which usually occurs in from five to ten seconds. It is then dried either very high up over a flame, or (better) by agitation in the air, and is mounted in xylol balsam. The red blood cells appear of a terra-cotta color; the nuclei of the white corpuscles are blue; the platelets are mauve; the granules of the polymorphonuclear white cells and of myelocytes are red; the granules of the basophile (mast) cells when present are dark violet; and bacteria, malarial parasites, or filariæ are blue. The stain may be equally well made by dissolving the eosin and the medicinal methylene blue directly in absolute methylic alcohol and mixing them in the proportion given, viz., 125 c.c. of a 0.5 per-cent. solution of the eosin and 100 c.c. of a 0.5 per-cent. solution of medicinal methylene blue.

**Dermatomyositis.**—Oppenheim (*Berliner klinische Wochenschrift*, September 11, 1899) reports a case of that rare condition originally described by Wagner, Hepp, and Unverricht as polymyositis, and in a modified form described by Unverricht as dermatomyositis. The patient was a boy, eight years old, who for nine months had complained of pain in the back and in the extremities, that at first attracted little attention, but subsequently increased in severity and gave rise to increasing difficulty of movement. In the course of a little while, changes appeared in the skin and the soft parts, namely, redness of the face, especially in the neighborhood of the eyelids and the cheeks, and of the hand; also swelling in the same parts, as well as in the thighs and in the inguinal and adductor regions. The patient complained, further, of burning and pain in the mouth and pharynx, especially on swallowing. In addition, it was ascertained that on several occasions the temperature had been elevated considerably, and that the patient had suffered from profuse sweats. In an etiological connection it was learned only that the patient had lived in a damp basement; he had besides suffered a slight traumatism. The patient assumed a constrained and rigid posture, with want of mobility dependent upon pain in movement, and exhibited in attempts at elevation of the arm,

or movement of the head, but above all by any movements of the trunk or those involving the vertebræ and their muscles. In addition, some muscles exhibited paresis and atrophy; others a condition of abnormal tension. The paresis and atrophy were most marked in the deltoid, as well as in the flexors of the forearm, and were associated with diminution in electrical irritability. The tension and the shortening were also conspicuous in the biceps, which on attempt at extension became a rigid, almost inelastic band. Like conditions were present also in the muscles of the back and the thigh. In the muscles of the shoulder and the arm, especially in the deltoid, the biceps, the brachialis internus, and still more in the muscles of the thighs, especially the upper portion of the adductors, instead of the sensation yielded normally by muscular tissue there was conveyed the impression of a dense, rigid tendinous structure. The muscles, further, were extremely sensitive to pressure, and tenderness was manifest also on active movement and on electrical stimulation. The face presented an erythematous or pseudo-erysipelatous redness, most marked about the eyelids. The upper lids presented a tumid, slightly œdematous appearance, and at the angles of the eye there existed a moderate degree of inflammation. Redness and swelling were evident also upon the dorsum of the hand, and over the metacarpo-phalangeal and interphalangeal joints were rounded pale, atrophic areas, resembling cicatrices, which succeeded upon previous œdema. Similar spots were present also upon other parts of the trunk and arm. The skin of the auricles was bluish-red, slightly desquamated, and so thin that the veins were distinctly visible. The mucous membrane of the cheeks, of the hard and soft palate, and of the tongue was deeply reddened. The redness of the mucous membrane of the cheeks was diffuse, that of the hard palate more punctate, while the appearance of the tongue was suggestive of raw meat. The gums were purplish red. The cervical and epitrochlear glands were enlarged and painful. There was no derangement of common sensibility or of the special senses. The tendon reflexes were normal or slightly increased. The function of the sphincters was preserved. The general condition was influenced only by the pain. No abnormity of the viscera was detected. Histologically the lesion is found to consist in a cellular infiltration of the muscular tissue, in part diffuse, in part circumscribed. The internal perimysium is thickened in places, and the primitive fibres are in part atrophied.

**Amenorrhœa Associated with Raynaud's Disease and Pulmonary Tuberculosis.**—Byers describes, in *The Lancet* of August 26th, a group of cases presenting in conjunction (1) diminished or arrested menstruation, (2) local, symmetrical asphyxia of the extremities and especially the hands, and (3) pulmonary tuberculosis; and he reports four illustrative instances. The presence of any single one of these symptoms is quite common, but it is probable that the association is comparatively rare. All of the symptoms did not appear contemporaneously in the cases reported. In all, the local asphyxia and the irregularity of menstruation were marked when the patients first came under observation. In two, the pulmonary tuberculosis was also coexistent with the other features mentioned, while in two other patients it developed at a subsequent period.

**Headache and Eye Affections.**—In a paper by Dr. S. D. Risley (*Journal of the American Medical Association*, September 23d) on the relations of headache to affections of the eye, the writer believes the following conclusions may be regarded as established by clinical experience: (1) Abnormalities of the ocular apparatus are in a large group of patients the sole and sufficient cause of headache. (2) These abnormalities of vision may be the unsuspected cause, and therefore the absence of symptoms obviously referable to the eyes does not exclude them as an etiological factor in headache, insomnia, vertigo, petit chorea in children, and certain stomach derangements. (3) The recent or sudden development of symptoms, after attacks of severe illness, as typhoid fever, the exanthemata, etc., or in association with more or less acute exacerbations of some general dyscrasia, is not sufficient evidence against ocular participation in causing the symptoms. (4) The participation of the eyes as an etiological factor in headache can be positively excluded only in the absence of ocular disease or after the most painstaking correction of any existing error of refraction or abnormality of binocular balance. (5) For the relief of reflex symptoms accurate corrections are essential, and these can be secured only by the more or less prolonged use of a strong cycloplegic. (6) Immediate relief by these corrections in a large group of patients is not to be expected, since the pain is frequently due to associated pathological conditions of the fundus oculi, and these require time for cure.

**Epilepsy and Its Treatment.**—In a contribution to the study of epilepsy and its treatment Wisłocki (*Gazeta Lekarska*, No. 19, 1899) advocates the milk diet. Complete disappearance of attacks was noted in some instances and decrease in number in others so treated. It has the advantage over the bromides of not disagreeing, so that its employment may be continued indefinitely. When not well borne it can be alternated with courses of the bromides. The improvement under the exclusive milk diet leads the observer to believe that attacks are due to irregularities in nutritive exchanges in individuals whose cerebral cortex is in a state of superexcitability.

**Diabetes Mellitus Complicated by Peripheral Neuritis and Retinal Changes.**—Hawthorne has reported, in *The Lancet* of September 30, 1899, the case of a woman, sixty-seven years old, who had complained of failing sight for twelve months, of double vision which came on suddenly, and of pain in the right eye which had been present for three weeks. Examination disclosed absolute paralysis of outward movement of the right eye. Each lens showed numerous peripheral striæ (ordinary senile cataract). In the fundus of the left eye were two considerable patches, consisting of yellowish-white, more or less confluent lustrous spots. Each patch was somewhat triangular or fan-shaped, the apex being at the macula. There were also a number of isolated spots of a similar character scattered irregularly over the posterior part of the fundus. The fundus of the right eye appeared to be normal. There was no central scotoma in either visual field. The urine was pale, of a specific gravity of 1.038, and it contained a large amount of sugar, but no albumin. The knee jerks could not be elicited. The patient had enjoyed fairly good health except that within the last two years she had had two severe attacks of sciatica (each in the left limb), and six months previously she had been confined to bed for some weeks with weakness of the heart. Her husband had died from angina pectoris twelve months before. She had had nine children, of whom four had died from pulmonary tuberculosis. There was no history of gout or rheumatism in the family. On inquiry the woman admitted that the daily amount of urine had been excessive for some six or seven years, and that during this time she had also suffered from thirst. She had been told four years previously that she had diabetes. After the lapse of some thirteen months the paresis of the external rectus had disappeared, while the changes in the left fundus had become much more advanced.

# MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 51 Fifth Avenue.

New York, October 28, 1899.


## RELATIVE VALUE OF PROFESSIONAL SERVICES.

THE question of relative professional incomes is one which always appeals to the physician who can take any comfort in comparing his lot with that of other brain workers. It is some consolation to know that he is not alone in the matter of receiving inadequate pay for services rendered. His brethren of the cloth appear from all accounts to be worse off than he is in that respect, as witness their complaints which have been aired recently in numerous newspaper articles. It is the misery which likes company which gives to these discussions a widespread and telling interest.

While the doctor's income is always an unknown quantity oftentimes to himself by reason of doubtful bills, but still oftener to impertinent inquirers, the clergyman's salary is known and read by all members of his congregation, and is a fixed figure if the promises of his trustees are faithfully kept. Thus we have from one point of view at least a fixed standard of comparison with what the doctor alone knows to be his own share of profits from his work.

The naked fact of inadequate sums received by the doctor is his own skeleton in the closet, but he can covertly and privately match it with the published accounts of salaries with which the ministers must be satisfied. Altogether it must be admitted that the medical man, inadequate as his earnings may be, is much more fortunate than the clergyman. The latter, it is true, gets his rent free, with occasional yearly donations of potatoes, hay, flour, and the like, but his living expenses must be within the limits of an income scarcely equal to that of an average mechanic with regular daily employment.

It is somewhat of a surprise to learn that a first-class clergyman in a country town averages only from five hundred to eight hundred dollars as yearly salary, while those in the large cities are not enough above those figures to make up the relative differences in incidental expenses of living. The latter amounts are said to range from one thousand to twelve hundred dollars yearly. Certainly the average doctor must do much better than this, otherwise he must either run in debt or look for some other occupation. If the doctor in practice must make any living at all, he is bound to calculate on a sum one-third more and perhaps double that which the preacher can get. We are now speaking of the average man in both professions, it being well known that special skill and recognized ability in either calling always command proportionately increased remuneration.

In some respects the physician and the clergyman are equally handicapped by conditions which make their clients more or less independent of their special services. The doctor has the free dispensaries, the beneficiary lodges, and the greedy clinics, while the minister sees his flock spurring away on the Sunday bicycle, sneaking for the train with the golf bag, or reading the Sunday papers for the latest gospel heresies. Still there is one advantage for the doctor over the clergyman: men, women, and children will get sick and must have treatment, in spite of quackery, clinics, and faith cures, while the would-be Christian is too ready to postpone repentance until it is too late to do church, minister, or himself any good either from a spiritual or pecuniary standpoint.

With both professions there is a sentiment of so-called charity and a sympathy for suffering spiritual, mental, or physical that hinders the more direct appeals for ready compensation which appertain to most callings. This attribute certainly does not cut a figure with the lawyer, whose retainer before and after the trial is a matter entirely in his own hands as the controller of the funds in his direct keeping. In his case the client gets what is left before all is gone, while ofttimes the physician and preacher must wait until their legitimate share has been divided and exhausted among the numerous and importunate creditors who work their claims on what is conventionally termed purely business principles. Thus it is that the doctor particularly is the best friend in need and the last to be considered when his indispensable services have been conscientiously and dutifully rendered. In these practical days it is no longer an optional and generous honorarium to be freely given, but a prosaic bill that is too frequently entirely ignored, or worse, is cowardly disputed.

## MEDICAL EXPERT TESTIMONY.

THE discussion before the New York State Medical Association on expert medical testimony brought out many important questions for consideration. The expression of opinion as to the advisability of changing present methods being based mainly on the strictly legal point of view, there was an opportunity for reconciling many conflicting interests existing between the two professions concerned in the case. The great importance of getting at the real facts in the case of a jury trial and impartially interpreting them is the main issue at stake. Everything must depend upon the unbiassed opinion of an expert in any given case. How the latter can be fairly obtained when the experts are paid by their respective sides has always been a matter of doubt with the jury. The general results of such a system have been open contradiction of testimony from opposite sides, and a nec-

essary confusion in the minds of the twelve men who must weigh all the pros and cons. Thus it has come about that the expert is looked upon with as much distrust as the ordinary witness with whom he may be associated.

Very many radical measures of reform have been suggested, which are reasonably taking in theory but very difficult of practical application. Some of these were referred to by Judge Bartlett in his able review of the subject before the meeting in question. Concerning the advisability of the appointment of an independent expert commission to whom all strictly scientific questions should be submitted, he has much to say. As this is one of the pet measures suggested by the medical profession, it is extremely interesting to learn his views on the subject. While, theoretically speaking, he believes that such a commission appointed by the judge would be an ideal one and would satisfy a jury, he nevertheless is in grave doubt as to its constitutionality, inasmuch as it would debar litigants from obtaining experts of their own selection. The main argument against such a procedure is the fact that all human judgment is liable to err, and that the widest latitude should be given against all chances of mistake, whether they be in a commission or in a single individual. Especially should this condition be guaranteed by the elimination of all show of arbitrary power on the part of the official witnesses. His objections on such grounds are certainly reasonable and just. They are further strengthened by the conceivability that incompetent persons may be appointed with correspondingly deplorable results.

He says very pertinently in this connection: "In what position would a physician accused of malpractice and condemned by an incompetent board find himself if he were not permitted to call on his brother physicians to defend his position and show wherein the findings of the official report were at fault?" Certainly the same difficulty in obtaining justice would apply to any case in which any contrary view as to the justice of any absolute opinion would be reasonably tenable.

The situation can be modified to a great degree by cross-examination of the experts. Nothing short of this should be thought of as a reasonable protection against what would otherwise be an arbitrary and absurd assumption of human infallibility. Again it is claimed by the learned judge, with good reason, that no expert who is employed to advise counsel regarding the scientific conduct of a case should be allowed to give testimony. Obviously such a witness must be biassed in spite of his best intentions to the contrary. The influence of large fees for expert opinion is also a governing factor in the same direction, although it is comforting to believe that they do not prevent even hired witnesses from being ordinarily honest. The only safeguard for all parties concerned is a guaranteed fee for telling the simple truth from a strictly scientific standpoint, irrespective of the side represented.

It is to be regretted that the distinguished jurist, after his study of the subject, has no other practical procedure to advocate than the permissive appointment by the judge of an expert who shall be agreeable to both parties in the litigation, and with the understanding that no others are to be called. This, it would seem, is compressing the issues within a comparatively small compass of individual judgment. The only seeming advantage of such a measure over that of a mixed commission would be the absence of constant contradictions on cross-examination. Altogether, after looking into the general question in all its varied phases, it would seem desirable, if such a thing could be done, to secure an enactment for the permissive appointment by the judge of a mixed commission of experts which should be under pay of the State, and which should decide on all abstract questions of scientific fact, should be subject to cross-examination by both litigating parties, and should be debarred from acting in any advisory capacity to either counsel.

## EX-SURGEON-GENERAL TRYON'S RETIREMENT.

On September 24th the active list of the navy lost one of its most popular and efficient officers, under the law compelling retirement on reaching the age of sixty-two years, however fully in the possession of all his faculties such an officer may be.

Medical Director J. Rufus Tryon, who has thus been placed on the retired list, with the full rank of rear-admiral, leaves a record in the service of having as surgeon-general brought the medical corps and the naval hospitals to that high state of excellence which was commended throughout the world during the war with Spain, and which resulted in such an astonishingly insignificant loss of life afloat, from wounds or disease, during and after the period of hostilities. To the thorough system he built up, and to the professional attainments of the surgeons which he demanded, as well as to the modern sanitary practice and refinements which he insisted upon in the design of the new American war-ships, has been attributed the abnormally low sick and death rate in the navy which has excited unbounded admiration at home and abroad.

The recommendations persisted in during his term of office, for the establishment of a naval hospital corps and permanent ambulance ships to accompany our fleets, were speedily adopted at the outbreak of the war, and have reflected merited praise upon the medical department of the navy. The naval hospitals throughout the country, the Naval Laboratory and Department of Instruction at New York, and the Museum of Hygiene at Washington, perfected in their arrangements during his administration, are all model institutions.

Rear-Admiral Tryon is a native New Yorker, and will make Manhattan his residence in retirement. He entered the service as assistant surgeon in 1863, and was assigned to the West Gulf blockading squadron under Admiral Farragut, where he remained for two years' arduous duty. After the fight at Mobile Bay he had the wounded under his skilful care at the Pensacola Naval Hospital. The following two years Dr. Tryon was attached to the Boston Naval Hospital, then

crowded with the sick and wounded from the South, and at this time, by special orders from the department, he made a report upon the treatment of the wounded at that place during the conflict. In consequence of the ability he showed in this report he was brougth to Washington, and, in spite of his junior rank, was made assistant to the surgeon-general as well as promoted to the grade of passed assistant surgeon. He remained in this position four years, and then joined the Asiatic station, where he was promoted to the rank of surgeon in 1873.

During the frightful epidemic of 1871 he established and had charge of the temporary hospital at Yokohama, and was afterward selected to design and build the existing hospital there, which remains to this day a model institution and which was until last year the sole foreign possession of the United States.

From this work he returned to New York on special duty, only to be hurried to Pensacola to take care of naval patients during the yellow-fever epidemic there in the summer of 1873. He went as United States delegate to the International Medical Congress at Copenhagen, Denmark, in 1884. In 1891, Union College, where he graduated in the class of 1858, recognized his accomplishments with the honorary degree of Ph.D., and in 1895 conferred upon him the degree of LL.D. He was promoted to medical inspector in 1891, and the next two years was fleet surgeon on the flag-ship *Chicago*, of the White Squadron, under Admiral Walker. During this cruise he received the decoration of the Busto del Libertador for services rendered the wounded of both parties at Macuto, during the Venezuelan revolution, and afterward was awarded a bronze medal by the Red Cross Society of Venezuela. On his return to the United States he was promoted to be surgeon-general, with the rank of commodore and chief of the Bureau of Medicine and Surgery, on May 10, 1893.

Upon retiring from this position at the expiration of his four years' term he went to Spain as United States representative to the International Congress of Hygiene, where he had the distinction of being the last official American to have an audience with the Queen, war at that moment being a foregone conclusion. During the recent war Dr. Tryon has been continuously on duty as general inspector of naval hospitals. In his retirement after his long and useful service he has the best wishes of his many professional friends.

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**Moving Against Consumptives in Colorado.**—Active measures are being taken by the Charity Organization Society of Denver to lessen the practice of sending indigent consumptives to Colorado. It is charged that physicians in the East advise the removal of patients having no reasonable expectation of benefit from the climate of Colorado, or who have no means to support themselves while getting something to do. These people without money soon become a burden to the charitable societies, and must be supported or returned to their homes at public expense.

## News of the Week.

**Thirteenth International Congress of Medicine at Paris, August 2 to 9, 1900.**—The American committee of the Thirteenth International Medical Congress met at the University Club, Philadelphia, October 21st, at 3 P.M., at the call of Dr. William Osler. There were present: Dr. W. W. Keen, president of the American Medical Association (in the chair); Dr. George M. Sternberg, surgeon-general of the United States army; Dr. William K. Van Reypen, surgeon-general of the United States navy; Dr. Walter Wyman, surgeon-general of the United States Marine-Hospital service; Dr. Horace G. Miller, president of the American Otological Society; Dr. E. D. Fisher, president of the American Neurological Association; Dr. George J. Engelmann, president of the American Gynæcological Society; Dr. H. W. Stelwagon, president of the American Dermatological Association; Dr. Samuel Johnston, president of the American Laryngological Association; Dr. R. F. Weir, president of the American Surgical Association; Dr. A. Jacobi, president of the American Climatological Association; Dr. E. G. Janeway, president of the Association of American Physicians; Dr. Henry Koplik, president of the American Pediatric Society.

Letters of regret at inability to attend the meeting were reported from Dr. O. F. Wadsworth, president of the American Ophthalmological Society; Dr. James Bell, president of the American Association of Genito-Urinary Surgeons; Dr. H. M. Sherman, president of the American Orthopedic Association; Dr. R. H. Chittenden, president of the American Physiological Society; Dr. B. G. Wilder, president of the Association of American Anatomists; Dr. H. P. Bowditch, president of the Congress of American Physicians and Surgeons (absent in Europe); Dr. B. Holly Smith, president of the American Dental Association.

Dr. Osler stated that in May he had received instructions from the secretary of the Congress in Paris to organize the American National Committee. After consultation with Dr. W. W. Keen, the president of the American Medical Association, and Dr. H. P. Bowditch, the president of the Congress of American Physicians and Surgeons, he had nominated as members of the committee the presidents of the American Medical Association, of the Congress of American Physicians and Surgeons, and of the constituent societies composing the same, the surgeons-general of the army, of the navy, and of the Marine-Hospital service, and, at Dr. Keen's suggestion, the president of the American Dental Association.

Dr. Sternberg moved, seconded by Dr. R. F. Weir, that the American Committee of the Thirteenth International Medical Congress consist of the gentlemen just named. The motion was carried.

Dr. Osler then read the following letter of instructions, which he had received from Dr. Chauffard, the general secretary:

"HONORED COLLEAGUES: I have the honor to state that I have sent you (1) A package of subscription

blanks ('forms of adhesion'); (2) some account books with stubs.

"1. Subscription Blanks ('Forms of Adhesion'). Please distribute these blanks as widely as possible, sending them to universities, hospitals, learned societies—in a word, wherever you deem it possible to obtain subscribers to the Congress. We have thought it wise to prepare these blanks in such form that they may be of a uniform type for all countries, which will facilitate the task of classification of the members. Please insist that your fellow-countrymen conform to all the directions which are therein contained. Pray distribute, together with our subscription blanks, announcements of your own, indicating the name and address of the representative of your committee to whom the subscribers in your country should address the subscription blanks when filled, as well as the corresponding funds. These subscription blanks should be collated by you, and sent to us in groups of fifty, with the visiting-cards and the corresponding stubs of the record book (*vide infra*). It is then understood that these blanks constitute simply a sort of propaganda, and that we shall consider as members of the Congress only those gentlemen who shall have sent to your committee the amount of their subscription, and shall have received in exchange the receipt from your account book (leaflet C).

"2. Account Books. The three account books which we have sent you (series 171 to series 173) represent each fifty subscriptions to the Congress. We would call your attention especially to the detailed directions which appear on the first page of the book. The stubs of this book (leaflets A and B), which serve us at the same time for registration of the members and for our financial accounts, we beg you to fill out as legibly as possible, and not to forget to place the stamp of your committee at the point indicated on each of the three leaflets. This stamp will eventually indicate to us the origin of each subscription. This is but the first instalment, and we shall be glad to send you, if it be necessary, new account books as soon as you may request them. We beg you to send us the stubs as soon as each of the account books is filled, together with the amount of the corresponding subscriptions and the filled subscription blanks. We trust that these account books will facilitate the laborious task in which you have kindly lent us your assistance. Pray understand that we are entirely at your service to furnish you any further explanations which you may desire concerning our registration of members. Yours, etc.,

"A. Chauffard,
"*Secretary-General.*"

It will thus be seen that the work of each national committee of this Congress is very different from that heretofore intrusted to them. Physicians in this country who wish to become members of the Congress must apply to the secretary of the national committee, who will forward a blank of application, which is to be filled in and returned to the secretary, with a fee of $5.

Dr. Janeway moved, seconded by Dr. Wyman, that Dr. Osler be empowered to appoint a physician as secretary to the committee, and to secure such aid as would be required to carry on the work. The question of meeting the expenses of the committee was left to the chairman. If each national committee is expected to meet its own expenses, it was agreed either to call upon the treasurer of the societies represented in the committee, or upon the individual members.

It was moved by Dr. Engelmann, seconded by Dr. Stelwagon, that the medical journals of the country be requested to aid in making known as widely as possible the conditions under which registration in the Congress may be effected.

While it is to be understood that the central committee wishes the subscriptions to be sent to the secretary of the national committee, Rule 3 of the Congress provides that persons wishing to be members may forward their subscriptions to the treasurer-general of the Congress.

Dr. Osler announced that he would nominate Dr. Henry Barton Jacobs, 3 West Franklin Street, Baltimore, Md., as secretary of the committee, to whom all applications for blanks should be sent.

**Hog Cholera** has broken out in a virulent form in the vicinity of Doe Run, near West Chester, Pa., and a large number of animals have died.

**Dr. Thomas G. Ashton** has been elected clinical professor of medicine in the Woman's Medical College of Pennsylvania.

**A New Sanatorium for Consumptives in Italy.**—The Countess of Ravaschieri has, according to the Italian journals, given all her extensive possessions in Pozzuoli to the Italian Hygienic Society, with the provision that a sanatorium for consumptives is to be erected there and maintained by the income from the estates.

**Typhoid Fever in Williamsburg.**—A meeting of property owners and residents of a section of Williamsburg was held last Friday to urge upon the board of health the adoption of measures looking to the sanitary improvement of their district. The immediate cause of the meeting was the unusual prevalence of typhoid fever in the neighborhood. Resolutions were passed protesting against the inadequate sewer system and the filthy condition of the streets in that part of Brooklyn Borough.

**The Army Medical Department at Manila.**—Recent despatches sent to the newspapers from Hong Kong having stated that the medical service at Manila was inefficient, the surgeon-general has made a report of the actual condition there to the Secretary of War. This report states that there are sixty-one regular army surgeons in Manila and seventy-seven contract surgeons, in addition to the medical officers with each regiment, and when all the troops now under orders have arrived, there will be a total of two hundred and fifty-one medical officers to care for sixty thousand men. There are now in the Philippines one hundred and seventy-five surgeons for thirty-one thousand three hundred and thirty-four enlisted men. These medical officers are assisted by nine hundred and eighty-nine hospital stewards and nurses and seventy women

nurses. Of hospital tents there are twelve hundred and thirty-two on the spot, and two hundred and forty are on the way to Manila. Each of these tents will accommodate six men, so that eighty-eight hundred and thirty-two sick soldiers can be cared for at one time. In addition to the tents there are accommodation for two thousand in the permanent hospitals at Manila. As the largest number of sick reported by the medical officers in charge has been eighteen hundred and forty-seven, it is evident that there are accommodations in the hospitals and hospital tents for more than five times as many sick as have been reported. The army with General Otis has double the number of medical officers usually supplied to an army of its size, besides a full regiment of hospital stewards and nurses, most of whom have had medical training. The hospital ships *Relief* and *Missouri* are on the way to the Philippines now, and on their arrival there will be beds for six hundred more sick.

**The Plague** continues its advance upon Europe, having now probably invaded Spain. A dispatch from Toledo, dated October 20th, states that a serious outbreak of a disease suspected to be the bubonic plague has occurred in the village of Quero, near Toledo. No fewer than two hundred and thirty persons have been attacked. The alarm recently caused in Samara by the appearance there of a fatal and unusual form of disease appears to have subsided. The town was visited by the Prince of Oldenburg and two other members of the plague commission, who recently published the result of their inquiries. The cases were limited to eight, four of which proved fatal. A careful inquiry was made, and the disease was found to have been a severe form of malaria, accompanied by croupous pneumonia and erysipelas, and having nothing in common with bubonic or pneumonic plague. The precautionary measures have therefore been abandoned, and Samara is declared plague-free. A disease said to be the plague has appeared at Santos, Brazil. The disease appeared in a house inhabited by Italians. During the ten days ending October 21st, there were nine cases, three of which had resulted fatally. Quarantine has been declared against Santos by Argentina and Uruguay and also by the other Brazilian ports.

**A New Book by Weir Mitchell.**—Among the books announced for early publication is "The Autobiography of a Quack," by Dr. Weir Mitchell. The title is somewhat ambiguous if not misleading.

**A New Hospital in Richmond.**—A new public hospital in Richmond, Va., will be called the Charlotte Williams Hospital, in memory of a daughter of John L. Williams. Mr. Williams has contributed $100,000 toward its endowment.

**Foreign Practitioners in Japan.**—We learn from the *Sei-I-Kwai Medical Journal* that since the new medical-practice law has come into force in Japan about sixty foreigners have applied for a license. Licenses have been granted to fifteen physicians and four dentists, and charters have been granted to seven dispensaries.

**Philadelphia Hospital.**—Dr. G. E. Pfahler has been elected assistant chief resident physician in succession to Dr. S. F. Gilpin resigned. Opposition has been offered to, and action has been deferred upon, the following resolution submitted at a recent meeting of the Department of Charities and Correction: "That the attending pathologist of the Philadelphia Hospital be allowed the privilege of utilizing the pathological specimens at that institution to make autopsies for the purposes of instruction."

**Malaria and Mosquitoes.**—An interesting letter from Dr. Donald Ross, who is investigating the relations between the malaria parasite and the mosquito at Sierra Leone, is published in *The Times*, London. He says: "We have now practically finished our work here. We have found: (*a*) That local species of anopheles carry malaria; (*b*) that these species breed in a few stagnant puddles. The practical results to be derived from the facts which we have obtained will depend solely on the government and medical profession here. . . . Of course, we could kill most of the anopheles grubs here in a few hours with kerosene oil, and the thing will be done shortly. But this won't be enough. It is necessary that the operations be continued systematically, and that some of the more dangerous puddles be drained. . . . For many scientific reasons we have come to the conclusion that the truly malarial fever is caused here solely by the mosquito —probably entirely by the anopheles species. We estimate, then, that most of the malarial fever here can be got rid of at almost no cost except of a little energy on the part of the local authorities."—*The Hospital.*

**Mutual Aid Association of the Philadelphia County Medical Society.**—The annual report of the Mutual Aid Association of the Philadelphia County Medical Society for the year ending June 3, 1899, shows that during the year a number of new members and one benefactor were added to the roll. The actual assets increased $1,211.80. The total assets equal $12,905.55.

**The Dutch Red Cross Society** has decided to send to the Transvaal, by way of Lorenzo Marquez, an ambulance service capable of caring for twenty-five patients. Dr. Lingebeck, ex-president of the Red Cross Society in the Transvaal, will have charge of the service. He will take with him three other physicians and seven women and four men nurses.

**Dysentery in Japan.**—A dispatch to the New York *Times* states that a terrible epidemic of dysentery is sweeping over Japan, with fatal results. Official statistics show that out of 50,000 persons attacked nearly 12,000 have died this year up to September 14th. Authorities state that 100,000 cases will be recorded by the end of October. Dysentery was unknown in Japan until 1880, when it was brought by ship from abroad. That year it killed 1,300 people. Thereafter it spread steadily until 1893, when 41,000 persons perished. Out of 1,000,000 cases recorded from 1880 to the end of 1898, 247,000 proved fatal. According to the *Sei-I-Kwai Medical Journal*, Kitasato

and Shiga have been experimenting with a curative serum treatment which has so far been fairly successful. At the end of August some sixty patients with dysentery had been treated in Kitasato's hospital, and of them only one had died. The experimenters claim that a cure may be obtained in almost every case, no matter what its seeming gravity, provided only that the treatment is begun early enough.

**Navy Department,** Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending October 21, 1899. October 14th.—Surgeon O. D. Norton detached from the *Badger* when put out of commission, and ordered to temporary duty on the *Ranger;* on arrival at the Asiatic station ordered to the *Monadnock.* Passed Assistant Surgeon L. L. Young ordered to be examined at the Mare Island navy yard, October 24th, thence home and to wait orders. Passed Assistant Surgeon J. Stoughton detached from the *Monadnock* when relieved, and ordered to the *Bennington.* Assistant Surgeon J. J. Snyder ordered to the *New Orleans,* October 18th. Assistant Surgeon D. G. Beebe detached from the *Bennington,* when relieved, and ordered to the *Ranger.* October 16th.—Passed Assistant Surgeon J. C. Rosenbleuth detached from treatment at the naval hospital, Chelsea, Mass., and granted sick leave for one month. Assistant Surgeon R. W. Plummer detached from the hospital, New York navy yard, and ordered to temporary duty on the *New Orleans* for passage to the Asiatic station. October 17th.—Passed Assistant Surgeon H. D. Wilson directed to proceed home and to wait orders. October 18th.—Passed Assistant Surgeon H. D. Wilson, order of October 17th modified; detached from duty on the *Solace.* October 19th.—Surgeon H. T. Percy detached from the *Olympia* when put out of commission, and ordered home and to wait orders. Assistant Surgeon D. H. Carpenter detached from the *Olympia* when put out of commission, and ordered home and to wait orders. Pharmacist A. Hammar detached from the *Olympia* when put out of commission, and ordered to the Mare Island navy yard. Assistant Surgeon E. Thompson detached from the *Manila* and ordered to the *Celtic.* Assistant Surgeon W. E. High detached from the *Celtic* and ordered to the *Manila.* Assistant Surgeon H. H. Haas detached from treatment at naval hospital, Yokohama, Japan, and ordered to the *Baltimore.*

**Philadelphia Hospital.**—Councils' committee on charities and corrections has recommended the appropriation of $60,000 for enlarging buildings in the insane department of the Philadelphia Hospital; and also an increase in the salary of the chief resident physician from $2,500 to $2,750.

**Yellow Fever** is gradually decreasing in Key West, but has now appeared at Miami, Fla. Several suspicious cases having been reported from Miami, the State health officer made an investigation, with the result that yellow fever has been officially declared to exist in that city. Five cases, at the time the report was made, had been seen and a positive diagnosis made, and it was believed that there were several others in the city. The infection is widely distributed, but is mild in character. In order to arrest the progress of the epidemic the depopulation of the town is recommended. Havana and Santiago were not depopulated, yet the fever was subdued there. Some of the health officers in Florida and elsewhere might take a trip to Cuba to learn the value of sanitation in the prevention of epidemics. A report from Santiago, dated October 18th, announces that the city is entirely free from yellow fever. At Vera Cruz the fever is decreasing in consequence of improved sanitary conditions and cooler weather. One yellow-fever patient who had received treatment with Sanarelli's serum has died at Cordoba. Several new cases have appeared at Orizaba, and a number of deaths from the disease have occurred there.

**Centigrade and Fahrenheit.**—Dr. W. J. Swift writes: A simple and more easily remembered formula for the conversion of Centigrade degrees into Fahrenheit degrees and *vice versa*, than that given by Dr. Whiton in the MEDICAL RECORD of October 14th, is the following: $\frac{9}{5}$ C. + 32 = F. $\frac{5}{9}$ (F. − 32) = C.

**An Operation on the Czar.**—It is reported that the Czar's skull was trephined at Darmstadt on October 14th, in the hope of relieving certain cerebral symptoms from which he has been suffering. His trouble dates from as assault which was made upon him several years ago when travelling in Japan. It is asserted that the operation was successful, though it is not yet possible to say what the ultimate benefit will be.

**The Superintendency of the Utica State Hospital.**—As the result of the civil-service examination held for the appointment of a superintendent for the State Hospital at Utica, the following-named candidates have been declared eligible, ranking in the order named; Harold L. Palmer, State Hospital, Utica; Henry P. Frost, State Hospital, Buffalo; William L. Russell, State Hospital, Willard; Jelvin Courtney, Hudson State Hospital, Poughkeepsie.

**Obituary Notes.**—DR. HENRY JUDSON KELLY died of pneumonia at his home in this city, on October 15th, aged forty-two years. Dr. Kelly was born in this city in 1857, and was graduated from the College of Physicians and Surgeons in 1880. He later served a term on the house staff of the New York Hospital. A widow and four children survive him.—DR. CHIPP was found dead in his office at White Lake, N. Y., on October 20th. Death was due to an overdose of morphine. He was twenty-six years of age.—DR. WALTER S. KIMBALL, one of the oldest homœopathic physicians in New Jersey, died at Lakewood on October 21st. He was born in Lewis County, N. Y., in 1828, and was graduated from the New York Homœopathic Medical College in 1863. He was for a year president of the Homœopathic State Medical Society of New Jersey. He leaves a widow and six children.—DR. PHILIP SCHEU died at his home in this city, on October 21st, after a week's illness. He was born in New York in 1858, and was graduated from the College of Physicians and Surgeons in 1884.

# Society Reports.

## NEW YORK STATE MEDICAL ASSOCIATION.

*Sixteenth Annual Meeting, Held in the New York Academy of Medicine, October 24, 25, and 26, 1899.*

JOSEPH D. BRYANT, M.D., OF NEW YORK, PRESIDENT.

*First Day—Tuesday, October 24th.*

THE meeting was called to order by the president, Dr. Joseph D. Bryant, of New York, promptly at ten o'clock, in the large hall of the Academy of Medicine.

**Report of the Committee of Arrangements.**—This report was presented by the chairman of the committee, DR. FREDERICK HOLME WIGGIN.

**Address by the President—The Influence of the Medical Practitioner on Medical Practice.**—DR. JOSEPH D. BRYANT delivered the annual address, which was on the above topic. After touching briefly upon some of the salient points in the history of medical education, the author dwelt at length upon that mode of life which seemed best fitted to allow the medical practitioner to do the most good to his fellow-men. The position taken is perhaps best summed up in these closing words of the speaker: "Knowledge is a hill that few may hope to climb; duty is the path that all may hope to tread."

**Report of the Council.**—This report showed that the library of the association contained at present nine thousand seven hundred and sixty-eight volumes, in addition to many pamphlets. The financial status of the association was most flourishing.

**Report of the Committee on Charities.**—This was presented by the chairman, DR. WICKES WASHBURN. The history of the events leading up to the enactment of the dispensary bill was fully considered, and an account given of the later steps taken in conjunction with the State board of charities and others well known to be identified with the work of organized charity. The committee had also taken an active interest in the question of how the squandering of public money by private hospitals and similar institutions could best be checked. Regarding the proposed establishment of State sanatoria for consumptives, the committee took the ground that, unless the farm-colony system could be included in the plan, it was better to suspend action for the present.

**Report of the Committee on Legislation.**—DR. E. ELIOT HARRIS, the chairman, presented in a few words an outline of the work that had been accomplished. He stated that the committee had carefully followed the course of one hundred and ninety bills before the legislature, and had felt compelled, in the interests not only of the profession, but of the public at large, to take active steps to kill most of these bills. He had been assured that the death of many of these pernicious measures had been brought about through the untiring efforts of this committee.

**Alcohol as a General Stimulant and Heart Tonic; Its Use to the Animal Economy in Health and Disease.**—DR. THOMAS J. HILLIS, of New York, read a paper with this title. He took the ground that for every one who fell a victim to the immoderate use of alcohol hundreds were benefited. Alcohol should no more be an object of indiscriminate condemnation because it slew its thousands, than should electricity because it too was responsible for the sacrifice of many lives. Each, in its proper place, was a benefit to humanity. The failure of alcohol in the sick-room was often to be attributed to using it at the wrong time, in improper doses, and irregularly. The chief factor in determining whether or not alcohol should be used was the state of the stomach. Alcohol was often demanded in the later stages of pneumonia, when there was extensive lung involvement, and when there had been a prolonged high temperature. In a given case, alcohol might be a poison to-day and a physiological necessity to-morrow. Alcohol should never be given in lingering diseases, or in convalescence from acute ones if the stomach was irritable. Alcohol should never be taken immediately after eating; it could not aid digestion, and by its bulk and its action in coagulating albuminoids it must interfere with the proper action of the digestive organs. When used before eating, it sometimes served as an aid to the digestive process through the stimulation of the gastric glands. Alcohol was most beneficial when taken about three hours after a meal. The author's conclusions were, that alcohol was "the sheet-anchor of the intelligent and conscientious physician" when the heart was handicapped by disease, and "the drug *par excellence* in the whole field of therapeutics," best able to tide over a crisis in certain pulmonary and other conditions common to the human subject.

DR. FRANK D. REESE, of Cortland, characterized the paper as utterly lacking in new information, and thoroughly unscientific.

DR. H. D. DIDAMA, of Syracuse, said that although he was not anxious to lay himself open to the charge of not being an intelligent and conscientious physician, he would declare most positively that, in his hands at least, alcohol was not a sheet-anchor in the treatment of any disease. Personally, he did not prescribe it at all for his patients, or take it as a beverage to combat fatigue, and it seemed to him but right that the evidence of those physicians who, like himself, had abandoned the use of alcohol in therapeutics should carry with it more weight than the statements of those physicians who prescribed it almost constantly. But this was not all. For example, Nansen had not found it necessary or even expedient to give his men a drop of alcohol while in the Arctic regions. This subject of the effect of alcohol was attracting much true scientific study at the present day, and attention had been once more called to the fact that alcohol did not really strengthen the pulse, but, on the contrary, quickened and weakened it.

DR. H. O. MARCY, of Boston, recalled his experience in the army years ago, to the effect that alcoholics did not combat fatigue. He said that the author of the paper had neglected to mention the important fact that, through the agency of the stomach juice, alcohol was decomposed into an ether. This would explain certain puzzling but well-authenticated facts learned from experience.

DR. HILLIS, in closing, stoutly maintained that there were no true heart tonics in the whole materia medica except nux vomica and alcohol.

**The Necessity for Exact Evidence in Treating Scientific Subjects.**—DR. WICKES WASHBURN, of New York, read this paper. His contention was that facts were more commonly reported than were correct conclusions drawn therefrom, and instanced some of the hasty generalizations that had been made, and accepted without question, by a large part of the profession. Among these were the errors that had arisen from observations on the presence of certain pathogenic bacilli in given cases. The discrepancies that had arisen in this connection were largely explicable on the theory of differences in soil. The presence or absence of bacilli of any kind should not be accepted, without concurrent facts, as indicating a given disease; but simply as confirming the clinical symptoms when present, or serving as a warning when found in healthy persons.

**The Physician as a Factor in Education.**—DR. FRANK OVERTON, of Suffolk County, read this paper,

which was a plea for less frequent resort to subterfuge, and for effort on the part of physicians to place themselves in a true light before their clients. The too common practice of speaking of the "bringing out of rashes," the "bringing of boils to a head," "clearing the blood of noxious humors," etc., was deplored, and stress was laid upon the value, in the way of educating the public, of a systematic endeavor on the part of physicians clearly to explain medical topics to their patients.

**Operative Treatment of High Myopia by Removal of the Crystalline Lens.**—Dr. Charles Stedman Bull, of New York, read a paper on this subject. He said that myopia was fast becoming a public scourge, so much so that in the near future there would have to be a new standard of requirements for entrance to our schools. The speaker pleaded for an earlier and more careful examination of the eyes of school children, and a stricter investigation into the whole subject of the hygiene of the school-room. This should embrace an inquiry into the best height of desks for children of a certain stature, the best methods of lighting and ventilation, the proper length of the sessions, and the frequency of intermissions. In regard to the special operative procedure under consideration, Dr. Bull stated that its advocates claimed that the eye, deprived of its lens, became either slightly myopic or hypermetropic; the retinal images were larger, and therefore there was greater visual acuity, and the excessive efforts at convergence were suppressed, and the congestive phenomena were made to disappear. The speaker indorsed Dr. Knapp's attitude regarding the operation, viz., "The real value of this treatment of myopia would be recognized when the period of its boom had been past." The ideal effect would be a post-operative myopia of only two diopters, in which no glasses would be needed for near work. Dr. Bull said that his own experience with this treatment had been extremely limited, and hence his conclusions were largely theoretical. The age and occupation, and the necessary demands upon the eyes, should be considered. A careful ophthalmoscopic examination of the fundus should be made, under atropine mydriasis, with special reference to the state of the blood-vessels of the retina and choroid, especially in the equatorial region. A careful examination of the visual field should be made with a perimeter; and finally the tension of the eye should be tested, and if there was a minus tension there would be ground for the suspicion that serious disease of the fundus was present. The possible dangers were: (1) Intraocular hemorrhage, from rupture of choroidal or retinal vessels; (2) detachment of the retina, with or without hemorrhage; (3) secondary glaucomatous symptoms, all resulting from the swelling of the lens after laceration of the capsule; (4) infection of the corneal wound or iris, or both. The third danger need give no uneasiness, as the symptoms would speedily subside. The danger of infection was now exceedingly slight. A possible complication was the anterior adhesion of the iris to the point of entrance of the needle. Again, the iris might be incarcerated in the wound, or prolapsed. The contraindications were: (1) Extensive degenerative changes in the retina or choroid, in the region of the macula; (2) detachment of the retina already existing; (3) opacities in the vitreous indicating more or less extensive disease of the choroid and blood-vessels; (4) previous loss of one eye from whatever cause; (5) decided loss of transparency of the cornea; (6) any form of contagious conjunctivitis, particularly trachoma; (7) advanced age of the patient; (8) myopia of less than twelve diopters. The indications for the operation were: (1) The degree of visual acuity actually existing at the time—if not sufficient for the social needs of the patient, the operation was indicated first on one eye and then on the other, if there were no contraindications; (2) if there was unmistakable evidence of rapid increase in the nearsightedness, and if the myopia amounted to twelve diopters or more. Dr. Bull said that the vision of all myopes was undoubtedly improved by operation, and continued to increase for six months afterward. The wearing of moderate convex glasses after operation was much less annoying to the patient than the wearing of strong convex glasses before the operation. In conclusion, the author laid special stress on the fact that the operation should not be done under any circumstances if there were present any degenerative changes in the retina or choroid in the region of the macula, for, in the face of such disease in this locality, the operation would inevitably lead to retinal intraocular hemorrhage, and to destruction of the eye. Moreover, the operation should never be done in one time and one motion. The younger the patient the better the result.

**Progress of the Science and Art of Obstetrics.**—Dr. Florence O. Donohue, of Syracuse, read this paper. He stated that science had waited sixteen centuries after the Christian era for the discovery of that most useful instrument, the obstetric forceps. The greatest gain had come from the discovery and partial development of the principles of antisepsis, and in proportion to the recognition of the part played by germs in disease and the success of the efforts to exclude them, would be the improvement in the death rate from childbirth for which we all hoped. The very blood of the parturient was different from that of other human beings. Semmelweiss had been the first to regard puerperal fever as a wound infection. The speaker claimed that midwifery was further advanced toward scientific perfection than any other branch of medicine. The most recent important advance was in Cæsarean section. Thus, a few years ago the attendant mortality had been estimated to be ninety per cent.; now this operation showed a mortality of nine per cent. This success was not due to the skill of one operator, but was computed from a series of operators. It was largely due to the adoption of Lembert's intestinal suture for closing the uterine wound. The writer contended that the present low rate of mortality following childbirth was not only due to our knowledge of the part played by germs, and to their successful exclusion, but also to the early use of forceps in prolonged labor; to the more frequent induction of premature labor in cases of contracted pelves, the modern treatment of eclampsia, and the improved treatment, prophylactic and actual, of post-partum hemorrhage. The percentage of deaths from Cæsarean section, the speaker said, was so small at present that he believed this operation, or the more frequent induction of premature labor in cases of contracted pelves, should be substituted for craniotomy.

Dr. William E. Swan, of Saratoga Springs, spoke of the different germs causing puerperal infection, and advised resorting to bacteriological diagnosis and relying largely on this in deciding upon the plan of treatment to be adopted. Vaginal examinations should be abstained from as far as possible; when necessary, the same preparations were in order as for a major surgical operation.

Dr. Finder, of Troy, thought it would be better to institute treatment, in a case of puerperal infection, before rather than after bacteriological examination, because time was precious, and, after all, the particular kind of germ infection was not, in his opinion, of great practical value.

Dr. Risch, of Kings County, said that the physician was not always responsible for the infection of

the puerperal woman; such infection might arise from the admission of air to the vagina. For this reason he advocated making the vaginal examination with one finger so as to allow of the labia closely hugging the examining finger.

**Impressions of the Work of the International Gynæcological Congress at Antwerp in August, 1899.**—Dr. A. Palmer Dudley, of New York, presented this report. He described in detail the work of the congress each day. As a result of a discussion on the treatment of uterine fibroids, the position was taken that the abdominal route for the surgical treatment of fibroid of the uterus was the proper one, in the majority of cases. On the third day a woman physician had exhibited under the microscope what he believed to be the first specimen ever shown of an early ovarian pregnancy. On the fifth day there had been an interesting and animated discussion on the indications for Cæsarean section, and comparing the true Cæsarean section with the Porro operation, with symphyseotomy, and with induction of premature labor. The conclusion reached by the disputants was, that, except in cases complicated by fibroid tumor, Cæsarean section was the only operation to be performed at the present day. Symphyseotomy was too uncertain. The consensus of opinion was that, at the present day, no man was justified in killing the child. It was gratifying to know that the only really original contribution to the congress had been conceded to be that of an American, whose work was yet in an experimental stage and not ready for publication. The one blot on the work of the congress was a surgical display with the aid of the cinematograph. It enabled the surgeon giving it to "play to the galleries" in a shameful though novel manner. Thus the display on the screen gave the impression that a hysterectomy had been done in five minutes, whereas it had really consumed one hour and a half. Perhaps the most disheartening thing in connection with this wretchedly unethical exhibition was the news that the exhibitor had avowed his intention of transporting his new advertising scheme to this side of the ocean.

**Some Practical Experience in Asepsis and Antisepsis in Obstetrics.**—Dr. Douglas Ayres, of Amsterdam, read a paper with this title. As an example of the importance of the subject reference was made to the records of the New York City health department from 1868 to 1886, showing that in this period of eighteen years thirty-three hundred and forty-two deaths had resulted from childbirth or diseases dependent thereon. The speaker said that asepsis was not enough in obstetric practice; antisepsis was required. The woman should be carefully instructed in the matter of personal cleanliness. In all cases of labor the physician should insist upon the cleansing of the external genitals by means of soap and water, and washing with corrosive-sublimate or carbolic-acid solution. The obstetrician should make few vaginal examinations, and before doing so should disinfect the hands and arms as for a surgical operation. It was convenient to have two flannel cases for the obstetric instruments, so that one would always be clean and ready for immediate use.

**Hydrorrhœa Gravidarum and Hydrosalpinx.**—Dr. Frederick S. Cowles, of Westbrook, Conn., read this paper. He said that it had been generally supposed that hydrorrhœa was due to the gradual accumulation and final discharge of an abnormal quantity of a fluid secreted by the uterine glands; but from a case that had come under his observation he was inclined to believe that it might, in some instances at least, be due to a discharge of fluid through a Fallopian tube, the seat of a hydrosalpinx. The condition was probably much more common than was generally supposed. Cases of supposed premature escape of water prior to parturition were probably to be explained by the existence of hydrorrhœa.

Dr. Risch remarked that it was important to differentiate, when possible, between intra- and extra-amniotic hydrorrhœa, for in the former speedy delivery was demanded if the child was viable, whereas in the latter there need be no such haste.

**A Brief Summary of the Indications for Operation upon the Stomach.**—Dr. Max Einhorn presented this communication. Regarding operations on the stomach in cases of malignant disease of this organ, the author took the ground that operation should be resorted to as early as possible, but in benign affections of the stomach he was in favor of postponing operation until satisfied that all other modes of treatment were ineffectual. The indications for gastrotomy and gastrostomy respectively were stated to be the following: For gastrotomy, simple incision in the stomach: (1) When an irregular and sharp foreign body had been swallowed; (2) if the body were too large to pass through the pylorus, and caused pain or vomiting; and (3) in rare instances for purposes of diagnosis. For gastrostomy the indications were: (1) When the passage of fluid or food into the stomach was arrested by a malignant growth; (2) when the obstruction was produced by the pressure of inoperable intrathoracic tumors; and (3) when a stricture produced by a benign growth would not yield to dilatation by the mouth; and (4) some cases of idiopathic dilatation of the œsophagus.

Dr. Delancey Rochester, of Buffalo, favored operation when, after a reasonable time, little or no improvement resulted from other treatment, in cases of benign tumor. In his opinion, divulsion of the pylorus should never be practised. While gastro-enterostomy was an excellent operation in cases of malignant disease of the pylorus, it had the disadvantage of interfering a good deal with duodenal digestion, and hence pyloroplasty seemed to be preferable.

Dr. Finder spoke of the great tolerance of the stomach to severe operations.

Dr. F. W. Higgins, of Cortland, suggested that death, occurring within twenty-four hours after an operation on the stomach, might be the result of shock following incidental traumatism to the great sympathetic plexus.

**The Value of Operative Treatment of Spina Bifida.**—Dr. W. B. Reid, of Oneida, read this paper, reporting an original method successfully pursued in one case for the closure of the cleft. The case was of that variety known as a meningocele. Daily aspiration of nine ounces of fluid had been practised for three days prior to the operation, with a view to lessening the chances of shock from sudden release of pressure on the brain and spinal cord. An incision had been made on either side of the centre of the sac, which had then been dissected out and excised close to the pedicle. The stump had been made to do duty as a plug, nicely fitting the cleft. A plaster jacket had then been applied and kept on for fourteen weeks. The wound had healed primarily. This was two years ago, and the child had remained well.

Dr. H. O. Marcy referred to a case of spina bifida of large size, upon which he had successfully operated, closing the opening by doing a hernia operation.

**Some Cutaneous Manifestations of Syphilis and Other Affections of the Skin.**—Dr. John A. Fordyce, of New York, gave a lantern-slide exhibition of a most instructive series of cases of this kind.

**Discussion: Does the Present Method of Securing Expert Testimony Subserve the Ends of Justice?**—Hon. Willard Bartlett, justice of the supreme court, was the first speaker. He defined, for the purposes of this discussion, medical expert testimony to be "the sworn opinions of persons specially skilled in medicine and surgery on any point in their science

or art which is in question in a proceeding in a court of justice." The speaker took the ground that one great reason for the cry against the partisan character of medical expert testimony was to be found in the frequency with which such experts assumed the double rôle of expert witness and special adviser to counsel. The following reforms had been suggested: (1) The appointment of a committee of experts, in insanity cases, to examine the person alleged to be insane, before the trial, and make a report at the trial, all the members being in attendance for cross-examination; (2) that in cases requiring expert evidence, the experts should testify without compensation except the fee to be fixed and paid by the State; (3) the relegation of all matters for expert testimony to a commission of experts; (4) the appointment of expert witnesses, who may qualify for the purpose, without consultation with the litigants or their counsel, compensation being furnished by the county in which the trial occurs; (5) the enactment of a statutory prohibition against receiving any expert evidence from a witness who has been paid, or expects to be paid, by either party, and who receives only the insignificant sum provided by law for ordinary attendance on court. Judge Bartlett said that it was impossible, without changing our whole constitutional system of government, to bring into effect any plan which would prevent litigants in an action at law from calling expert witnesses whom they may select. In his opinion no effort at reform would succeed that did not leave the expert liable to a most searching cross-examination. A good doctor had no occasion to fear it and seldom suffered under it, but the bad doctor could hardly fear it too much. He was convinced that the bench, the bar, and the common people were all opposed to the substitution of a jury of experts for the common-law jury. It was entirely possible for the doctors of this State to discourage the practice of acting as both adviser to counsel and as expert witness. The remedy that he would suggest was an amendment of the medical code of ethics, regulating the course to be pursued by the medical expert.

Hon. Joseph L. Daly, formerly justice of the supreme court, took up the discussion at this point. He could not see why it was any more harmful for medical experts to be remunerated by the party calling them than for the legal expert, familiarly known as "counsel," to receive like compensation.

Charlton T. Lewis, LL.D., continued the discussion. He boldly declared that the fault was not in the profession of law or medicine, but in the system of jurisprudence. That system sought an average justice, not an ideal exactness; it was utterly incapable of eliciting scientific truth or solving any problem in which science was a determining factor. It would be wholly in accord with our traditional system and with the methods approved by all experience, if the laws of nature and the principles of science applicable in each controversy were formulated by an expert tribunal independently of controversy, and then accepted by both court and jury. The present procedures connected with the taking of medical expert evidence were characterized as nothing better than traditional superstitions. The ideal plan would be a complete separation of tribunals, so that expert evidence should be heard only by an independent scientific court. The merit of the plan, by which counsel occasionally left the selection of an expert to the judge and agreed to accept the result, appeared to him so great that he would assert that it was the most direct and effective way to the truth. Of course, any change for the better must be made very gradually and tentatively.

William A. Purrington, Esq., was the next speaker. He stated that many supposed instances of perjury on the part of witnesses were, in his opinion, nothing more than inaccuracies arising from a frame of mind induced by "suggestion" practised by the examining counsel. Judges were really experts, who delivered their opinions dogmatically, and they possessed binding force until set aside by some judge higher up in the forum. Although judicial decisions differed widely, no one accused the judges of incompetency or dishonesty.

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*Second Day—Wednesday, October 25th.*

**The Necessity for State Aid in the Treatment of Pulmonary Tuberculosis.**—Dr. George W. Goler, of Rochester, read this paper. He stated that it was generally admitted that thirteen thousand persons died in New York State annually from tuberculosis. Assuming the average life of the consumptive to be four years, there would be fifty thousand cases of tuberculosis always present in this State. According to the lowest estimate a cure could be effected in twenty per cent. of the cases. For the suppression of diseases more tragic in their course than consumption the State spent large sums of money annually. The average duration of life in the insane person, after admission to hospital, is twelve years, and the average annual cost is $186, thus making the total cost for each insane person $2,232. Of the epileptic population not over six per cent. were cured. Special sanatoria should be provided by the State for the cure of tuberculosis, and in them seventy per cent. of cures should be realized.

**Sanatorium Treatment at Home for Patients Suffering from Pulmonary Tuberculosis.**—Dr. S. A. Knopf, of New York, read this paper. In it he reviewed the essential features of the treatment, as carried on in special institutions in this country and abroad, and described how, with simple apparatus, much could be accomplished at the patient's home. The treatment of the consumptive poor was best carried on in State sanatoria.

Dr. Delancey Rochester spoke of the difficulty in making patients wear the flask or use paper handkerchiefs properly. The patient should take milk freely, but it was best to order it taken at a certain time—preferably three hours and a half after an ordinary meal. It was also important that the patient should take water freely. In using cold affusions, he had found it an advantage to substitute for the pitcher a fountain syringe with a large spray nozzle. State sanatoria were needed for the incipient cases occurring among the poor; the more advanced cases could be sufficiently well treated in county hospitals.

Dr. Didama took exception to the prevailing notion about the hereditary transmission of a "tuberculous predisposition." He said that only twenty-seven persons out of every hundred were even distantly related to consumptives, and these did not inherit a "tendency" any more than any one else having a bad constitution. A child kissed by a tuberculous mother was liable to contract tuberculosis of the bowel.

Dr. W. E. Finder said that tuberculosis was, to his knowledge, contracted by patients and nurses in general hospitals. The public sadly needed education on the subject of tuberculosis, and it was most rational to begin by teaching the school children.

Dr. Washburn put in a plea for the "farm colony" in connection with the State sanatorium, and then introduced the following resolution, which was adopted:

*Resolved*, That the New York State Medical Association approve of the State establishing sanatoria for the care of consumptives, and that it is the sense of this association that sanatoria for the incipient cases should be conducted in connection with the farm colony.

Dr. Bernard Cohen, of Buffalo, suggested that if the profession really desired to secure such legislation, the assistance and influence of the rural physician should be enlisted.

**Reopening the Abdomen for Post-Operative Septic Peritonitis, with Report of Cases.**—Dr. C. C. Frederick, of Buffalo, read this paper. He pointed out the danger of drainage and its needlessness. He had great faith in the efficacy of complete hæmostasis, thorough cleansing of the peritoneal cavity, and in filling this cavity with saline solution, thus diluting the infection and augmenting the absorbing surface.

Dr. Frederick Holme Wiggin, of New York, said that if the author had not used drainage, the result might have been better. The use of the drainage tube, in a case like the one referred to, was futile; moreover, it opened up new channels for infection. Even in bad septic cases the prospect for recovery would be better if no drainage was employed and if the surgeon relied solely on the intravenous or intracellular injection of saline solution. This procedure powerfully excited the emunctories and so favored the elimination of septic material. The speaker favored disinfection of the peritoneal cavity with hydrogen peroxide, followed by a free use of decinorml salt solution.

Dr. H. O. Marcy, of Boston, said that he hesitated to make use of hydrogen peroxide in the peritoneal cavity, believing that it oftentimes served to diffuse the infection. He did, however, use with much confidence a 1 : 1,000 solution of bichloride, following it with plenty of saline solution. He had never noted any bad effect from this procedure, but believed that it had been the means of saving life.

**Morphinism among Physicians.**—Dr. T. D. Crothers, of Hartford, Conn., presented a communication with this title. He said that morphinism was the modern disease of physicians. After an extended study of the subject and the collection of statistics, the estimate had been made that ten per cent. of all medical men used morphine. The causes were complex, and arose from conditions of living and surroundings, as well as from neurotic defects. Personal self-treatment was especially disastrous. In morphinism there was profound psychical and physical poisoning, and a cure was not effected by the mere removal of the drug.

Dr. Leroy J. Brooks, of Norwich, said that he personally knew of twelve cases occurring among physicians in his county; four had the morphine, cocaine, and whiskey habits, four had the morphine and cocaine habits, and four the morphine and whiskey habits. Only three out of the twelve were over fifty years of age. There was a special temptation for rural practitioners to fall into such habits.

**Albuminuria: Its Prognostic Value in Chronic Nephritis.**—Dr. Charles Alling Tuttle, of New Haven, Conn., read this paper. He declared that urinary examinations, as ordinarily made in the physician's office, had but little value, and that the toxicity of the urine often afforded the best and safest means of diagnosis. Chronic interstitial nephritis, he averred, could exist without albuminuria, casts, or the usual clinical symptoms of kidney impairment, and albuminuria of measurable amount and renal casts might be present and yet the health of the individual be unimpaired throughout many years. The propositions supported by the essayist were: (1) Bright's disease may exist without albumin and casts; (2) albumin and casts may be found in normal urine; (3) given a case of chronic Bright's disease with albuminuria, its constancy or its amount had no prognostic significance.

**Curability of Epilepsy, and How It may be Accomplished.**—Dr. William P. Spratling, superintendent of the Craig Colony for epileptics, presented this paper. He said that the early treatment of reflex epileptic phenomena was of great importance. Many cases of nocturnal epilepsy passed unrecognized until far advanced. Out of four hundred and eighty-five persons admitted to the Craig Colony eighty-three per cent. had developed the disease before the age of twenty years, and twenty out of a series of one hundred and forty-five had given manifestations of the disease as early as the sixth month of life. Before making a prognosis or instituting treatment it was well most carefully to consider the ancestry. The author objected to giving young subjects drugs, the chief action of which was to suppress the convulsive phenomena, for such treatment not only was liable to mask the diesase, but experience had shown that it would seriously impair the digestive and assimilative functions. He had yet to see a single case in which the use of the bromides had cured the disease, although it had often suppressed the convulsive phenomena for long periods. In his opinion, it was wrong to operate upon an epileptic brain after an injury and years of convulsive seizures. Great stress was laid on a study of the aura, which was designated as the "sign-post" to the treatment. The colony plan allowed of the entire and much-needed control of all the habits of life of the individual. The diet should be simple and nutritious, and taken in moderate quantity; tobacco should be indulged in moderately, and the whole mode of life should be completely though gradually changed.

**Discussion on Typhoid Fever—The Advance in Our Knowledge of Typhoid Fever.**—Dr. Herman M. Biggs, of New York, opened the discussion with a consideration of the above topic. He said that the first great step in advance had been made through the writings of Shattuck and Flint in this country, and of Sir William Jenner in England. They had made possible the clinical differentiation of typhoid from typhus fever, and had marked the beginning of the first period—from 1850 to 1880. The second period had been ushered in in 1880 by Eberth's discovery of the typhoid bacillus. The third period extended from that year to the present time; and in this had the greatest advances been made. We could no longer speak properly of typhoid fever as "enteric fever." In the majority of cases the typhoid bacilli made their way into the circulation at some stage of the disease, as shown by the rose-colored spots and by the demonstration of these organisms in the blood. A negative result from the Widal test could not be regarded as having much significance, but a positive reaction might be looked upon as almost conclusive proof of the presence of typhoid fever. Nearly all observers were agreed as to the nearly constant presence, in the early stages, of the diazo reaction of Ehrlich. It might be present between the third and seventh days of the disease—in other words, before the Widal reaction could be obtained, and prior to the time when the clinical symptoms were at all distinctive. Unfortunately it was frequently present also in general miliary tuberculosis, an affection frequently mistaken for typhoid fever. Regarding the use of preventive inoculations, the statement was made that, of two hundred persons at the Maidstone asylum, ninety-five had been inoculated, and none of these had contracted typhoid fever, whereas of one hundred who had refused this treatment nineteen had become ill with the disease. These inoculations had been made with attenuated and sterilized cultures. The injection was followed by swelling and tenderness at the site of the injection, and by a mild febrile reaction. By such treatment the blood acquired the agglutinative property present in persons suffering from typhoid fever.

**Bacteriology of Typhoid Fever.**—Dr. W. H. Park, of New York, treated of this topic. He said that the infective material was found chiefly in the discharges from the sick—in the fæces and urine principally. The length of time the bacilli remained in the fæces was very variable; sometimes it was only a few hours, but usually they did not disappear for several days. Typhoid bacilli could not usually be detected in water for more than fourteen days, and for

this reason, chiefly, examinations of water for typhoid bacilli had almost no practical value. A rather unique case of infection from ice had recently been reported. Typhoid fæces had been thrown upon the ice of a certain lake in January, and the disease had developed the following July only among the families supplied with that ice. We were coming more and more to look upon insects as carriers of disease. One or two observers had claimed to have found typhoid bacilli in the bodies of insects, and an experiment, repeatedly performed in the laboratory, was the infection of culture media by foot-tracks of flies. Typhoid bacilli were not found in the urine until the third week, or possibly much later, yet after this time they appeared in pure culture and in enormous numbers. They would often persist in the urine for weeks or months. A case of cystitis, therefore, developing shortly after an attack of typhoid fever should be suspected at once of being the result of typhoid infection. Disinfection of the urine should always be insisted upon and the patients warned of the great need for carefully disinfecting their urine and fæces for a number of weeks after convalescence from typhoid fever. The bacilli would disappear more rapidly under the administration of urotropin, in doses of gr. x. three times a day.

**Clinical Diagnosis of Typhoid Fever.**—Dr. William Osler, of Baltimore, considered this phase. He said that the diagnosis must always be founded on circumstantial evidence, and yet there were few diseases in which the diagnosis was so certain. In some cases of very short duration and mild type the Widal reaction was most useful. In severe cases death might occur even before the Widal reaction could be present, and in such it was quite possible that even at the autopsy the characteristic intestinal lesions would not be found. A large proportion presented no intestinal symptoms, but of thirty-five recent cases in his practice only four had shown distinct abdominal symptoms. The cerebrospinal, pulmonary, and renal localizations of the typhoid poison were exceedingly liable to confuse and mislead the diagnostician. It should be remembered that under the most favorable circumstances death might occur before a correct diagnosis could be made. A febrile typhoid, the speaker said, must be very rare, as he had never seen such a case. The occurrence of chills was, perhaps, the most frequent cause of an erroneous diagnosis. Chills were not infrequent in typhoid fever; they were so exceptionally the result of malaria that the latter should be the last thing thought of. The blood examination and the therapeutic test would decide. Dr. Osler said that he had been deeply impressed with the widespread belief among physicians that a diagnosis of malaria was often warranted, even in the face of a continued fever. This had been brought very forcibly to public notice by the action of the army surgeons in the late war in Cuba. Regarding the diagnosis of malaria, he would say to those practising in localities north of Mason and Dixon's line: (1) that intermittent fever which resists quinine was not of malarial origin; and (2) in these localities a continued fever was not due to malarial infection. He hoped that the pernicious term "typho-malarial" fever had been forever banished from our nomenclature. To the rural practitioner, without laboratory facilities, he would say: "Learn to suspect typhoid fever in every continued fever of six or seven days' duration, and especially if it proved resistant to quinine."

**Some Interesting Cases Illustrative of Typhoid.**—Dr. Edward G. Janeway, of New York, presented this contribution to the discussion. He said that it had been his lot to see three cases of tetany associated with typhoid fever. At times the mental state was so rapidly altered as to lead to the suspicion of insanity. There was often a marked suicidal tendency, which should lead the physician to take special precautions to prevent harm to the patient. The occurrence of herpes labialis in typhoid was so extremely rare that if it appeared he felt disposed to revise the diagnosis most carefully. A thick crop of petechiæ was prone to develop on the abdomen after the prolonged use of the ice-coil. He had known both appendicitis and sapræmia from retained menses to simulate typhoid.

**Statistics of Typhoid Fever at the Roosevelt Hospital for Ten Years.**—Dr. William H. Thomson, of New York, presented his statistics on typhoid fever for the period from September, 1889, to September, 1899. The total number was 368, 275 being males and 93 females. The total number of deaths was 25, or 6.8 per cent. Of those who died, 14, or 56 per cent., succumbed within a week after admission. Diarrhœa, developing after the first week in the hospital, was reported in only 8.7 per cent., and in the majority of these it was not very severe. This comparative rarity of diarrhœa he attributed, not to a change in the type of the disease, but to a change in diet, these patients not being fed on beef-tea as was formerly the routine. Tympanites had been very common among the soldiers returned from Cuba, but excluding these cases, it was noted in only 11 per cent. In 321 cases there had been no delirium. Pneumonia had occurred in 7 per cent., and bronchitis in 8 per cent. Phlebitis had been present in 7 cases. Relapses had occurred in 55 cases, or 15 per cent. The treatment had consisted in the use of a purge of calomel and jalap every third night, up to the close of the second week. Equal parts of milk and lime-water was the exclusive diet until the end of the fourth week. He also used pepsin to aid the enfeebled digestion. Gr. x. each of pepsin and bismuth were given every three hours. As soon as the tip of the tongue became dry ℥ x.–xx. of spirits of turpentine were given every three hours. To combat the general toxæmia, the speaker said, he knew of nothing equal to the general cool bath. It was employed as soon as the temperature reached 103° F., and active friction was kept up during the bath. He had found that there was less depression and a more prolonged antipyretic effect from the artificial Nauheim baths. Rectal irrigations with saline solution had been used with the object of increasing elimination.

**Typhoid Fever in the Massachusetts Genelar Hospital during the Past Fifty Years.**—Dr. Reginald Fitz, of Boston, contributed this paper, which was largely a historical sketch. The mortality rate, by decades, was as follows: For 1839–49, 11.1 per cent.; 1849–59, 15 per cent.; 1859–69, 15.9 per cent.; 1869–79, 16.6 per cent.; 1879–89, 14.7 per cent.; 1889–99, 13.5 per cent. From 1839 to 1869 a liquid farinaceous diet was in vogue; from 1879 to 1889 it was chiefly liquid, beef-tea and the like; from 1889 to 1899 milk had been the chief diet. The mortality rates for these three periods were 14.1 per cent., 16.6 per cent., and 14.6 per cent. respectively. Baths had been used since 1873, and since 1888 sponge and tub baths at a temperature of 65° F. had been frequently given. His conclusions were: (1) The treatment of typhoid fever does not now differ materially from the principles laid down in 1839; (2) the average mortality has not changed since the days of such active treatment as purgation and venesection; (3) intestinal hemorrhage, perforation, and relapse are quite as frequent now as they were at any time; (4) a considerable variety of diet may be permitted, without detriment, and with possible benefit to the patient.

**Some Phases of Typhoid Fever as Seen in Bellevue Hospital.**—Dr. A. A. Smith, of New York, made this contribution. The statistics were, for the most part, based on 87 cases, as from this number only could histories be obtained. Out of a total of 104 cases,

there were 10 deaths, or 9.6 per cent. Chills were present in 57 per cent., diarrhœa in 57 per cent., typhoid eruption in 77 per cent. Of the 59 cases examined for the Widal and for the diazo reactions, the former was present in 82 per cent. and the latter in 7.4 per cent. Relapse occurred in 9 per cent.; all of these patients recovered. In the whole series, there had been only one case of nephritis. In five cases the plasmodium malariæ had been demonstrated during convalescence. The highest temperature recorded was 106.6° F., and that case proved fatal. One patient had died of intestinal perforation, as shown by autopsy, on the twenty-eighth day. Regarding diet, he was more than timid about the resumption of solid food, and made it a rule in his wards that it should not be given for eight or nine days after the temperature had permanently reached the normal.

**Typhoid Fever in Children.**—Dr. Abraham Jacobi, of New York, read this paper. He said that the absence of high temperature was worthy of note. General peritonitis was very uncommon. In certain epidemics he had found intestinal hemorrhage very frequent and severe. The food should be exclusively liquid until the temperature had been normal for ten days. A few drops of dilute hydrochloric acid, in a glass of water, made a useful and pleasant drink. The lips and tongue should be kept clean. When the tongue was dry and fissured, one or two applications should be made with a camel's-hair brush dipped in a one- or two-per-cent. solution of nitrate of silver. The posture in bed should be changed from time to time to avoid hypostatic congestion. The bowel should be irrigated frequently with water at 95° or 100° F. Internally, bismuth, sulphocarbolate of zinc, and salol were indicated. Stupor and coma should be combated by cold affusions while the body was immersed in water at 95° F. Antipyrin was perhaps the safest of the antipyretic drugs, but baths were better because of their stimulating action on the nervous system.

**The Local, Non-Surgical Treatment of the Intestinal Tract in Typhoid Fever.**—Dr. De Lancey Rochester, of Buffalo, presented this paper. He called attention to the importance of cleansing the mouth; if this was done sordes would be unknown. There was no evidence to prove the potency of remedies designed to destroy the specific bacilli. He strongly favored the use of calomel, at intervals of four to six days, in doses sufficient to produce from two to four stools daily. Systematically repeated irrigations of the colon were most beneficial.

**Treatment of Perforation of the Bowel in Typhoid Fever.**—Dr. W. W. Keen, of Philadelphia, contributed this paper. He stated that from 1884 to 1898 eighty-three cases had been operated on, with a resultant recovery rate of 19.3 per cent. From the beginning of last year up to the present time there had been sixty-seven additional cases operated on with a recovery of 26.9 per cent. He favored operating on practically every case of perforation unless the general condition was such as to make the case evidently hopeless. No age was a barrier, though it considerably influenced the recovery rate. Under fifteen years the percentage of recoveries was 50; from fifteen to twenty-five years it was 8.1 per cent.; from twenty to thirty-five years it was 25.6 per cent., and over thirty-five years it was 28.5 per cent. The best time for operation was not during the immediate primary shock, but in the second twelve hours after perforation, all things being considered. The operation should, of course, be done as soon as possible after perforation, but no prudent surgeon would operate during profound shock. During the first eight hours the chances for recovery were one-third of those which obtained during the remainder of the first twenty-four hours. The most important advance in technique was the substitution of local cocaine anæsthesia for a general anæsthetic. This had been first proposed by Cushing. The perforation, when found, should be sutured without paring, Halsted's mattress suture being used. Drainage would usually be required; though it was not improbable that better results might ensue from filling the abdominal cavity with salt solution and closing the wound.

**Eye Complications in Typhoid Fever.**—Dr. A. T. Hubbell, of Buffalo, made a few remarks on this subject. He said that catarrhal conjunctivitis and lacerations of the cornea were especially common complications of typhoid fever. The other principal eye complications were: retinal hemorrhages, accumulations of pus in the anterior chamber, suppuration of the deeper structures, iritis, choroiditis, opacities of the vitreous humor, opacity of the crystalline lens, neuritis and optic-nerve atrophy, embolism of the central retinal artery, orbital cellulitis, thrombosis of the orbital vessels, and paralysis of the extra- and intra-ocular muscles. Fortunately all of these complications were rare, and were easily diagnosticated.

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*Third Day—Thursday, October 26th.*

**Officers Elected.**—*President*, Dr. E. D. Ferguson, of Troy. *Vice-Presidents*, Dr. Charles H. Glidden, of Little Falls; Dr. J. M. Farrington, of Binghamton; Dr. W. H. Thornton, of Buffalo; Dr. J. C. Bierwirth, of Brooklyn. *Secretary*, Dr. M. C. O'Brien, of New York. *Treasurer*, Dr. E. H. Squibb, of Brooklyn. *Members of Council*, Dr. Douglas Ayres, of Fort Plain; Dr. Charles Munger, of Knoxboro; Dr. E. M. Lyon, of Plattsburg; Dr. W. L. Ayer, of Owego; Dr. M. W. Townsend, of Bergen; Dr. Frederick Holme Wiggin, of New York. *At Large*, Dr. Joseph D. Bryant, of New York.

**Report of Committee on Quarantine.**—Dr. Stephen Smith, of this committee, described the three bills that had been before Congress, viz., the Spooner, the McCaffrey, and the Hepburn bills. The two latter, he said, proposed to impose new duties and functions on the Marine-Hospital service; the former advocated the establishment of a national commission in connection with the Treasury Department. The committee was continued.

**For Greater Uniformity in State Requirements for Medical Practice.**—On motion of Dr. E. D. Ferguson, the council was requested to appoint a committee of three, to confer with other societies, and take the requisite steps.

**Popular Instruction regarding Consumption.**—Steps were taken to secure the publication of a leaflet giving popular information on the best home treatment.

**Two Cases of Large Retained Hernia.**—Dr. Henry Orlando Marcy, of Boston, reported these cases to emphasize the fact that the fatal result had been brought about by interference with respiration and with the heart's action by causing excessive intra-abdominal pressure.

Dr. W. B. De Garmo, of New York, said that a paper of this kind was valuable at the present time as helping to settle the question as to where the line for operative cases should be drawn. Personally, he favored keeping these patients with large herniæ in bed for some time before operation, while efforts were made to reduce as much of the tumor as possible, thus accustoming the abdomen to this addition to its contents.

**The Admistration of Nitrous Oxide with Air or with Oxygen.**—Dr. Thomas L. Bennett, of New York, presented this communication. He said that the inhalation of nitrous oxide for a very short time was not infrequently followed by headache, dizziness, persistent nausea, or a tendency to yawn for twenty-four hours or more. He had been unable to find on

record any cases of disturbance of the heart, lungs, and kidneys, and from his own experience was sure that such results must be extremely rare. The prolonged administration of this agent was difficult, because the stages were exceedingly short and sharply marked. Deep narcosis was present after about one minute, and if air had been rigidly excluded there would also be marked asphyxia. On the other hand, if considerable air was admitted the patient would not pass quietly into deep narcosis, but would present marked signs of excitement; hence it was necessary to admit the air in definite quantities. Mixtures of nitrous oxide with pure oxygen afforded an ideal combination; and they were best made, in practice, by the use of Hewitt's apparatus. All changes in the proportions of the gases must be made gradually, as sudden changes were apt to interfere with the smoothness of the narcosis. This method undoubtedly afforded the safest and best form of nitrous-oxide anæsthesia, possessing all of its advantages and none of its disadvantages. It was practically impossible to move the patient after the anæsthesia had been started, without disturbing the narcosis. In a long administration of the mixed gases it was not uncommon to consume five dollars' worth of the gases. The abdomen was apt to remain rigid even when the narcosis was deep, and hence this method was ordinarily not well suited to abdominal operations. The greatest indications for this anæsthetic were to be found: (1) in those in whom ether or chloroform could not be used without special danger; (2) in operations so short as to render the effects of ether and chloroform out of proportion to the results; (3) in patients who had previously suffered extremely from ether or chloroform, and had in consequence a great dread of them. This anæsthetic agent had been found especially serviceable in the following cases: tooth extractions; incisions of abscesses and sinuses or division of strictures; curettings of various kinds; stretching in orthopedic cases; breaking up adhesions in joints; anal dilatation; removal of tonsils; doing major dressings; in the aged and in those presenting lesions of the heart and kidneys.

Dr. Golden said that he was positive that the degree of cyanosis depended almost entirely on the experience and skill of the administrator. The longest period that he had maintained narcosis with gas had been two hours, and with the mixture of gas and oxygen one hour and a half.

Dr. Delancey Rochester said that in most general hospitals it would be difficult to find a sufficiently experienced administrator on the house staff, and in rural practice it was hard to procure the gases.

*(To be Continued.)*

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## NEW YORK COUNTY MEDICAL ASSOCIATION.

*Stated Meeting, October 16, 1899.*

Frederick Holme Wiggin, M.D., President.

**A Family of Gall-Stone Sufferers.**—Dr. Carl Beck presented four members of one family, all of whom had suffered from gall stones. There were ten members in all in this family who had suffered from this disease, three of the others being now alive and three dead. One of those presented was a woman whose case was unique; it was the only one, Dr. Beck said, reported in the literature in which a gall stone had been removed from the left side of the body. This was because the woman had a transposition of the viscera. In the sixth intercostal space the liver could be easily palpated; the stomach was on the right side; the vermiform appendix was on the left. Skiagraphs were exhibited to prove that the heart and other viscera ordinarily on the right side were on the left in this person. The gall stone was quite large, and consisted of four different portions. The second patient presented was the sister of the first one. She had been operated upon for gall stones a short time ago. The symptoms had resembled very closely those of appendicitis. The gall bladder had reached down as far as the iliac fossa, and felt like a thickened band, not unlike an appendix. This had been because the several stones had arranged themselves one above the other in a linear manner. The third patient presented was the mother of the other two. She was seventy-two years of age, and had not yet been operated upon. In this case he had succeeded in getting a distinct picture of the gall stones on a photographic plate by means of the Roentgen rays. Ever since March, 1896, he had made it a rule to skiagraph every case of suspected cholelithiasis coming under his observation, and yet, although he had made use of the very best apparatus, he had not succeeded before this in securing the desired picture. In this woman a distinct tumor in the region of the gall bladder could be felt, and the history pointed plainly to cholelithiasis. For the past forty years she had suffered at intervals from what she called "stomach cramps," but there had never been any jaundice.

**Case of Spastic Spinal Paralysis.**—Dr. E. Gaillard Mason presented this case, a child, the youngest of seven children. It had been born by a breech presentation, but until six months old had been apparently like other children. When three months old an abscess had developed on the side of the neck, and had discharged for three months. Subsequently it had been noticed that the child was stiff, and did not walk properly. Latterly he had been improving. The points of interest were the fact that the paralysis had begun at a very early period, and that there had been decided improvement irrespective of any mode of treatment. The symptoms were the peculiar bed-spring gait, the exaggerated knee-jerk and triceps jerk, and the ankle clonus. There had been absolutely no impairment of sensation and no bladder or rectal symptoms. Up to two years ago he had been unable to walk at all; now he could put the foot down on the floor.

Dr. W. M. Leszynsky said that it was very rare in either an adult or in a child to see a primary case of this kind; as a rule, spastic spinal paralysis was secondary to a brain lesion. In a case like this one he would be inclined to think of the so-called "Little's disease," or a lack of development in the pyramidal tract both in the brain and spinal cord. This could be determined only by prolonged examination and study.

Dr. M. C. O'Brien said that one was apt in such cases, when seen early in life, to give an unfavorable prognosis, yet it should be remembered that after the third or fourth year improvement might begin, largely through the vicarious action of the other muscles. Of late years the tendency in treatment had been to rely upon electricity and massage.

Dr. F. M. Nye said that in recent cases he was in favor of giving a course of iodide, and then resorting to electricity.

**New Galvano-Cautery Instrument for Hypertrophy of the Prostate.**—Dr. Robert Newman presented a new instrument for use in the Bottini method of treating hypertrophy of the prostate. The instrument was catheter-shaped, with a decidedly tapering beak. A tunnel was provided for use with a filiform guide in difficult cases. The galvano-caustic knife was fixed in the posterior part of the instrument, and by means of an adjusting screw the platinum burner could be projected to a greater or less degree. The connections with the battery were made through two separate and

insulated rods. As the burner alone was heated by the current it was perfectly feasible to dispense altogether with the usual water cooling-device.

Dr. L. Bolton Bangs said that he had not had an opportunity of examining the instrument, but he felt very doubtful, nevertheless, concerning its effect upon the prostate. He had tried the Bottini method, and fully agreed with Dr. Newman that one instrument would not be suitable for every case. His own experience had taught him to narrow the field for this method of treatment. Personally he believed that electricity was a very uncertain force, failing the physician often at the most unexpected times.

**Vaccination.**—Dr. David P. Austin read a paper on this subject. He said that the introduction of bovine virus had done away with one great objection to vaccine, *i.e.*, the possibility of infecting the person with syphilis, and it had nearly overcome the feeling that it might be responsible for the communication of tuberculosis. Mention was made of a case coming under his observation, of a youth of eleven years, who while suffering from scabies had been vaccinated. As a result of this there had been twenty or more pustules formed on the body in the various scratch marks. Dr. Austin said that in 1870 he had had a large experience as a vaccinator for the board of health. There had been scarcely a failure among the primary vaccinations, while in the second vaccinations the number of successes had been something under sixty per cent., and with the third vaccinations about thirty per cent. He had himself been vaccinated about fifty times, yet none had proved successful after the fourth. He favored adopting the plan in private practice of vaccinating people once a year until the immune condition had been established. That vaccination was not appreciated as it should be in our own country had been taught us by the melancholy lesson of our troops succumbing to smallpox at Manila. The speaker thought the probable reason our troops in the West Indies had not been so susceptible to the disease was that they had been, for the most part, recruited from the East and South, where the practice of early and especially repeated vaccination was common. In his opinion the troops should have been vaccinated at intervals of a month until the vaccinations had no longer been successful; in other words, until they had become immune. Ordinarily this immunity could be produced in a child at the end of five years, and if treated in this way they would be immune for the rest of their lives.

Dr. J. H. Huddleston said that there could not be any doubt regarding the necessity for revaccination, but he could hardly agree with the statement that a life immunity could be established. When the vaccination was properly performed with good vaccine, and it was not successful, this was only evidence that at the time the person was not susceptible to the disease, but how long the immunity conferred by a successful vaccination would last no one could tell in the individual case. Immunity was slow of development, usually requiring from ten to fourteen days. It lasted for a variable length of time. Cases had been reported of natural immunity, but it was doubtful whether such cases really existed. In several series, including one hundred thousand cases each, no such case of natural immunity had been encountered. The immunity produced by the disease vaccinia might last only a short time. There was a case on record in the institution on North Brother Island in which there had been a successful revaccination within six months after a successful vaccination. Cases evidencing even shorter immunity were on record.

**The Protection Afforded.**—Dr. Frank S. Fielder said that the literature seemed to show that it had been customary to vaccinate a child in infancy, and again when first coming to school, and that a very large number of these second vaccinations had been successful. Statistics also seemed to show that after a successful revaccination the duration of the immunity was very much longer, although not likely to last the rest of one's life. Among fifteen thousand cases on record the deaths from smallpox among vaccinated persons had been thirty-five per cent.; in those with one vaccination it had been 7.73 per cent.; in those with two scars 4.7 per cent., and in those with three vaccinations 1.95 per cent., while in those with four or more scars of vaccination it had been 0.55 per cent.; hence when there were several scars indicating successful revaccinations, the mortality from smallpox was comparatively low. At one time he had vaccinated ten school children, each one in four places. Each child had had a typical vaccination in all four spots. Eight months afterward he had gone to the institution and examined all of these children. All had had typical scars. He had then vaccinated all of these children with unimpeachable virus, and three of them had "taken" very well. An experienced physician in the health department had told him that it was much easier to revaccinate a person than it was to get the disease after a successful vaccination.

**Natural Immunity.**—The speaker went on to say that he was sceptical about the existence of natural immunity, and added that the greater one's experience in vaccinating with good virus, the more sceptical did one become on that point. However, one physician who had been among hundreds of cases of smallpox, and had been repeatedly vaccinated without result, had submitted to being vaccinated by Dr. Fielder in a number of places with virus that had been proved by clinical tests to be of excellent quality. The vaccinations had been unsuccessful, and the same result had followed a repetition of this experiment a few months later.

**The Scar an Untrustworthy Guide.**—On the subject of vaccination scars and what they signify, Dr. Fielder said that in a large number of cases of typical vaccinations with good virus he had visited the persons again after six months and had been surprised to find the large percentage showing scars which would be rated as "fair" or "poor." Only about thirty-three per cent. of these cases had exhibited what would be termed "good" scars. On the other hand he had known cases showing poor scars to be quite resistant to revaccination. From these considerations it was wise to conclude that the only way to be absolutely certain of immunity was to revaccinate again and again.

**Locality of Vaccination.**—Dr. Henry Illoway said that at one time he had vaccinated a child of five years with a virus of good reputation. In all this child had been vaccinated five times without success. He had then tried vaccinating it with some human lymph, and as a control had vaccinated the brother of eleven years and the sister of nine years. The vaccinations on the brother and sister had proved successful, but the first boy's vaccination had been a failure. About six months later he had vaccinated this boy on the leg instead of on the arm as previously, with the result that a typical vaccination had been secured. This had suggested to him the possibility that owing to local differences in the circulation certain parts of the body might be more susceptible than others. His experience had led him to feel that there entered into this interesting question what might be called the dosage for individual cases.

Dr. Austin closed the discussion. He cited the case of a boy fourteen years old who had been repeatedly vaccinated without success, and who had finally been successfully vaccinated when human lymph had been used. Since that time he had twice vaccinated

him successfully. In closing, he insisted upon the importance of a sufficient number of revaccinations.

**Notes on Urethral Catheterism, Catheters, and Bougies.**—Dr. John W. S. Gouley presented a paper with this title, but for lack of time read only portions of it. The author not only gave the history of the introduction of catheters and bougies, but described in detail many of the ancient instruments and their mode of manufacture. He advised physicians to decline purchasing any but the best silk-web catheters which, although nearly double the price of the lisle-thread or linen instruments, were the cheapest in the end, and moreover possessed the advantage of being disinfected by formaldehyde vapor without injury. The well-known silver prostatic catheter, with its extraordinary curve and length, seemed to him to have been intended for a urethral lacerator and prostatic plough, while that unhandy instrument of torture, the prostatic web catheter, he characterized as worse than useless. Web catheters should not be so thickly coated as to prevent the braid from being seen through the varnish. A point worth remembering was, that when it became necessary to retain a catheter in the urethra or bladder, the highest grade would not always be found the best, because such were more quickly infiltrated with urine and made to swell irregularly under the continuous action of the urine. The American commercial catheters, or "ten-cent catheters," would be found useful in many instances. Such a catheter could be repeatedly boiled without injury, and might be used as long as the surface of the instrument retained its smoothness. No catheter whose surface was fissured or roughened should be passed into the human urethra. He had used an American silk-web catheter three hundred times without affecting in the least the smoothness of its surface. Web catheters and rubber catheters were much injured by lubricating them with fats of all kinds, or with glycerin; hence it was better to use as a lubricant a preparation of non-irritating soap combined with mucilage. Both web and rubber catheters were liable to become hard and brittle in time, but this change could be greatly retarded by wrapping these instruments loosely in antiseptic gauze and keeping them straight in a tightly closed metal case or glass tube. When a false route rendered impossible the passage of ordinary instruments, Hey's method of procedure was often very satisfactory. This consisted in passing a silk-web catheter, No. 9 or 10 English, as far as, but not into, the mouth of the false route. This catheter was armed with a curved stiletto which was withdrawn at the same moment that the catheter was pushed toward the bladder with the other hand. This caused the instrument to over-ride the false route and enter the bladder. For the performance of catheterism the patient was usually placed in the recumbent position. The operator seated himself by the sufferer's left side for urethral, and by his right side for vesical, exploration. Exploration of the urethra for stricture was best made with soft, flexible, acorn-tipped web bougies, the metallic bulbous bougies not possessing sufficient delicacy and precision. When dilating catheterism was indicated, it was advisable to begin, in the case of narrow strictures, by the momentary insertion of flexible web bougies every second or third day, increasing the sizes until a No. 10 or 12 English could be inserted. After this conical steel sounds might be used, but not oftener than once a week, and seldom exceeding No. 15 English in size. It was hardly safe to permit patients living at a distance to make use of steel sounds; they should be taught to use a very soft, olive-tipped web bougie not larger in the shaft than No. 13. For autocatheterism the rubber "velvet-eyed" catheter was ordinarily the safest for general use, the chief drawback being that the patients were apt after a time to get too bold and careless in its use. When there were many false routes, and great difficulty was experienced in entering the bladder, the surgeon had at his disposal a most precious device—the invaginated catheter of Mercier. Strangely enough this instrument had not been apparently appreciated by the profession at its full value, yet it might be fairly stated that in ninety-five per cent. of cases of prostatic false routes this instrument could be successfully employed. It consists of a female portion—a thin-walled silver catheter—and a male portion—a flexible but firm gum catheter a little smaller than the male portion. The male part should be introduced into the female about as far as the eye of the latter, and then the instrument was passed down as far as the obstacle, and the point of the metallic part engaged in the false route. The male part was then to be projected, when it would override the false route, already blocked by the tip of the female part, and would pass on into the bladder. The female part could then be withdrawn, leaving the other in the bladder. In conclusion, Dr. Gouley expressed the earnest hope that every one essaying to make use of catheters and bougies would take as his motto the honeyed words of Civiale: "*doucement et lentement*"—gently and slowly.

Dr. L. Bolton Bangs said that the importance of great gentleness and delicacy of manipulation in the urethra had been impressed upon him as long ago as when he had been an interne in Bellevue Hospital. The most successful genito-urinary surgeon was he who employed the most delicacy and gentleness, and on this subject the reader of the paper was especially qualified to speak. Both surgeon and patient were unfortunately too apt to look upon the urethra as a mere water-pipe instead of as a very delicate part of the human organism.

Dr. Joseph D. Bryant spoke of the information he had gleaned in hospital regarding catheterism under the tutelage of Dr. Gouley. The first point, he said, which the general practitioner should bear in mind was the great need of cleanliness of the instruments and of the urethra to be catheterized. Another general rule was not to make use of a rigid catheter. He had known severe chills to follow the passage of instruments used with all the usual precautions against infection, and even where there had not been an escape of even a drop of blood on the withdrawal of the instrument. He was not prepared to state just what was the cause in all cases.

Dr. S. Alexander emphasized the importance of perfection of instruments and perfection of touch. He said that he had never been able to obtain with Mercier's invaginated catheter anything like as good results as from the use of the filiform bougie and the Gouley catheter—an instrument which the innate modesty of the reader of the paper had prevented him from mentioning.

Dr. Carl Beck said that urethral catheterism should always be looked upon as a surgical operation, and should be performed with all that this implied. For emergency practice it was well for the practitioner to carry with him a metallic catheter which could then be quickly sterilized by boiling. It had been proved that the urethra contained all sorts of micro-organisms, including pathogenic germs, and it was wholly impracticable to sterilize the urethra, yet it was advisable to inject some mild antiseptic, preferably a five-per-cent. solution of iodoform in glycerin.

Dr. Gouley closed the discussion.

The programme of the evening was completed by a memorial address on the late Dr. S. B. Wylie McLeod, delivered by Dr. John Shrady. His life and many good qualities were dwelt upon, and the prominent part that he had taken in the work of the association was recalled.

## NEW YORK ACADEMY OF MEDICINE.

*Stated Meeting October 19, 1899.*

WILLIAM H. THOMSON, M.D., PRESIDENT.

**Locomotor Ataxia.**—DR. C. L. DANA read a paper on this subject. He said that tabes was a systemic disease sharply limited to the nervous system, its effects outside of this system being secondary. It first attacked the posterior spinal roots. The spinal ganglionic cell with its central and peripheral processes formed the elementary neuron—the first and rudimentary seat of the disease. The fibres or neurons of these spinal ganglia developed at different periods of fœtal life. The pathological change of tabes affected serially only certain segments of the spinal cord, usually at first only the lumbar and dorsal. In accordance with the segment attacked one had different initial symptoms. Tabes was not an inflammation, but a primary atrophy attacking the master tissue itself, and was not due to a syphilitic or meningitic affection. The nature of this primary decay was not known, though it was probably a premature senility resulting from a congenital or acquired weakness, and, in part, from the action of a toxin upon them.

Etiology: If there was no syphilis there would be no tabes or no paresis—at least this was the common conviction of clinicians, although complete proof was lacking. There was a something which got into the system and ran its course unaffected by iodide and without presenting the usual symptoms of syphilis, and yet it terminated in tabes. During the preceding period an individual so infected gave none of the usual evidences of syphilis, and was capable of begetting healthy children. Possibly in this form of syphilitic infection there was some by-product or some double infection. Another factor in the causation of tabes was heredity, and still another was an overuse or an abuse of the spinal cord. According to his own experience, most tabetics were neuropathic; they were born with badly developed neurons. A person with sound ganglionic cells might have syphilis a dozen times, but he would not get tabes. It was possible that in some cases a combination of syphilitic infection with abuse of an organ might so weaken it as to give rise to degeneration. Many tabetics were persons who had been commercial travellers, or men who had worked hard or who had walked a great deal. Sailors, who walked very little, rarely had tabes. The speaker placed very little emphasis on alcohol as a cause of tabes. Sexual excess, smoking, and traumatism were likewise, in his estimation, factors of small importance.

Diagnosis: Tabes when developing in the usual and classical way was easily recognized by the lightning pains, the Argyll-Robertson pupil, and the loss of the knee jerk. The loss of the knee jerk with one other symptom would usually be sufficient for a probable diagnosis. The knee jerk was lost in tabes, in profound alcoholism, crural palsy, and temporarily after certain infectious diseases. In about ten per cent. of the cases, however, tabes had an anomalous beginning. Tabes might begin with severe rectal or vesical neuralgia. The most puzzling type was the neuralgic. Not rarely the diagnosis must be made upon the pains alone. In some of the earlier cases an ataxia could be discovered by careful tests. In early tabetics he had found the swaying movements very wide and jerky. Under normal conditions a person standing on the toes with the eyes closed would simply sway antero-posteriorly. Gastric crises not infrequently obscured the diagnosis, but the violence of the symptoms without obvious disease of the stomach would usually give a clew to the diagnosis. Occasionally tabes began with a slow and progressive atrophy of the optic nerve. Not infrequently tabes was complicated with manifestations of secondary syphilis, as shown by headaches, cranial nerve palsies, and by evidence of myelitis with paraplegia. He believed exudative or secondary syphilis was entirely different from tabes, though rather commonly associated with it. By proper treatment the syphilis could be relieved and still the patient would go on and develop a typical tabes or paresis. Laryngeal crises were, in very rare instances, observed in the early stages. The trouble could be surely recognized only by the finding of some stigma of tabes.

Treatment: In the early part of the disease the patient should be placed upon a rigorous antisyphilitic treatment for several weeks, and this should be repeated annually. In addition to small doses of mercury and the iodide, the patient often received additional medicinal treatment for arterial sclerosis. It had been alleged that tabes was not so severe as formerly, and so he made use of the antisyphilitic treatment, thinking that there was quite possibly a direct connection between the two. He believed it occasionally did good, and it apparently did no harm: hence neurologists generally had not had the courage to refuse this treatment even to persons who presented no evidence or history of syphilis. For some time past he had felt called upon to change the treatment just outlined. In the first and second stages of tabes he believed all persons giving a history of syphilis should receive a rigorous course of mercury and iodide. In many such cases the tabes came on quite suddenly: in others there was a good history of primary and secondary syphilis. Mercury should be given first, the patient being kept at home and, as far as possible, in bed. The best way was to use corrosive sublimate hypodermically in doses of gr. $\frac{1}{25}$ to $\frac{1}{20}$ twice daily, and this should be kept up for several weeks. The patient should also take gr. xxx. of iodide of potassium daily. After the mercurial course the doses of iodide of potassium should be rapidly increased up to about gr. cccl. a day. The person should be under treatment for about four weeks. The hypodermic injections of mercury were rather painful, and it was sometimes well to add cocaine to the solution of mercury. The patient should then have a course of tonics for about two months, and receive lukewarm baths daily, followed by cool affusion in many cases. During this period counter-irritation should be made to the spine by means of a cautery or by small blisters. The patient should be kept as much as possible at rest during this period of three months. The diet should be moderate and simple, but nothing was gained by an exclusive meat or vegetable diet. There was nothing to be gained from prohibiting the customary and moderate use of either alcohol or tobacco. When there was no history of secondary or tertiary syphilis, and not the slightest sign of nervous syphilis, he believed it to be utterly useless to employ the mercury and iodide treatment. He had never known it, in such cases, to modify the malady in any way. Instead, he would treat these degenerative cases as though they were getting prematurely old. They should be put at once on the bath and tonic regimen already described. A quiet, institutional life was what was most needed, as this alone would often, for a time at least, stop the progress of the malady. Galvanization along the spine, or general faradization, together with the internal use of small doses of silver, sometimes acted admirably, when used in addition to the measures already mentioned.

The Strychnine Treatment: A still better plan of treatment, in his estimation, was to put the patient to bed and give hypodermically rather large doses of strychnine and small doses of morphine. The dose should be very small at first, and very slowly and cautiously increased. For example, at first gr. $\frac{1}{60}$ at each dose, twice daily, should be given, and at the end of

the third week it should be increased to gr. $\frac{1}{2}\frac{1}{0}$ at each dose. These doses should be gradually reduced again until the treatment was stopped altogether at the end of six weeks. This course should be repeated three times a year. Strychnine was a useful but at the same time a dangerous drug, sometimes aggravating or causing a return of the pains. It should not be used in the acute and rapidly progressive cases. It was much more easily used when guarded with morphine. He had not seen any evidence that ergot, arsenic, aluminum, barium, or gold did any good. Hot baths were dangerous, and the best form of hydriatic treatment for tabes consisted in daily lukewarm baths for ten minutes at a time, sometimes followed by cool affusion. It was better, he thought, for the patients to have such treatment at home rather than to go to health resorts and meet other tabetics from whom they would learn about much of the misery in store for them. Recently a new method of applying nerve stretching had been brought to the notice of the profession, but he had not personally observed any special benefit from it further than mere symptomatic improvement. The method of treating locomotor ataxia devised by Fraenkel had been tried for a number of years, and had proved to be of some use. By this method the patient was carefully taught the use of his limbs by the aid of various mechanical devices. He had not seen much benefit from it, though it certainly afforded the patient a certain amount of amusement and recreation. In the third stage only symptomatic treatment was indicated. It should always be remembered that in a chronic malady like locomotor ataxia the mental attitude of the patient was exceedingly important, and that he who could best keep up the fight would do best in the end.

**Not Wholly a Systemic Disease.**—Dr. G. M. Hammond said that undoubtedly tabes might be in part a systemic disease, but he believed that it might exist alone without any systemic complications. He agreed with the view that tabes began in the nerve roots and the ganglia, but believed all of the symptoms might be present in the legs without the primary change occurring in the nerve roots. Excluding fractures and tumors pressing upon the posterior columns there might be connective-tissue diseases producing the symptoms of tabes. Thus multiple sclerosis might do it, or even sclerosis that was not multiple. In almost all cases of tabes syphilis seemed to be the cause, but he thought that in many instances the first change was a vascular one—a syphilitic disease of the lining of the blood-vessels, causing occlusion of their lumina and death of the nerve tracts. Antisyphilitic treatment seemed to him advisable; not that he had ever seen any case of tabes in which the symptoms had been improved by such treatment, but because he believed it had a tendency to prevent future degenerations, vascular disease, or changes in the neurons themselves. He did not agree with the author of the paper regarding the rest cure in tabes. In his opinion, the best way to promote vitality in an organ was to use it moderately. Though the change had been likened to senility, it was not senility. Senility was a normal change; that occurring in tabes was abnormal. He had never seen any benefit from applications of electricity to the cord, and did not believe that it ever arrested changes occurring in the cord. He approved of the hydropathic treatment, but failed to see the advantage of putting medicaments in the water of the bath, as the skin could not possibly absorb them. He favored using large doses of strychnine. He had given hypodermically as much as gr. $\frac{3}{4}$ at a dose without any toxic effect whatever, and with great benefit to the patient. He believed it acted by improving the nutrition of the diseased portions of the cord. If the Fraenkel method acted at all it did so by training the individual to use his muscles through the medium of the eyes. The patient's muscular sense was gone, and his tactile sense was interfered with, hence his muscles must be guided by the eye. For this reason the results of the treatment must depend largely upon the intelligence of the individual. Personally he had seen very little benefit from the method.

**Tabes Not a Spinal-Cord Disease.**—Dr. Joseph Collins said that tabes was not a disease of the spinal cord at all, and that the sooner this was understood the sooner would the profession have a clearer conception of the true nature of the disease. He was not inclined to think that neuropathy played such a conspicuous part in the development of tabes as was claimed by the author of the paper. In a study of one hundred cases he had found a decided neuropathic disposition in only ten per cent. If syphilis could be wiped from the face of the earth, tabes would go with it, for although it was not truly a syphilitic disease, it was intimately associated with it in a way not well understood. He was so sceptical regarding the value of antisyphilitic treatment in tabes that he never thought of putting his tabetics upon antisyphilitic remedies unless they gave a distinct history or presented evidence of this disease. He was confident that much harm was done tabetics by this very common routine and irrational treatment of tabes. All this simply meant that there was no adequate treatment of syphilis. The reason the tabes of to-day was not so severe as formerly was, that the profession had learned to diagnosticate the disease in its earlier stages.

The Fraenkel Treatment Valuable: The Fraenkel treatment was merely intended to make the patient more independent and better able to earn a living. He cited one case from his personal experience, that of a girl who had been enabled by this treatment again to earn her living by her former occupation of dancing.

**Pseudo-Tabes.**—Dr. B. Sachs said that if tabes dorsalis was not a spinal-cord disease it certainly did a great deal of harm to the spinal cord. Many cases appearing at first to be excellent examples of tabes dorsalis often turned out to be cerebro-spinal syphilis. He had previously called attention to the irregular development of the symptoms, and the coexistence of a large amount of paralysis with ataxia, the absolute immobility of the pupils and their irregular contour as points characterizing these cases of cerebro-spinal syphilis which simulate posterior spinal sclerosis.

Antisyphilitic Treatment should be Tried: He did not think as yet any physician could afford to neglect giving the antisyphilitic treatment a trial in all cases of supposed tabes. From his personal experience he was sure that such treatment brought about a favorable change in cases which he had diagnosticated as tabes.

Advocates Rest and the Fraenkel Treatment: He would subscribe to everything advocated in the paper regarding the rest treatment; it seemed to him perhaps the most valuable treatment for the earlier stages of the disease. In many of these earlier cases, if the patient was simply put to bed for three months without any other treatment whatever, he would be greatly benefited. There was experimental proof that exercise was calculated to bring about changes in the spinal cord very similar to those found in posterior spinal sclerosis. But more than this, experience had abundantly proven that rest was advantageous. It seemed to him that the reader of the paper had somewhat underrated the Fraenkel method. He had given it a personal trial during the past two years, and the result had pleased him. The patient was not particularly interested in whether or not his sensory neurons were improved: all that he cared was to be able to walk better. He had seen very great improvement in this respect, and as the method was learned so simply and

so easily, without any special apparatus or skill, every general practitioner should familiarize himself with it. The Fraenkel method could be advantageously combined with the rest treatment. On the whole, tabes was not a very unsatisfactory disease from the standpoint of the therapeutist, because so much could be done in the way of giving relief.

**Tabes Rare, though Syphilis Common, in Japan.**—Dr. M. Allen Starr thought that physicians were liable to take extreme opinions on medical topics. The question of syphilis in relation to tabes seemed to him to be still an open one. Although Erb had said that eighty-nine per cent. of his patients had had syphilis, he had been compelled to admit that the other eleven per cent. had not had it; therefore he would not subscribe to the statement which had been made, and which had so far not been challenged, that if syphilis was wiped off the face of the earth tabes would be unknown. In his own experience syphilis certainly had not entered into more than seventy per cent. of his cases; among his private patients syphilis had not been found in more than forty per cent. It should be borne in mind that in Japan syphilis was very prevalent, while tabes was almost unknown. This information he had obtained directly from two physicians who had an immense *clientèle*, and who saw there an enormous mass of clinical material. It had occurred to him that the Japanese practice of bathing in warm water two or three times a day might explain this comparative immunity from tabes. At autopsies on cases of tabes one usually failed to examine the peripheral branches, and it was not improbable that the degeneration might begin here. For this reason he thought any mode of living that kept the peripheral circulation in good condition would tend to prevent the development of tabes.

**Hydriatic Treatment most Useful:** This information also afforded a therapeutic hint of possible value. Personally he had seen much benefit from the use of baths, and indeed from any mode of treatment that improved the nutrition and the general circulation. He believed thoroughly in the rest treatment. He had not tried the strychnine treatment, because in almost every case in which he had given this drug to tabetics for other purposes it had resulted in an increase of the pain.

**Antisyphilitic Treatment Only in Selected Cases.**—Dr. W. M. Leszynsky said that for at least fifteen years he had examined every patient appearing before him for somatic signs or for a history of syphilis. He had found that many patients had not been benefited, but, on the other hand, that they had been made decidedly worse by antisyphilitic treatment. Even the cases of cerebro-spinal syphilis were not always benefited by such medication. He had had four patients under the Fraenkel treatment. Two of these had not been benefited at all, and, on the whole, the results had been quite disappointing. Fraenkel himself had stated that all cases of tabes were not well suited for this treatment. The method could hardly be carried out satisfactorily in actual practice without the services of an instructor.

**The Diagnosis.**—Dr. William H. Thomson called attention to the frequency of the visceral developments of tabes in the early stages of the disease, thus obscuring the diagnosis. Reference was made to a recent case of a woman in which the only symptom at first had been a severe and most obstinate flatulence, coming on suddenly in paroxysms at short intervals, and disappearing completely just as quickly. This history had at once aroused his suspicion of the existence of tabes. There was no evidence of ataxia. Many years before she had lost the sight of one eye by an iritis, evidently of syphilitic origin, and the other eye exhibited the Argyll-Robertson pupil. The rectal and vesical neuralgias were often the initial symptoms, and remained so for a considerable time.

Treat the Peripheral Nerves: For some years it had seemed to him that there was a special indication for attacking this disease from the periphery. He had treated it, therefore, by local applications to the anæsthetic or painful parts by compresses wet in an infusion of capsicum of the strength of one drachm to the pint. This had quite generally given relief, and had, in some instances, improved the symptoms. He was very partial to the application of the actual cautery to the spine. This was most conveniently done by heating a glass rod in an alcohol lamp and applying it along the spine in spots about three-quarters of an inch apart. For the relief of the severe pains he relied upon acetanilid given in combination with belladonna. He always insisted upon every tabetic patient taking cod-liver oil as steadily as possible. For those who could afford to buy the salts for the artificial Nauheim baths these would be found useful and beneficial. While all seemed to agree concerning the efficacy of the rest cure, it was most difficult to put in practice, because many of these patients were in active business, and were compelled to earn a livelihood. All tabetics having a rapid pulse seemed to be benefited by the administration of intestinal antiseptics.

Dr. Dana closed the discussion. He said that he had never seen a case of syphilitic pseudo-tabes, adopting the nomenclature of Dr. Sachs. Such cases were, to him, cases of exudative syphilis added to tabes. The Fraenkel treatment seemed to him useful, but like the rest cure it was difficult to apply, as so many of these tabetics had sufficiently active lives without such exercise. His statistics were very much like those presented by Dr. Starr, but he felt regarding them as many did regarding the theory of evolution, that it was most convincing in spite of certain missing links.

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## SECTION ON MEDICINE.

*Stated Meeting, October 17, 1899.*

Louis Faugères Bishop, M.D., Chairman.

**Relation of the Physician to the State.**—Dr. Louis F. Bishop made some remarks on this subject, including the narration of a sad case in which, although the possibility of curing the consumption had been clearly demonstrated, the patient's slender means had at last placed all hope of such a happy termination beyond her grasp.

**State Care of Consumptives and the Massachusetts State Hospital for Tuberculosis.**—Dr. Alfred Meyer, of New York, opened the general discussion of this important topic (see page 613).

**Results in Massachusetts.**—Dr. Vincent Y. Bowditch, of Boston, was the next speaker. As one of the visiting physicians at the Massachusetts State Hospital for Tuberculosis he was naturally closely identified with this movement for the better care of consumptives. The work there this year had been done with an insufficient appropriation, a fact which should be borne in mind by other States when applying to their legislatures for aid. Not the least important of the results flowing from such an institution was the education of the public through the agency of the discharged patients. The number admitted to his service during the year ending in the present month, had been two hundred and eighteen, of whom one hundred and twenty-six had been discharged. Of the latter eleven had left the hospital in less than two weeks, so that they had practically received no treatment, and were, therefore, excluded from consideration. Of the remaining one hundred and fifteen cases, the total number receiving treatment, thirty-five, or a little over

thirty per cent., had been discharged as "arrested" cases. By this term he meant cases in which the symptoms of cough, expectoration, and fever had disappeared, and in which the appearance was that of a return to health, in spite of the persistence of certain physical signs of the disease in the chest. Those discharged as "slightly improved" numbered thirty-seven, while seventeen had been "markedly improved." Thirty-four had not shown improvement. Of thirty-four patients seen in the Sharon Sanatorium, near Boston, and followed for years afterward, five had died, and all of these had returned to their former occupations against advice. All of the rest were still alive and well. The speaker concluded his remarks by expressing the wish that he could infuse into his audience some of the enthusiasm which he felt in regard to this work.

**Death Rate from Tuberculosis Not Decreasing.**—Dr. John H. Pryor, of Buffalo, said that he had no doubt that there had been a large decrease in the number of deaths from tuberculosis in England. It had also been stated that there had recently been a decrease in the State of New York, and some of the most optimistic had even gone so far as to claim that by a natural process consumption would, in time, disappear from New York State. But if the death returns were carefully studied in a general way it would be found that the general death rate in this State had also diminished in a remarkable way, and that the death rate from tuberculosis had shared in this decrease, but that it had not decreased so rapidly as that of other infectious diseases. It was fair to assume, therefore, that this decrease was not, to any great extent, due to efforts at preventing the spread of the disease. Last year the death rate from consumption in this State had increased by three hundred and thirty-nine, and had increased so far in the present year that if this rate continued there would be in the year over one thousand deaths from consumption—probably the highest death rate ever known. This was in itself, it seemed to him, one of the strongest arguments for the establishment of State sanatoria.

State Prevention as well as State Sanatoria: We should not only establish these sanatoria, but we should secure the adoption of measures which would mean practically the State prevention of consumption. It would not do, in his opinion, to leave this part of the work to individual cities or counties. It was not wise for the State to spend money on the care of incipient cases of tuberculosis if proper steps were not taken by the State for the prevention of the disease. The instant one secured State care of the consumptive and sanatorium treatment there was ideal isolation, and this prevented, for the time being, progeny—a most important matter to the community.

The Poor Consumptive's Lot Growing Harder: Although for years it had been known that from fifty to seventy per cent. of cases of incipient tuberculosis were curable, the condition of the poor consumptive had not been made any better; on the contrary, it had been made harder by the increasing tendency of general hospitals to exclude such persons. So far as he knew, there was no other class of cases which did not receive aid from the State; these people died simply and solely because they were poor.

Dr. Pryor said that in 1896 he had endeavored to secure some action on the part of the legislature of New York State, but had received no encouragement. In 1897 he had had a resolution introduced, proposing the establishment of a commission to look into the question of establishing an Adirondack sanatorium. This resolution had been passed, and, for the first time, the State had appropriated money for the care of the tuberculous subject. Last year $200,000 had been asked for, and it had been constantly urged that several State sanatoria should be established. He was chiefly interested now, not in theoretical considerations, but as to whether or not any action would be taken.

The Cost Counted: The question of economy could be very easily answered by a due consideration of the loss to the community from the persons who became victims of this dread disease. If the State spent $10,000,000 a year, it would be spending only a small fraction of what it should spend—indeed, it was only a question of shifting the expenditure from one place to another.

The Solution of the Problem: He would recommend: (1) State prevention; (2) sanatoria supported by the State, because the work could not be properly done by cities or counties; and (3) the establishment near the cities of sanatoria for the treatment of advanced cases of tuberculosis.

**The Economic Side.**—Ex-Senator Dr. George W. Brush, of Brooklyn, was the next speaker. He said that he had had the honor of being the chairman of the first legislative committee appointed for the consideration of this subject. This committee had visited the various institutions of our own State, and also the newly finished State institution in Massachusetts. The committee had then reported in favor of the establishment of an Adirondack sanatorium in this State for the treatment of consumptives. The report had not been adopted, nor the appropriation made by the legislature, but it was expected to have this, or a similar resolution, ultimately adopted. The speaker said that the first duty of the government was the protection of the lives and health of its citizens. This was, in part, what we paid taxes for. It would seem to need no argument that active repressive measures should be taken to stay the ravages of a disease which numbered more than one hundred thousand among its victims in this country yearly; but the reason was that tuberculosis stole into our homes like a thief in the night, and laid its hands upon those nearest and dearest to us, and we had been wont to think that we were powerless to do anything. Our effort should be to prevent rather than to cure, and as this was a task too great for individual action, the State must and should intervene. The financial loss each year from this disease, direct and indirect, exceeded the expenses of the State government—a startling fact, but one which was none the less true. How far the State should go in the matter of the isolation of such cases must be left for future experience to settle. The dictates of self-preservation, as well as the economic side of this question, demanded that the State should make such provision as would properly protect its citizens from the ravages of this disease.

Physicians Must Push it Along: The scheme presented to the legislature last year included the establishment of State sanatoria for incipient cases, the expense to be borne by the county from which the person came, and the latter to be admitted only after proper examination and certification as to his condition. What was needed just now was a push all along the line, and certainly a most vigorous and telling impetus could be given by the profession of this great city, and particularly by the members of this Academy of Medicine.

**The Rôle of Auto-Infection.**—Dr. George Alfred Evans, of Brooklyn, said that about seven years ago he had been made a member of a committee of the Kings County Medical Society to obtain information on the best methods of limiting or preventing pulmonary tuberculosis. He had suggested at that time that an effort be made to secure the passage of a city ordinance prohibiting expectorating in the public conveyances. It had so happened that this recommendation of the committee was the only one that had not been

accepted and adopted by the Kings County Medical Society. Dr. Evans said that he had then made an effort through the health board and with the co-operation of the street-car companies, to have notices put up in the cars, prohibiting expectoration. It had been asserted that if auto-infection could be stopped, patients with pulmonary tuberculosis would recover of themselves, and this he believed to be true. The statement had also been made that if one could prevent the spread of the tuberculous process, that which already existed would recover spontaneously: hence it was auto-infection which killed. Climatic treatment had no more effect in stopping the tuberculous suppuration than the air of any particular place would have in arresting any other suppurative condition. In his opinion, the treatment should be totally different in those in whom softening had occurred from that in persons in whom the tubercle had not yet broken down.

**Mixed Infection and Hyperventilation.**—Dr. William H. Thomson continued the discussion. He stated that tubercle bacilli by themselves were not responsible for the fearful mortality found in pulmonary tuberculosis; it was because of the formidable alliance between the tubercle bacilli and the pus organisms. Twenty years ago he had been deeply interested in an article by Dr. Hanford Jones on what he termed "hyperventilation" as a means of treating cases of pyæmia. This was nothing more than having the patients kept practically in the open air both night and day, regardless of the state of the weather. The results of this treatment had been most striking. In pulmonary tuberculosis the physician had to deal not only with tuberculosis but with chronic pyæmia. The sick poor could not be brought effectively in contact with the open air except in sanatoria, and for this reason he favored the establishment by the State of a very expensive system of sanatoria for the care of the sick poor. The legislature should be informed that the object of this was not merely to secure better isolation, but that multitudes could have a chance for recovery by methods which could be secured only in that way.

**Co-operation of Laymen Desirable.**—Mr. Edward T. Devine, Secretary of the Charity Organization Society, said that he had been delighted with the discussion this evening, for it seemed to augur well for the great army of the poverty-stricken. He had had the pleasure that very day of calling upon the mayor, as one of a committee to urge a reform in the building-laws, intended to secure more light and air to our tenements. A formal protest had been recently received in his office from the associated charities of Los Angeles, Cal., against the practice of sending persons on the verge of destitution to that place in the vain hope that they would be cured of their tuberculosis by the climate. We should not expect to throw off the burden in that way upon distant parts of our country. It had been asserted before the legislature that the chief benefit from such legislation would come to the more thickly populated districts—a very unequal distribution. In conclusion, he urged that the medical profession should seek the co-operation of their lay friends in educating the public on this topic.

**Tuberculosis and Poverty.**—Mr. Lee K. Frankel, manager of the United Hebrew Charities, was the next speaker. He said that during the past fiscal year the United Hebrew Charities of this city had had twenty-three thousand applications for assistance, of which over forty-five hundred had been new this year. Of these forty-five hundred persons twenty-four per cent. had been in the United States less than one year, and most of the applications had been not for relief in money, but for tools to enable the newly arrived immigrants to become self-supporting. On the other hand, the records showed that fifty-eight per cent. of the applicants had been in the country over five years. The causes of illness among this class were in the main the improper sanitary and economical conditions prevailing in this city. He found that three per cent. of the applicants this year had been afflicted with tuberculosis, *i.e.*, one hundred and thirty-five had been suffering from the disease, for the most part in the early stage. Out of the total number of new applicants, in twenty-seven per cent. the sole cause for asking for aid had been illness. They had on their books at present nearly five hundred tuberculosis cases. A great deal had been done by their organization for these unfortunates by the establishment of hospitals and small sanatoria, and in transporting them to the far West; yet all this was but a drop in the bucket.

**State Aid Should be Invoked.**—Mr. Homer Folks, secretary of the State Charities Aid Association, said that in his work he had met with many persons with incipient tuberculosis mingling intimately with those far advanced in the disease. He then spoke of the work that had been done for the insane and epileptic, and argued from this that it was a thoroughly sound policy to attack the tuberculosis problem in a similar way by invoking the aid of the State. Last year they had supported the bill introduced for the establishment of a State sanatorium, and stood ready to give the same support to another similar bill should one be introduced at the coming session of the legislature.

**The Laity Ready and Willing to Help.**—Mr. Frank Tucker, general agent of the New York Association for Improving the Condition of the Poor, spoke of the way in which they were confronted in their work with the ravages of consumption. Last year they had been asked to relieve three hundred and twenty-five families in which the cause of the destitution had been consumption. This disease alone was responsible for a heavy drain upon the charitable resources of a community. It was evident that something must be done, and he was sure that the laity were willing to support any feasible measure for ridding the community of this vast evil.

**A State Isolation Hospital the First Requisite.**—Dr. Daniel Lewis, president of the State board of health, said that all present seemed agreed upon the necessity for having a State sanatorium, but the plan and scope suggested to the legislature last winter seemed to him ill-advised. Hasty legislation was far worse than none at all. His own opinion was that the State needed, first, an isolation hospital for tuberculosis cases, for if such an institution was available there would be comparatively few incipient cases. This should be considered before settling upon a plan which might not prove suitable here, although it had proved so in Massachusetts. He had been asked by the reader of the paper if the State board of health approved of the plan proposed last winter. The proposition had been to have a commission appointed by the governor to locate the site, draw up approved plans, establish a hospital, select and appoint physicians, make rules and regulations for the conduct of the physicians, the care of the patients, and for the general management of a great State medical institution; and yet there was no provision made for a single medical man on the commission. He believed that the State board of health should have a voice in the management of such an institution just as much as the State commission in lunacy should have a voice in the management of the hospitals for the insane.

Dr. Pryor here explained that the bill last winter had been amended to provide for the appointment of not less than two physicians, and the selection of the site was to be left to the approval of the State board of health.

**The Health Board Hospital Plan.**—Dr. F. H. Dillingham said that the board of health of New York City had been working along the lines that had been laid down and approved by the speakers this evening. Since January 1, 1898, up to the present time this board had sent three hundred and thirty-two patients to the Seton Hospital. Of this number one hundred and forty-five had been discharged at their own request. Application having been made to the board of health, the sputum was examined and the diagnosis made by the health department physicians, and then the financial condition of the applicants was inquired into by the Charity Organization Society before their names were placed on the list. There had been at times as many as one hundred on the waiting list because the funds at the disposal of the department had not allowed of sufficient accommodations being provided. The results seemed to justify fully the system adopted, and even its extension. The speaker also stated that the sanitary code had been recently amended so that no cows could be brought into the city of New York without a certificate showing that the tuberculin test had been recently applied to them and had proved negative.

**The Influence of Sanatoria.**—Dr. S. A. Knopf insisted that there must be one or more reception hospitals in the city from which the advanced cases should be selected and separated, and transported to a place by themselves. The incipient cases should be treated in proper sanatoria. A point which should not be overlooked was that sanatoria for consumptives reduced the mortality in their immediate neighborhood, thus effectually removing any reason for opposing their establishment in any community. Much had been said about the odious discipline of sanatoria, but, after all, this was nothing more than insisting that the patients should not persistently and wantonly violate rules established for the general good of all.

**The Subject in a Nutshell.**—Dr. C. E. Nammack summed up the subject as follows: (1) Consumption is a curable disease; (2) our best hope of cure is by increasing the resistance of the individual affected rather than by endeavoring to destroy the tubercle bacilli; (3) good air and food will increase this resistance; (4) the State has or should have an abundance of good air and good food to extend to its poor who are unable to purchase or obtain these commodities.

**Combine the Farm Colony with the State Sanatorium.**—Dr. Wickes Washburn asserted that the statistics of New York County showed a marked diminution in the death rate from tuberculosis, whatever the State at large might show. Prior to 1886 there had been a steady increase, but since that year the rate had steadily diminished, until in 1898 it had been only four thousand eight hundred and forty-three as against five thousand four hundred and seventy-seven in 1886, and this, too, despite the increase in population. This decrease in the number of deaths he attributed largely to the law passed in 1885 giving better light and air to the dwellers in the tenements. He agreed with Dr. Daniel Lewis that, logically, by building a sanatorium for incipient cases first we were beginning at the wrong end. When the sanatorium did come he hoped it would be in connection with the farm colony plan. This would do away with the objection made by many patients to leaving their families and losing the salaries which supported these families. We would in this way reach what Dr. Henry P. Loomis called the "pre-incipient cases," the weaklings in the consumptive's family being included in the benefits to be derived from the farm colony, thus preventing them from contracting the disease.

**Let Us be Good Followers.**—Dr. Meyer, in closing, said that the discussion had been a most interesting and important one, but he hoped it would not end in mere talk. In opposition to what had been said by the president of the State board of health he would assert that, in his opinion, the medical profession had constantly erred on the side of going too slow in this matter; we were at the present time far behind countries supposed to be under an effete government.

**Proposed Action.**—Dr. Nammack then offered the following preamble and resolution:

*Whereas*, The prevalence of pulmonary tuberculosis, especially among the poor, has been, and continues to be, the cause of more deaths among the citizens of this State than any other disease; and

*Whereas*, the great value of treating incipient cases in sanatoria under proper conditions has been demonstrated both abroad and at home; and

*Whereas*, The inadequacy of private endeavor, however well directed, in dealing with this enormous problem is admitted by all who have made a study of this question; therefore, be it

*Resolved*, That the Medical Section of the New York Academy of Medicine recommend the establishment of State sanatoria for tuberculosis; and furthermore, that three members of this section be appointed to confer with the Council with a view to having this subject referred to the Academy for action. Carried.

**Vote of Thanks.**—On motion of Dr. Knopf a vote of thanks was accorded the guests of the evening and to the chairman of the section for the interest taken by them in arranging for this meeting.

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## SECTION ON SURGERY.

*Stated Meeting, October 9, 1899.*

Charles N. Dowd, M.D., Chairman.

**Two Cases of Resection of Stomach for Carcinoma.**—Dr. B. Farquhar Curtis presented two cases of resection of the stomach for supposed benign tumor, which proved to be carcinoma. As these cases had been seen in the very early state, he believed the prognosis to be quite good. The first case was that of a man of twenty-eight years, who had enjoyed exceedingly good health previously. The stomach symptoms had dated from five years ago. There were distress and eructations of gas after eating, which gave relief. About three years ago the vomiting had begun, and had persisted since that time. Mucus had been present in the vomitus, but no blood or coffee-grounds material. For eighteen months he had been using the stomach tube for washing out the stomach. He had lost fifty pounds. On admission to St. Luke's Hospital in August he was found to be in good general condition. The stomach descended lower than normal, and its walls seemed to be thickened. A hard tumor, not tender or painful, was detected on examination, and was connected with the stomach. The total acidity of the gastric juice had been much reduced. The urine contained no albumin. On August 5th an operation had been undertaken for a supposed benign fibrous thickening of the pylorus. The region of the pylorus had been explored through a vertical incision. A few slightly enlarged glands had been found close to the tumor, and these had been enucleated. The peritoneal and vascular attachments of the pylorus had been ligated and divided. The tumor was slowly excised, a portion being cut at a time, and the wound in the stomach sewed up before going further, thus opening up only a small part of the stomach at a time. The method of resection was that known as Kocher's, except for the use of the Murphy button to unite the stomach with the duodenum. The patient's pulse did not reach above 126, and the temperature had remained normal after the third day. Rectal feeding

had been begun at once. In forty-eight hours food had been given by the mouth in drachm doses. The wound had healed primarily, and the button had been discharged ten days after operation. The patient had gained twenty-eight pounds in the thirty days following the operation.

The second case was that of a German woman, twenty-eight years of age, who had been admitted to the hospital on July 31st. Her health had been good previously. After the birth of her child, fifteen months before admission, she had experienced some nausea and pain about the stomach. She had noticed about the same time a little blood in the vomited matter. Her principal complaint was a pain in the lumbar region, occasionally radiating to the shoulder. She appeared anæmic. A hard tumor, about half the size of the fist, could be felt just above the umbilicus. The stomach appeared to descend to the umbilicus. No nodules could be felt. There was sufficient pain in the neighborhood of the tumor to demand the use of morphine at night. The absence of stomach symptoms had made the diagnosis quite difficult. The leucocytosis present implied an inflammatory condition. As there had been some signs pointing toward syphilis a diagnosis had been made of a gumma attached to the rectus muscle, and breaking down. On August 12th, under ether anæsthesia, an exploratory vertical incision over the rectus had been made. The peritoneum under this muscle had been found thickened, as had also been the anterior wall of the stomach, the latter being adherent at this point. A small, hard, apparently carcinomatous gland had been found above an ulcer on the lesser curvature of the stomach. There were about two inches of healthy stomach between the pylorus and the neoplasm. By Kocher's method the growth had been removed, together with what would represent about two-thirds of a stomach of normal size. An ulcer nearly three inches in diameter was found in the mass removed. The operation was long and tedious, and the patient experienced considerable shock. Immediately after the operation the temperature had been 105.2° F. The speaker said that he had been studying these elevations of temperature after operations, and had come to the conclusion that, in most instances, they were due to shock. This seemed to have been the explanation in this case, because seven hours later the temperature had fallen to 101.4° and the pulse was 120. She had fed per rectum for ten days. She had been given water on the fourth day, and milk on the sixth day. She had felt no hunger until two weeks after the operation. On the thirty-second day after operation she had weighed eighty-seven pounds, while at present she weighed one hundred and five pounds. The examination of the first specimen showed that the walls measured three-fourths of an inch in thickness, and that there was an absence of ulceration. The original cause of the growth was in doubt. Unfortunately the glands had not been examined by the pathologist. The growth and the glands in the second case had been pronounced by the pathologist to be undoubtedly carcinomatous. Apparently a benign ulcer had been the starting-point.

Dr. W. B. Coley remarked that the Murphy button was very useful in this class of cases.

Dr. Charles N. D. Jones asked if Dr. Curtis was of the opinion that in the second case the inflammatory exudate formed after the ulcer of the stomach had been changed into carcinomatous tissue.

Dr. Curtis said that in the first case an examination, made in the medical wards, had shown at one time a complete absence of hydrochloric acid, and the presence of lactic acid in the stomach. As hydrochloric acid was absent in other conditions that might be confounded with carcinoma, this result of chemical investigation did not give much diagnostic aid. The presence of lactic acid pointed somewhat more strongly to carcinoma. Carcinoma was usually the result of some chronic inflammation or irritation, and hence it seemed to him justifiable to resort to exploratory laparotomy, or even to a gastro-enterostomy in inveterate cases of so-called dyspepsia. The operations, in the cases reported, had lasted from one hour to one hour and a half. He thought it had been shown that Kocher's method gave the best results—far better than a lateral gastro-enterostomy.

**Volvulus in an Adult.**—Dr. John F. Erdmann presented a man, forty-two years of age, upon whom he had successfully operated for volvulus. On July 24th this man had complained of slight pain in the abdomen. This had increased for four days, at which time the speaker had seen him in consultation. There had been no vomiting and no movement of the bowel for four days. When first seen the pulse had been 140 and rather feeble; the abdomen had been tympanitic and quite painful. No tumefaction could be felt. There had been considerable tenesmus and one mucous stool containing blood. The man had been given strong purgatives of all kinds. On July 28th he had been admitted to the Gouverneur Hospital with a pulse of 148 and a temperature of 102.5° F. An incision had been made through the right rectus muscle up to the umbilicus. This had exposed an enormously distended coil of intestine. It had been found that the dilated and thickened sigmoid extended up to the xiphoid cartilage. The twist was situated opposite the third lumbar vertebra. It consisted of a full twist of 180° from left to right. He had carefully anchored the intestine so as to guard against a recurrence of the volvulus, and the man had made an uneventful recovery, and had had no return of the volvulus. It was his custom to make the abdominal incision through the rectus muscle with the object of interfering as little as possible with the strength of the abdominal wall.

Dr. Curtis, speaking to the question of the best method of conserving the strength of the abdominal wall after such operations, said that he did not believe in the use of a truss after an operation for hernia, because of the peculiar mechanical conditions present. A truss could not prevent the tearing open of the ring of the canal through which a hernia must make its way, although it would prevent the descent of the hernia after it had once begun. In the case of an abdominal incision the condition was very different. To prevent the distention of the belly by the downward pressure of the diaphragm after laparotomy he was sure the abdominal belt was useful, and certainly it increased the patient's comfort. A proper development of the muscles, however, was very important, particularly in hernia cases. After the first year the use of the bicyle in moderation was advisable.

Dr. Coley also spoke in favor of the use of the belt, particularly in cases having a long scar. With an incision of moderate length, made through the rectus muscle, and healing by first intention, a belt might not be necessary, but, as a rule, it was useful.

**Fracture of Patella—Mediate Suture.**—Dr. Percy R. Bolton presented a man, thirty-seven years of age, who had entered Bellevue Hospital three years ago, after having sustained a fracture of the right patella. After the joint had been immobilized for three days, an incision had been made into the point and the fluid and blood evacuated. He had then sutured the aponeuroses of the vasti together, practically approximating the fragments. He had next sutured the periosteum and immobilized the limb in extension. The sutures had been removed after about one week and the limb kept in plaster of Paris for five weeks. Passive motion had then been carried on until flexion had

exceeded 90°. There had been complete restoration of function, and it was now impossible to detect the site of the fracture.

Dr. Curtis said that last fall he had operated upon a bad case of fracture of the patella. He had sutured the aponeurosis with catgut. The man had left the hospital wearing a posterior splint of plaster for support. A few weeks later, while standing in a car, he had been jolted and the patella was again fractured. This time the patella had been wired, and the man had left the hospital a second time with a useful limb. Last spring he had returned with another fracture of the patella. The speaker's colleague, Dr. Gibson, had operated and found the wire sutures in place, but they had torn through the bone. The man had since worn a posterior support.

**Tuberculous Inguinal and Pelvic Lymph Nodes Following Wounds of the Foot.**—Dr. Charles N. Dowd presented two children who had had tuberculous inflammation of the inguinal glands following infected wounds of the foot. The boy had come to St. Mary's Hospital with an enlarged gland which, on incision, had appeared to be a simple infection. The pathologist had, however, reported the gland to be tuberculous, and shortly afterward the pelvic lymph nodes had become infected. He had then followed the glands up into the pelvis. The child was now in much better general condition. Another boy presenting almost the same condition was also exhibited. Last April he had been admitted to the hospital with an abscess above the knee and enlarged lymph nodes in the groin. There had also been a sluggish sore on the foot. The glands had been removed in this case above Poupart's ligament. Dr. Dowd said that he had met with a great many such cases at the hospital, showing that they were not so rare as one might suppose from the few cases reported. In one of the cases the appearance of the wound of the foot had led him to believe that tubercle bacilli had been introduced into this wound, and it was extremely probably that the same mode of infection had existed in the other case.

Dr. Dowd also presented a girl who had had persistent trouble with the cervical lymph nodes. She had been first seen in December, 1896. The lymph nodes had been removed from both sides of the neck and from both axillæ, and at last the child seemed to be in good condition. She was the worst case of the kind that he had ever encountered, yet he thought her chance for an absolute recovery was very good indeed. He insisted that it was worth while to follow these cases persistently and remove the nodes.

Dr. Jones asked Dr. Dowd if he did not think the keloid in the foot was the result of tuberculous infection.

Dr. Dowd replied in the negative, adding that the history of the case was opposed to such a view.

**Congenital Hernia of the Umbilical Cord.**—Dr. W. B. Coley reported two cases of this very rare condition (to appear in a future issue).

**Appendix in Hernial Sac Containing Three Gun-shot.**—Dr. Carl E. Pfister reported the following case: A. C——, twenty-two years of age, had come to him two weeks ago with a small right inguinal hernia. He had stated that a truss only increased his pain, and that he desired to be operated upon. On September 28th a Bassini operation had been done on him, and it had then been discovered that the twisted vermiform appendix was in the sac and adherent to its wall. The appendix having appeared to be pathological, it had been removed, the stump inverted, and the operation finished by transplanting the cord and closing the wound after the usual manner for a Bassini operation. The appendix had not only contained considerable fecal matter but three No. 8 gun-shot. On inquiry the patient had stated that he had often played slingshot, and while thus engaged was accustomed to hold twenty or thirty shot in his mouth, and that occasionally he had swallowed a few of the shot. The speaker went on to say that in the Hospital for Ruptured and Crippled the presence of the appendix in the hernial sac had been noted fifteen times in children—in one instance on the left side—but in all of these cases the appendix itself had been normal. Of one hundred and two adults on whom he had operated he had met with the appendix in the sac in only three, and only in the case reported had it been necessary to remove the appendix.

Dr. Coley said that he had found the appendix much more frequently in the hernial sac than was commonly supposed, but he had not had occasion to remove it more than two or three times. When rather firmly adherent it was wiser to remove it. It was much more common to find the appendix in the hernial sac in children than in adults.

Dr. John B. Walker recalled a case in which a piece of solder had been found in the vermiform appendix.

## Correspondence.

### OUR LONDON LETTER.

(From our Special Correspondent.)

OPENING OF THE SESSION—INTRODUCTORY LECTURES—BUST OF MORGAGNI PRESENTED TO ST. THOMAS'S HOSPITAL—THE LATE SIR CHARLES ALEX. GORDON, M.D., K.C.B., H.Q.P., ETC.—LEICESTER DEFIANT.

London, October 6, 1899.

The winter session is now in full swing. The old custom of an introductory lecture is being given the go-by at an increasing number of the schools, and some of our senior friends regard this with much regret. Some whose alma mater has joined the new plan drop into another institution to revive memories of the opening day. It is well perhaps that some of our schools have not gone over to the party of conversazione and amusement.

At University College, Dr. Blacker, in view of the magnificent new hospital now building, and in which the students would carry on part of their work, dwelt on the past history of the hospital and gave some interesting biographical sketches of past members of the staff. But, he added, it is not enough to rely on the traditions of the past; they must build up traditions of their own. He told the students they should add to their professional knowledge improved general education and knowledge of the world, and if a man reads too much he may have little time left for thought. Robert Hall said of a learned but rather dull personage: "He had so many books on his head that they pressed on his brain." "So," added Dr. Blacker, "he is a poor doctor whose sole attainment is a knowledge of physic."

At St. George's Hospital, Dr. Howship Dickenson again appeared and descanted on "Medicine, Old and New." In modern treatment the antipyretics which have come into fashion he pronounced often injurious, if sometimes useful. If nature raises the temperature, he said, art is called in to lower it, as if the danger lay in the temperature rather than in the condition which raised it. He regarded high temperature not so much as a danger as a sign of danger. Antipyretic drugs, too, are depressing, and it may be that some who might have survived their diseases have succumbed to them and the treatment combined. He had known recovery to occur after a temperature of 111° F. with-

out any special means of reducing it being employed. He then passed on to consider the substitution of scientific for empirical methods, which has resulted in great progress and enabled us to compass achievements, mostly in prevention, but to some extent in cure, which we ourselves must wonder at and which our forefathers would have thought impossible.

At St. Mary's Hospital, Dr. H. G. Plimmer divided the study of medicine into that part which relates to practical usefulness and that which concerns scientific investigation. Each division might attract individuals and each be noble. Students are often told theirs is the noblest of all pursuits, but that, said Dr. Plimmer, is only as you make it so. He defended experiment on animals, remarking that man had surely as much right to use them for science as for food or war. The partisans of the crusade against science had no objection to experiments on man, as in the tremendous experiment now being carried out on thousands of English children.

At Charing Cross Hospital, Dr. M. Bruce took a hopeful view of "The Present Outlook of Medicine" on account of the scientific method pursued in every department. He pointed out how different are the work and responsibility of the student and practitioner to-day compared with the time of their predecessors, especially in regard to sanitation. He would have hygiene inculcated from an early period so that children might grow up imbued with the spirit of cleanliness. He advised students to open their minds to the elevating and refining influence of general culture as well as to the accumulations of professional knowledge.

At the School for Women, Mrs. Garrett-Anderson again came forward to encourage the students. She pointed to the new buildings now in course of erection, and said that now the right of women to practise medicine is generally acknowledged and they are doing good work in all parts of the world.

Professor Sims Woodhead gave an address at the Royal Veterinary College, in which he remarked on the enormous rise in status of the veterinary surgeon since the standard of preliminary education had been raised. He also pointed out the necessity of the government having a large skilled staff for studying the diseases of cattle.

Mr. Murray addressed some excellent advice to the students of the Middlesex Hospital, especially urging them to make their own careful observations, think for themselves, and rely on themselves.

The other schools discarded the time-honored lecture and opened with prize awards or distributions and other functions—the majority with a dinner of old students, to which new ones were welcome. Even where lectures were given dinners were common enough afterward, and the speeches were sometimes superior to the run of such occasions.

A very notable celebration took place at St. Thomas' Hospital. This was the presentation of a fine marble bust of Morgagni by the Italian ambassador on behalf of an Italian committee, which includes some of the most distinguished professors and doctors in the peninsula. The ambassador performed his task with the utmost grace, and passed some pretty compliments on the men who have worked or are working at St. Thomas'. Then Dr. Payne gave an account of Morgagni's life and work, after which Professor Allbutt addressed the students. He advised those who could do so to learn their science at a university and obtain their clinical instruction at such a great hospital as St. Thomas'. It was a great day for St. Thomas', and was of course wound up with a dinner and more speechifying in the evening.

Surgeon-General Sir Charles Alex. Gordon, K.C.B., M.D., Honorary Physician to the Queen, died on Saturday, September 30th, aged seventy-eight years. He entered the army as assistant surgeon at the age of twenty years, and served in all parts of the world until he retired in 1880 and was awarded a pension for distinguished and meritorious service. How richly he had deserved this may be seen in but a few of the many services he performed. In the Gwalior campaign, on the West Coast of Africa, through the Indian mutiny, in China, and elsewhere he was actively engaged. For the Indian mutiny he received a C.B., with medal and clasp for Lucknow. During the Franco-German war he was sent by the war office as medical commissioner to the French army. He was shut up in Paris throughout the horrors of the siege and devoted himself to the care of the wounded when weak and suffering through the famine. When the Communists got the upper hand, he nearly lost his life from their rash error. A number of them mistook him for a German spy, seized him, bound him, and were about to shoot him, when one of their superiors came by who knew him and told them who he was. This veteran soldier-surgeon was so modest that he could not easily be made to speak of this or his many other hairbreadth escapes. Once I asked him suddenly how he felt when the firing party were levelling their rifles, and he merely said, "Well, I thought of my wife and children." The French government afterward made him an officer of the Legion of Honor, and he was elected honorary member of various French medical societies. On returning to England he published a volume entitled "Lessons on Hygiene and Surgery from the Franco-Prussian War." He had previously written an important work on "Army Hygiene," a volume on "China from a Medical Point of View," and others relating to the work of army surgeons. Later on he was again sent to India as principal medical officer at Madras and accompanied the governor-general to Burmah. He wrote a volume on this trip also. It will be seen he wrote a good deal, having the pen of a ready writer and being always desirous to share his knowledge where it might be useful. Besides separate works he contributed largely to the journals. His services in so many climates were thus utilized, and his experience and information were extensive. He was a good naturalist in the old broad sense, very fond of birds and animals, and very tender-hearted withal, to which no doubt was due his great dislike to the muzzling of dogs. Sir Charles received promotion in the Order of the Bath on the occasion of the Queen's Jubilee, and also received the Jubilee Medal.

On Monday the Leicester Guardians decided by twenty-eight votes to nineteen to defy the High Court by refusing to obey the mandamus requiring them to appoint a vaccination officer.

The War Office advertises for civilian surgeons to fill vacancies at home caused by the departure of many officers of the Royal Army Medical Corps for South Africa.

## YELLOW FEVER AND THE PROBLEM OF THE TROPICS.

To the Editor of the Medical Record

Sir: In the Medical Record of September 23d I read a leading article, "Yellow Fever in Cuba." It dwells upon the actual favorable condition of Havana, and a hope is expressed that some time that scourge may be stamped out. No doubt a great deal can be done by intelligent and careful sanitation to restrict the extent of yellow fever, and no doubt again that the Spaniards never did much or let us say anything in that respect. They and the Cubans and the people of this country, and all the Southern races, are much too unclean by nature and much too indolent and too superstitious, and will expect more from a high mass,

a procession, or an offering made to the "Holy Virgin," than from all the disinfectants put together.

The people of Vera Cruz, for instance, offer resistance to the carrying through of sanitary measures; so the city board refused to pay for disinfection, even when the government had given strict orders to this effect. Bear in mind that for those acclimated and living in an unsanitary port the yellow fever is a kind of premium to keep competition away. I suppose what we may say of Vera Cruz, with very little difference applies to all the ports where yellow fever breeds.

The efforts made by your people to improve the condition of Havana, etc., are certainly worthy of every praise, and will no doubt lead to a considerable limitation of yellow fever. But will you ever be able to eradicate it altogether? I believe not. The precise reasons why some years the fever is mild and other years furious are not yet known. And now let me relate a fact with regard to Vera Cruz.

That place was a fortified town, and had until some twenty years ago no clear, fresh water; but the people in the majority during the rainy season collected water in tanks, which, when the rains began early, were not emptied for two or three years. But occasionally these cisterns—not always underground, but covered—were emptied and scrubbed, or at least lime and common salt were added to the water that remained over the year. That water was not at all unhealthy nor unpleasant to drink.

Then an aqueduct was made to bring sufficient good water from the Jamapa River, and people said: "Now that we have plenty of good and healthy water, we shall get rid of yellow fever." In fact, there came a year with very few cases, and then a year when during the whole fever season there were but two cases of yellow fever in the city of Vera Cruz, one coming from the country and one from Vera Cruz itself, and in the whole state of Vera Cruz there occurred only four or five cases. The enthusiasts were triumphing; the yellow fever, it was thought, was soon to be a matter of history. But it took a sudden start again.

Then people said: "We must have better ventilation; let us pull down the walls of the town; then the wind will sweep freely through our streets, and the yellow fever will be expelled." The walls were pulled down, and the fever did not stop. Actually, on account of the harbor works, the town of Vera Cruz is in a pitiable sanitary condition, and we may say, without being taxed with exaggeration, that whatever might be done to improve that condition is left undone.

Let your people continue their praiseworthy work in Havana, Santiago de Cuba, etc., and not be discouraged if after a favorable year there should come an unfavorable one.

In your issue of September 30th is an article, "The Problem of the Tropics." On that I have likewise something to say. What will you understand by "tropics"? In the tropics a man can live from the seashore up to an elevation of five thousand or six thousand feet. Elevation makes a mighty difference. A white man may become acclimated perfectly well and live long and happy at any place elevated from three thousand feet up. Then what is the white man's life to be? If he lives in an office, a factory, works at a handicraft, etc., or if he is a capitalist and takes good care of himself, he will be all right. But if he undertakes to work outdoors and in the blazing sunshine, he cannot compete with the Indian in salary, and he will soon find out that he has made a miscalculation. And speaking of colonists, I absolutely indorse Mr. Benjamin Kidd's opinion, that the attempt to acclimatize the white man in the tropics (*i.e.*, in places under three thousand feet elevation) is a blunder of the first magnitude. I am not sure that Mr. Kidd expresses the opinion only of the minority—quite on the contrary; and Drs. Manson, Sambon, and Cantlie would soon be found to represent the minority, if only their "certain conditions" were more fully explained. Yes, a man who is able to take every possible care of himself, not to expose himself to the sunshine, nor to the rains or the cold morning air, may live anywhere, but such cases are exceptions to the rule. Never mind what *The British Quarterly Review* says; I say I am not a pessimist because my opinion differs from that of *The British Quarterly Review;* what I say is my experience and conviction. Many tropical countries will never be in good sanitary conditions, and the malaria mosquito will never be exterminated.

Another important question is the food the white man should take when he lives in the tropics and the clothing he ought to wear. We will presume, first of all, that the said white man has the necessary means to get convenient food and dress, which a colonist will not have, certainly not at the beginning. No white man can live on what the indigenous to the tropics can, either with regard to quantity or to quality. My rule is: Let him live as well as he can, and if he be accustomed to spirituous drinks, I recommend him, not total abstinence—far from it—but great moderation. The enervating and weakening climate of hot countries clamors for some stimulant and supports it very well.

It may be that less meat is required in warm countries, but that cannot be settled in a few words. What is much and what is little? These are cases of individual habits and appreciation.

If I am not mistaken there is a prize offered in the United States for an ideal diet list for men, principally soldiers, in hot countries. We will see what comes of it.

And with regard to clothing, we have to remember that in the tropics the middle of the day is generally quite warm, the evenings are cool, and the early mornings often chilly. The dressing must be such as to prevent colds and drenching as far as can be.

DR. SEMELEDER.

CORDOBA, STATE OF VERA CRUZ, October 8, 1899.

## THE UNFAVORABLE WINTER CONDITIONS OF EGYPT.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In search of a suitable winter climate for an invalid suffering from chronic bronchitis, and acting upon the advice of friends and physicians, we set sail, via Gibraltar, the 5th of November of last year, arriving at Cairo, after a short stop at Naples, the 29th of that month. We had fair weather until December 13th, then a short rain-storm, and after the 15th colder days and nights. From that time until about the middle of February the Cairo winter weather prevailed—sunshine most of the time, with chilling north winds, giving birth to disease and making the air of the nights most dangerous for those who were suffering from throat and chest afflictions.

If my two months' experience in helping another through an acute case of pneumonia at Cairo proved anything, it is that the winter climate of that city is the most deceptive and as dangerous as I had ever encountered for people suffering from affections of the throat, chest, or lungs. Besides the defects of climate there are other reasons why delicate invalids should avoid Cairo. It is in many respects most insalubrious, having neither drainage nor a soil capable of absorbing water. After a rainfall, the water remains in the gutters until dipped into carts and sent away. This is not an effective way of disposing of mud and

slush, as a considerable quantity always remains in the gutters after the carting has ceased.

The filth and the smells of the old city—the native quarters—are particularly offensive and abundant, so much so that very few Europeans venture to live there. The narrow passages and streets by which they are intersected are usually reeking with the accumulations of vegetable and other repulsive disease-producing substances too offensive for description; and the sight of strangers holding handkerchiefs over their noses as they pass through them is not an infrequent one. To describe correctly the Arab part of Cairo life, it may be written that the native Arabs enjoy filth and foul air, and are unclean in their habits; and wherever they are found living together, in large or small communities, we are sure to find unspeakably filthy conditions, such as must be avoided by those who care to preserve their health.

Among the dozen or more large hotels in Cairo, there is not one properly prepared to give comfortable accommodations to guests during the winter season—and I doubt if one of them has a comfortably warmed sitting-room, where delicate people can pass the evening hours without taking cold. They are, purposely, not arranged for heating, or, in several other important respects, for making their patrons safely comfortable during the cold season. They are managed like summer hotels in a place where the nights have a peculiarly dangerous chill, which, in my varied experience with a great variety of winter climates covering a period of thirty-four years, I had never encountered elsewhere. The hotel, the largest and most popular in Cairo, where it was my misfortune to have been caught with an acute case of pneumonia on my hands, I regard as being a very dangerous place for delicate people. A considerable part of the office floor, made up of various passages, all sucking in the cold air from outside, has been converted into a foyer, where, in my belief, more colds are contracted, and the foundations laid for a greater number of serious diseases, than in any other like space I have ever known. It is the abode of draughts which intersect each other from all available directions and throw down their victims by the score, and I doubt if it would be possible for one suffering with a throat, chest, or lung complaint to escape from the unfortunate consequences which would flow from spending their evenings in a place suitable only for those who are strong and watchful.

The best-known doctors of the place are of the Sangrado sort. It was my misfortune to encounter two of them; one had lived in Cairo twenty-nine years, and the other twenty-five. One was in daily consultation, so he said, at two guineas a visit during the first week, and the other had charge of the case, as attending physician, from the 23d of December to the 19th of January. During his twenty-seven days in charge, he wrote upward of forty prescriptions, which enriched the drug-shop keeper, and made his unfortunate victim grow steadily worse. Fortunately, however, he was discharged just in time to save her life, as undoubtedly another week of his in-the-dark dosings would have ended the existence of his patient. In his place was employed an up-to-date young Englishman, who was just out from England for change of climate. At once he abandoned all doses, fed liberally, and got his patient out of bed and into the open air as soon as she could walk. In one month, under his intelligent treatment, she had quite recovered from a dangerous disease, which had been supplemented by the most unintelligible and cruel treatment of the cavalry-horse sort I had ever witnessed.

These particulars in relation to medical treatment are given for the purpose of showing what strangers may encounter who go to Egypt for its supposed favorable winter conditions. Since the English occupation, particularly, Egypt has been steadily "boomed" for the superiority, over all others, of its winter climate, and good care has been taken to prevent a showing of the other side. There seems to be a perfect understanding between the hotel-keepers, couriers, conductors of excursion parties, Nile transportation companies, newspaper men, and possibly doctors, that the facts in relation to illness and death should not get out. During the three months I was compelled to remain in Cairo no case of death among strangers was mentioned, so far as I know, in either of its newspapers, and the correspondents of foreign journals were equally discreet in not communicating disquieting facts. And yet deaths among that class were of frequent occurrence, both at the hotels and hospitals.

Among the diseases most in vogue typhoid is always in the lead, followed by a series of dangerous maladies resulting from sudden colds and chills, usually contracted under prevailing unfavorable conditions which could not be avoided.

This statement, founded upon my own experience, is sustained by many others who went to Egypt expecting to find a safe and pleasant climate suitable for a winter residence for invalids, and especially for those suffering from throat and chest afflictions, and who like myself were disappointed as to climate and other essential conditions. This communication is meant for a warning to those intending to go to Egypt in search of health; and also to cause our physicians who may happen to read it, many of whom now recommend that country above all others for a pleasant and health-giving winter residence, to investigate outside information, not published in the interests of Cairoans, who live almost exclusively upon this extortionate traffic which flows from the ignorant credulity of visiting strangers.

My conclusion is, that perfectly healthy people, able to pay the exceptional cost attending the winter residence in Cairo, may, if they are very careful, go there for that season and get safely through it. But they must make up their minds to put up with many inconveniences, such as cold rooms, poor and non-nutritious food; and to enjoy a scale of prices generally not to be found elsewhere, save possibly in our own extra-favored country.

Rush C. Hawkins.

21 West Twentieth Street.

## THE APPROVAL OF THE INCORPORATION OF CHARITABLE INSTITUTIONS BY THE STATE BOARD OF CHARITIES.

To the Editor of the Medical Record.

Sir: Among the duties imposed by law upon the State board of charities is the following: to "approve or disapprove the organization and incorporation of all institutions of a charitable, eleemosynary, correctional, or reformatory character which are or which shall be subject to the supervision or inspection of the board." This law had its origin in a widespread belief of the people that the charitable institutions of the State are being multiplied far beyond the needs of the dependent classes, and that large numbers exist for the benefit of the officials rather than of the beneficiaries. It was proposed to require of a proper department of the government a careful scrutiny of proposed new charitable organizations in order to correct this abuse of the confidence of the charitable public. In considering the character and scope of its duties the board resolved that one of its members resident in the district where the applicant intended to locate the new charity should institute the following investigations: (*a*) The necessity for the existence of such an institution as proposed to be incorporated, at the time and place and under the circumstances set forth in the

application and certificate; (*b*) the character and standing in the community of the proposed incorporators; (*c*) the financial resources of the proposed institution and its sources of future revenue. It was believed that if this inquiry was made the board would be in a position to determine in a fair and judicial manner the wisdom of establishing the proposed institution and the propriety of selecting a given location.

For upward of five years the board has been performing this duty, and apparently to the satisfaction of the people and of the central government. Many applicants have been denied for one or more of the reasons given above, and it is gratifying to notice the fact that frequently incorporators, who were ignorant of the facts in the case, have expressed their obligations to the board for informing them of the real situation in which they were placed by the promoters of the new charity.

Recently the board disapproved of the incorporation of a proposed new charity for two reasons, viz., (*a*) The class of sick poor which it was designed to benefit was amply provided for in the public hospitals; and (*b*) the institution had no other financial resources than the daily contributions of the people on solicitation through the newspapers. If public policy requires any restrictions whatever upon the multiplication of charitable institutions, the two findings given above would seem to be the proper basis for disapproving of an incorporation, viz., first, that there was no necessity for it, and, second, that it had no adequate means with which to carry on its work. But it appears that *Charities*, "the official organ of the Charity Organization Society of the City of New York," regards the first reason as "a new and, in our opinion, dangerous position." It states that "there are many incurable cancer patients who are not in the public hospitals. If all were to enter them it would make necessary increased expenditures." If all were to enter them, why then a new condition would be created and a necessity might arise for a new private charity. But persons with incurable cancer even among the poorest classes do not as a rule seek hospital care. In general, persons thus afflicted are able to attend to their home duties until the very last stage is reached, and they prefer life in their homes to that in an institution. To meet the wants of these people in their homes the dispensaries have competent physicians to visit them and supply their special necessities.

But, the *Charities* continues, "If a responsible private agency from religious and charitable motives is ready to meet this need it is contrary to precedent and sound public policy to forbid it to do so on the, at best, debatable ground that the public hospital would do it as well or better." The State board bases its approval or disapproval upon the facts and merits of each individual application for incorporation. In the case that gave rise to this criticism it was proven to its satisfaction that (1) the sick poor that the society sought to benefit were amply provided with hospitals in which better care and treatment were afforded than were within the means of the society at the time of the investigation, and (2) the society had not stable financial resources. Whatever value may attach to the principle above set forth by the *Charities* as a rule to govern in the organization of new charities, it is not pertinent to the facts in the present instance. The same is true of the further statement: "The action of the State board goes far beyond this when it prevents the incorporation of an agency which proposes to perform a definite service which is not now adequately performed . . . by either public or private agencies." The State board has never prevented the incorporation of an organization when the conditions, on investigation by one of its members, were such as are stated in the last paragraph above quoted.

The *Charities* concludes as follows: "We trust, however, that the board will not make a practice of refusing to approve incorporation because of such reasons as are set forth in the first part of the present report, which discusses the wisdom of the undertaking and the propriety of selecting a given location." This conclusion is consistent with the general tenor of the criticism, which is in opposition to restraints upon the incorporation of new charities on the ground that these tend "to discourage experiment and the free play of private benevolence." But it is certainly surprising to find the "official organ of the Charity Organization Society of the city of New York" admonishing the State board of charities that in forming its judgment as to its duty in approving or disapproving the certificate of incorporation of a new charity, it must not discuss "the wisdom [the power or faculty of forming the fittest and truest judgment in any matter presented for consideration] of the undertaking and the propriety [fitness; appropriateness] of selecting a given location." To any one familiar with the motives which actuate the promoters of large numbers of modern charities, it is very evident that a certificate of approval or disapproval of an incorporation, based on other considerations than its necessity, the adaptation of its means to the end sought to be accomplished, and the appropriateness of its location to the same end, would have no value in determining its proper status. It is certain that, if the State board of charities should follow the suggestions above made in performing the duties of exercising a proper discretion in certifying to the incorporation of charities, the true intent and purpose of the law would not be fulfilled.

STEPHEN SMITH, M.D.

## Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending October 21, 1899:

| | Cases | Deaths. |
|---|---|---|
| Tuberculosis | 179 | 134 |
| Typhoid fever | 72 | 22 |
| Scarlet fever | 116 | 6 |
| Smallpox | 3 | • |
| Measles | 140 | 3 |
| Diphtheria | 188 | 29 |
| Laryngeal diphtheria (croup) | 8 | 5 |
| Cerebro-spinal meningitis | 0 | 2 |
| Chicken-pox | 19 | 0 |

**The British Army Medical Service.**—The campaign in the Transvaal will place a great strain upon the medical service of the British army, and in face of the severe strictures made by Dr. Ogston upon the condition of that service it will be interesting to watch the outcome. *The Lancet*, referring to the matter, says: "A very large military force will be required with, of course, a corresponding provision of hospitals and medical service. It is highly probable there will be a good deal of hard fighting before the war is ended, and quite possible that the enemy may be more or less successful in their encounters at the beginning of the campaign, but there cannot be a doubt as to what will be the final end of the struggle, which is really one for maintaining our supremacy in that part of the world. We can only trust that an ample supply of medical officers, hospitals, and hospital stores will be forthcoming. We suspect in this as in all wars the difficulty will be mainly one of transport."

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 56, No. 19. Whole No. 1513. NEW YORK, NOVEMBER 4, 1899. $5.00 Per Annum. Single Copies, 10c.

## Original Articles.

### THE FOURTH HITHERTO UNDESCRIBED DISEASE OF THE OVARY: COLLOID DEGENERATION.

BY MARY A. DIXON JONES, M.D., F.R.M.S.

NEW YORK

THE ovary, on account of its important life changes in the growth and development of the ova, and because of its frequent infection, becomes often the field of most remarkable pathological manifestations. We have seen in the ovarian tissues that peculiar growth, endothelioma; wonderful in its formation, progress, and development, gradually spreading and destroying large portions of the ovary; and in its anatomical characters and clinical symptoms, giving indications of malignancy.

My first specimens in 1885 were labelled "Sarcoma," but a little further investigation clearly proved it to be an endothelioma, formed of endothelia like those which line the peritoneum and the blood-vessels. It was a new disease, giving local pain, and causing distressing constitutional symptoms. At that time, there was no record in medical literature of such a growth, and in studying it I met with new and continued surprises: It soon fills large territories of the ovaries, its peculiar formations extending even to the periphery. As I said in 1889:[2] "Why this growth should have the power of destroying every structure of the ovary, even firm secondary fibrous tissue, or why an ovary should so degenerate, or what is its pathological significance, are still questions for consideration. When we look at this rapidly growing formation, and the great mass of granules, the impression forces itself upon us that it may be malignant. Future investigation may prove it so. Cancer epithelia do not multiply more rapidly, or destroy the tissues more surely, or seem more threatening or monstrous in their appearance and growth."

This growth then, in a most wonderful manner, begins to change into countless millions of blood corpuscles; and amid these myriads of corpuscles, mysteriously begin to appear a multitude of forming blood-vessels. A marvellous presentation! A wonderful revelation, like looking into the secret manipulations of nature.

I soon recognized that this curious formation, this most destructive disease, was found in the ovaries of many sick women, causing in each one pain, feebleness, and emaciation. It proved to be a frequent disease, destroying the life, health, and comfort of many women. There were the seas and lakes of blood, while there was a deathly pallor on the face and a cachexia of the whole system.

But there was yet a more marvellous manifestation. This spreading growth gradually develops in one or both ovaries that most dangerous formation, hæmatoma or blood cyst. It is "Endothelioma changing to angioma and hæmatoma the first hitherto undescribed disease of the ovary."[1]

Next, we have seen large territories of the ovaries transformed into convoluted masses, separated into groups by a scanty amount of dense, fibrous connective tissue, and surrounded by small vestiges of the cortical tissues of the ovary. These hard, gyromatous formations, or convoluted masses, ofttimes filling nearly the whole ovary, destroy every tissue, and give rise to severe nervous and constitutional disturbances. Usually they originate in the structureless membrane, a thin membrane that surrounds each ovum, and at every menstruation one or more is ruptured. When normal, this membrane lies inactive in the ovary, not producing the least disturbance, but when in this little membrane there commences an inflammation, the inflammation spreads, the membrane grows thicker, the inflammatory corpuscles change to extremely dense, fibrous connective tissue, then is deposited a waxy, colloid basis substance, till there is formed a broad, firm, convoluted mass, or great nodular fibromata. This is "the second hitherto undescribed disease of the ovary."[2]

I have also described how all the fine tissues of the ovary may be destroyed by myxomatous degeneration a most remarkable form of degeneration. In its nature, anatomy, and make-up, it resembles a malignant growth, and evidently has a tendency to sarcomatous formation. This is "the third hitherto undescribed disease of the ovary."[3]

All these different forms of degeneration and disease have marked symptoms, well-defined physical characteristics, and they are all accompanied by more or less constitutional disturbance, local pain, and destruction of the general health.

I desire now to describe "the fourth hitherto undescribed disease of the ovary." This is a most curious and wonderful degeneration (see Fig. 1). Who could conceive of such formations? They are like stones thrown amid the fine tissues of the ovary. This is the most remarkable and probably one of the most frequent forms of degeneration of the ovary. It seems especially destructive to those life-like and most important structures, the ova. I have often, by powers of four hundred and of seven hundred, studied the ova thus diseased, and have seen how the various tissues and separate parts were gradually and surely being destroyed by this peculiar degeneration, and how the whole ovary was being infiltrated with colloid corpuscles; some portions being entirely changed to this material, or completely undergoing this degeneration. We see the muscle fibres interlacing, and in the midst colloid masses. Such formations are found in every part of the ovary. Every different structure shows these masses; in many localities much more numerous and more thickly strewn than is here represented. Even in the walls of the cyst, part in acute inflammation, other portions reduced to fibrous connective tissue—indicating that there have been repeated

[1] MEDICAL RECORD, August 21, 1886, p. 200. New York Medical Journal, September 28, 1889, p. 337.

[2] New York Medical Journal, September 28, 1889, p. 338

[1] New York Medical Journal, September 28, 1889 p. 337.

[2] New York Medical Journal, May 10–17, 1890, pp. 511–542. Buffalo Medical and Surgical Journal, November, 1892, p. 197.

[3] MEDICAL RECORD, May 6, 1899, p. 632.

attacks of inflammation—yet through the whole of the cyst wall, and in every tissue of the ovary, were closely interspersed these colloid bodies. How did they come? What produced them? Why are they there?

Of most momentous importance are the destructive changes which this degeneration produces in the

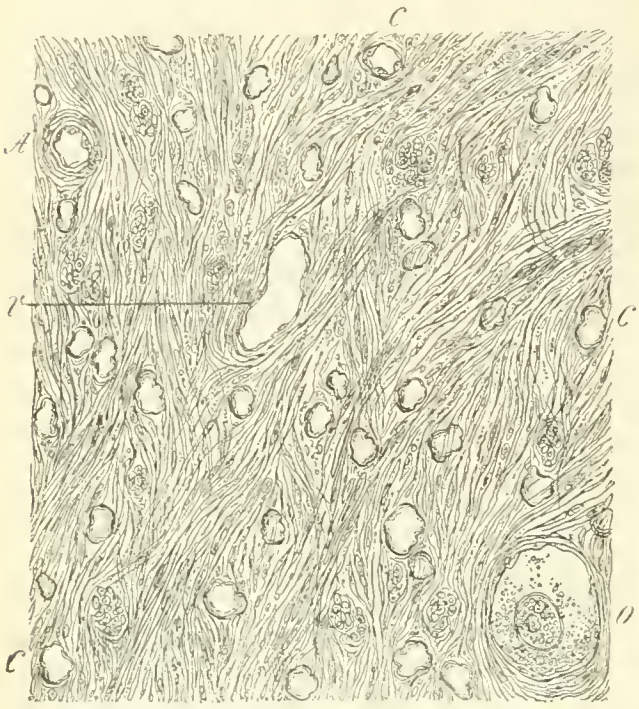


FIG. 1.—Colloid Degeneration of the Ovary. *C, C*, Colloid corpuscles; *O* ovum; *A*, artery; *V*, vein. × 500.

ova. In the cortex of many ovaries, large fields under the microscope, not one ovum is found. In other fields there are small numbers of ova, and they are filled with colloid corpuscles. In many sections are different groups of ova, presenting a most picturesque appearance and showing the different ways in which colloid corpuscles seem to bring destruction to these wonderful life organizations.

To appreciate more fully these changes, let us look for a moment at a normal ovum magnified twelve hundred times,[1] and see the different anatomical elements (Fig. 2). First we see around a clearly defined white line, indicating the basement membrane. Next within this membrane is a layer of epithelia, surrounding the whole ovum. These epithelia are infinite in number, and each one is of beautiful formation. Next, the large or light part is the yolk, then within this yolk is the vesicula germinativa surrounded by its cuticular membrane. The larger or central nucleus is the macula germinativa, a concentration of life material.

Each structure of the ovum has wonderful life power. It is life material, living matter. Probably the fine and high organization of the ova renders them more susceptible to external influences, and more liable to take on morbid conditions. Certainly it is a sad fact that we find, in many ovaries, a diseased condition of the ova.

Fig. 3 represents an ovum in colloid and fatty degeneration. In the surrounding muscular structures of the cortex of the ovary are seen colloid corpuscles. The ovum has advanced in the first stage toward forming a Graafian follicle. The epithelia are short and columnar, and each one is filled with colloid formations, which necessarily destroy their structure, and hinder any further development of the egg. The yolk, the vesicula and macula, the vital parts of the ovum, all seem to be destroyed by large and smaller clusters of colloid corpuscles. There is also fatty degeneration, evidenced by the colorless fat globules. We see that the vital parts, that every normal structure of the ovum, is destroyed. Near this ovum are others equally diseased, presenting an infinite variety as to the distribution of colloid corpuscles within the ova, which colloid corpuscles always carry destruction to the life power of these formations.

Fig. 4 is another illustration of how ova may be destroyed by this degeneration. In neither of these ova do we find any normal structure. In the upper one the remnants of epithelia are recognizable; the yolk, vesicula, and macula are obscured and partially destroyed by colloid masses, and the tendency to a still greater destruction is manifest by the large colloid corpuscle, marked *S*, embedded in the yolk. In the lower ovum, large colloid bodies are massed in the upper portion, and the epithelia, now stratified or columnar, are crowded with small colloid corpuscles, and the granular matter within the epithelia shows a still advancing degeneration. An infinite variety of this degeneration is manifested in the different ova, and each one gives indication of a complete destruction of all capability of any physiological function.

Figs. 1, 3, and 4 represent diseased ova found in the ovaries of the same patient, Mrs. A——, twenty-one years of age. She called at my office, September, 1888, burdened down with sorrow and suffering; sick, feeble, and heartbroken. She declared she had constantly such pain and distress that she could no longer attend to her household duties, but that her greatest sorrow was that she had been married some years and had had no conception. This is a sad side of this disease. In this patient, the uterus was found to be anteflexed, and in extreme retroversion, the ovaries were enlarged and lying below the uterus, and extremely sensitive. The tubes were enlarged, adherent to the ovaries, and contained pus. The patient came repeatedly, with her sad story of sorrow and suffering. She had been under the treatment of various physicians, and any effort of mine to make her comfort-

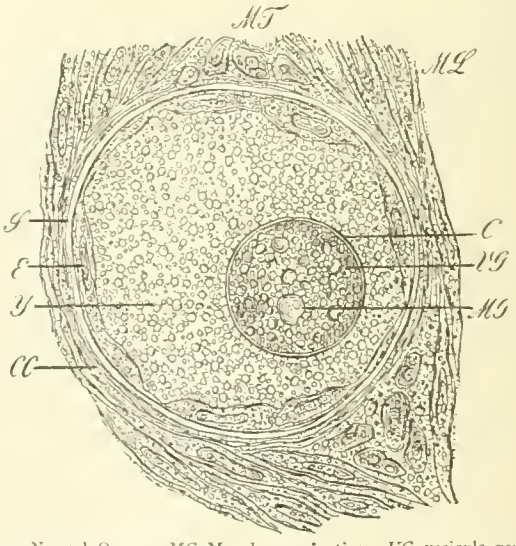


FIG. 2.—Normal Ovum. *MG*, Macula germinativa; *VG*, vesicula germinativa; *C*, cuticula; *V*, yolk; *E*, flat epithelium; *S*, structureless or basement membrane; *CC*, connective-tissue capsule; *ML*, smooth muscle fibres in longitudinal section; *MT*, smooth muscle fibres in transverse section. × 1,200.

able, or restore her to health, would have been equally ineffectual. It was a necessity to remove the dangerously diseased structures. This was done at the Woman's Hospital of Brooklyn, November 10, 1888. The patient made an excellent recovery, and, when last seen, she was in the enjoyment of excellent health. After the diseased organs were removed she had com-

[1] Dalton in his work, "Human Physiology," 1875, p. 685, gives the normal ovum magnified seventy-five diameters

fort, relief, and health. As in other cases, I was determined to know what was the nature of the disease that gave this sick woman so much trouble and distress, and was such a source of suffering.[1] In the ovaries of this patient I find endothelioma, gyroma, pigmented gyroma, oöphoritis, and this colloid degeneration. Pigmented gyroma—that is, the epithelia filled with granules of pigment—may indicate a more dangerous form. All through the cortex of both ovaries are colloid corpuscles. In many sections the muscle tissue is much more crowded with colloid bodies than is represented in this figure. In some sections, placed under the microscope, power of four hundred, there are extended fields and not one ovum, while in similar sections of the ovaries of some women I have counted as many as one hundred and forty, one hundred and sixty-two, and one hundred and ninety-four,[2] but in this case, this peculiar form of degeneration seems to have made complete destruction of many of these fine and beautiful organizations. In other fields, there are small numbers of ova, and they are all filled with colloid bodies. In one section, after many fields where there is not one ovum, comes a field in which there are two ova, both in colloid degeneration, then one ovum with large colloid corpuscles in the yolk, and the vesicula and macula filled with smaller colloid bodies; near by are two ova in one membrane, both in colloid degeneration; then two ova almost destroyed by a crowd of colloid formations, then only a remnant of an ovum, then a shadow where one has been!

Colloid degeneration seems to make peculiar and overwhelming destruction of the ova. By my researches within the last few months I am more and more clearly convinced that ova are certainly and without doubt destroyed by this degeneration, and finally disappear. So many instances are seen in which the ova, reduced to colloid degeneration, are gradually disappearing, sometimes only a dot, or fold

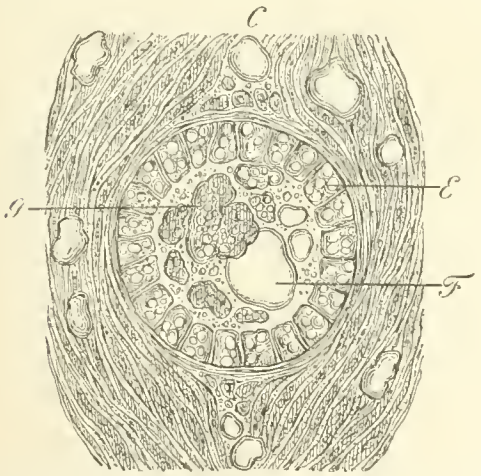


Fig. 3.—Combined Fatty and Colloid Degeneration of the Ovum. *E*, Short columnar epithelium in colloid infiltration; *F*, flat globules; *G* coarsely granular colloid masses; *C*, colloid corpuscles in the muscle layer of the ovary. × 600.

of colloid material is left; then there would be fields with not one ovum, then again fields in which masses of ova are almost destroyed by these colloid bodies; one group of twenty, another group of fifteen, almost gone, and still larger groups in ruins. Thus the ova

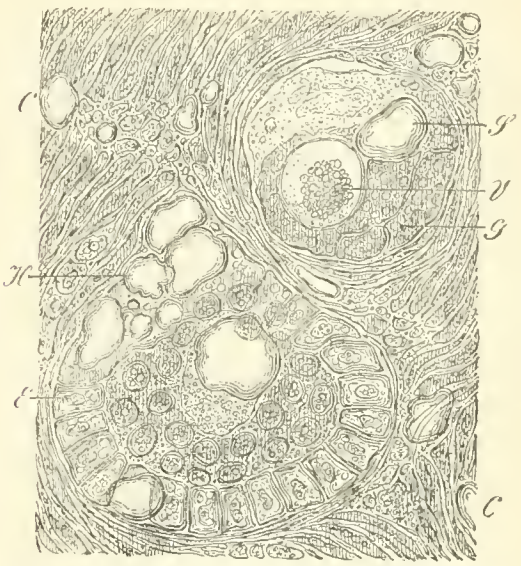


Fig. 4.—Ova in a High Degree of Colloid Degeneration. *S*, Smooth colloid corpuscle; *G*, granular colloid masses; *V*, shrivelled colloid vesicula in a vacuole; *H*, heap of colloid corpuscles, mostly in the epithelia; *E*, short columnar epithelia in an incipient colloid infiltration; *C*, *C*, colloid corpuscles in the muscle tissue of the ovary. × 600.

are changing and disappearing. Of the few left, I do not find in either ovary one normal ovum; all present a most picturesque appearance of ruin and desolation, chiefly from this degeneration.

The walls of several cysts are found in acute inflammation, and in them are scattered many colloid bodies. Near to one cyst whose wall is in most intense inflammation is an endothelioma, and in the endothelia are countless numbers of colloid corpuscles. The fine endothelia are filled with life granules, and amid the life granules are the colloid bodies!

This is the first time, so far as I know, that colloid formations have been recognized in an endothelioma. In some clear spots are seen many endothelia, and in the fine structure of each one, and amid its life granules, are crowded these small colloid formations or granules. It is a wonderful showing!

Cornil and Ranvier in their work[1] give a drawing of cancer. They say (Fig 82, page 104): "Cells infiltrated with colloid matter." This figure presents something of the appearance I have seen in many endothelia, except that the endothelia are probably more marked by being crowded with bright colloid bodies of different sizes. The above-mentioned authors further say: "The cell become loaded with drops of colloid matter, become spherical, vesicular, and finally destroyed." So, according to the opinion of these eminent authors, colloid corpuscles, which we find so frequently destroying the ova, destroy the "cells of carcinoma." The same authors (p. 637) give a representation of "colloid degeneration of the epithelial cells of a uriniferous tubule, in interstitial nephritis"; showing that this degeneration equally destroys the epithelia of the uriniferous tubule.

Delafield and Prudden, in their excellent work,[2] give the same testimony. They say: "The cells of certain carcinomata, especially of the gastro-intestinal canal, may suffer a more or less complete infiltration with a translucent material somewhat resembling gelatin and called colloid, whose nature is not well understood. Sometimes this infiltration is only partial, when the protoplasm of the cells may be more or less encroached upon by the translucent droplets of the colloid mate-

[1] I said in 1890 (New York Medical Journal, May 10, p. 512): "In every instance, in removing diseased structures or any kind of tumor by abdominal section, I have been interested, and determined to know the exact pathological conditions, and thereby find out the cause of suffering and the nature of the disease. So I have pursued sedulously the microscopical study of every case; and these investigations have fully repaid me, not only in the wonderful and beautiful facts they have revealed, but by having enabled me, more intelligently, to help suffering women."

[2] Sappey gives four hundred thousand as the number of ova in a normal ovary. With this gauge, one hundred and ninety-four in one transparent section, we might readily imagine there might be more than four hundred thousand in the ovary of a healthy woman. Nature is always abundant in her supplies. There are more blossoms on the apple tree than ever come to maturity.

[1] "A Manual of Pathological Histology," 1880.

[2] "Pathological Anatomy and Histology," p. 341.

rial; but in other cases, over large areas the cells are partially or entirely destroyed and replaced by the new material, so that the alveoli of the tumor are destroyed by it."

Erichsen[1] gives an account of "colloid material filling the cells of an alveolar cancer." Ashhurst[2] also pictures "colloid material in alveolar or colloid cancer." Why should it be called "colloid cancer"? It is only that in some cases of cancer the epithelia are infiltrated with colloid material. Professor H. C. Warren[3] very truly says: "Colloid cancer should not be considered as a special variety, but rather as a form of degeneration."

Gross[4] gives an illustration of a colloid tumor of the ovary and says: "It is doubtful whether the majority of so-called carcinomas are not really examples of colloid degeneration of the fibrous tissues of the ovaries." But we find colloid degeneration in other tissues of the ovary besides the fibrous.

While in some of the endothelia of the endothelioma there are countless numbers of colloid corpuscles, near by are blood-vessels whose walls are in waxy degeneration, some vessels reduced to a waxy mass, their calibres closed, causing complete endarteritis obliterans. Other vessel are in colloid degeneration; the muscle tissue of the walls is reduced to colloid substance, and the calibres are closed, showing equally complete endarteritis obliterans. In another section of the same ovary is seen an endothelioma, and the connective tissue penetrating it in various directions is in waxy degeneration; and in this waxy connective tissues, and in the endothelioma, are alike scattered colloid bodies; while the neighboring blood-vessels are in extreme waxy degeneration, as also the wall of a cyst is in bright waxy degeneration, and enriched yet more by clear colloid corpuscles, altogether making a picture brilliant, and almost radiant. No one can tell half the beauties and marvels that are repeatedly presented. In every section, new wonders are continually being revealed, and at the same time they are making revelations as to the true pathology of the ovary. In one section of almost a whole of the right ovary, there are first an endotheliomatous growth, then a large gyroma, then another endothelioma; then the whole cortex is bright with colloid formations and wondrously and marvellously diseased ova. In the left ovary of this patient is a group of ova, in the midst of a shower of colloid corpuscles, and these ova are all in waxy degeneration. Again, in a perfect crowd of corpuscles is one ovum in full bright waxy degeneration; another, surrounded by colloid corpuscles, is only a waxy mass. So are seen repeatedly these different and wonderful combinations.

It would be impossible to speak of the pathology of the ovary without considering the morbid changes of the ova. No doubt, one day, the diseases of the ova, their marvellous forms of degeneration and destruction, will be considered one of the most important chapters in the pathology of the ovary. Of equal importance will be the wonderful growths and peculiar formations arising directly or indirectly from diseased conditions of the ova. Changes originating in the ova, or connected therewith, constitute many of the most remarkable pathological developments found in diseased ovaries. The ova are the most vital parts of the ovary. They are not only highly organized, but they are masses of living matter. For them the ovaries really seem to exist. The ovary is only a sack to contain, or a receptacle for, these most important structures; or a laboratory for their marvellous life changes. Apart from the ova, the ovary consists of a few anatomical structures, muscle fibres, connective tissue, blood-vessels, etc. Kölliker, in 1854,[1] gave the following description: "The ovaries are a stroma containing the ova." Dalton's description is: "The ovaries consist of Graafian follicles embedded in a somewhat dense connective tissue, supplied with an abundance of blood-vessels,"[2] and, "In the common fowl the ovary consists of follicles loosely united by connective tissue."[3]

All this shows the exceedingly simple necessities of the ovary. The ova are the important parts. It is diseases of the ova that make the marvellous pathological developments such as gyroma, solid formations, ofttimes filling nearly the whole ovary; or the spreading endothelioma extending to the periphery, and changing all the tissue to a sea of blood; or that peculiar degeneration, myxomatous, which is more apt at any time to develop, because at the bursting of every Graafian follicle there must be repair tissue, which is myxomatous, long since known to constitute the granulating tissue always appearing when a loss of substance is to be filled in. If at the appearing of this repair, or myxomatous tissue, there is an already existing oöphoritis, then from this inflammatory tissue, or protoplasm, a myxomatous degeneration may invade the whole ovary.

Yet another form of degeneration finds its origin in connection with the ova, viz., ovarian cysts. This I have clearly proved by some recent researches, which I will demonstrate at some future time.

All diseases of the ova commence with infection, whether in this infection are microbes or not, or whatever may be the nature of the infection or the names of the microbes; all the same, the disease comes, and goes on spreading general devastation; and somehow the ova seem to be the first affected, often inflamed and diseased even when there is healthy tissue around. In these life formations ofttimes commence the most serious troubles; and we recognize that in them is frequently the beginning of various and remarkable forms of degeneration or change, so often found in diseased ovaries.

Whatever may be the form of the degeneration, it is always preceded by an inflammation, or reduction of the tissues to protoplasm; and from the protoplasm may be developed any kind of new growth or degeneration; growths as above mentioned, endothelioma and gyroma, or more solid "ovarian swellings," as sarcoma, myxosarcoma, "lymphangioma cystomatosum," or carcinoma.

It is a great study, the changes of life material in the human body; and are there any structures that have more vital elements or are of more vital moment than these wonderful organs the ova, from which come every living creature and the whole human race. This wonderful little formation "has the power of reproducing not only ova like itself, but counterparts of every cell in the body." It has such a concentration of life material that in one of the lowest vertebrates "a complete animal may be evolved from as little as one-eighth of an ovum."[4]

Another remarkable instance of colloid degeneration of the ovary was Mrs. F——, twenty-five years of age, married some years, with no birth or abortion. The uterus was retroverted; the ovaries were enlarged, prolapsed, and exceedingly sore and sensitive. In both ovaries are found endothelioma, gyroma, and gyromatous cysts. The walls of many cysts are in intense inflammation; also there is intense oöphoritis in different parts of the ovary; and all through this in-

[1] "Science and Art of Surgery," 1881, p. 764.
[2] "The Principles and Practice of Surgery," 1871, p. 487.
[3] "Surgical Pathology and Therapeutics."
[4] "System of Surgery," vol. ii., p. 905.

[1] "Manual of Human Microscopical Anatomy," 1854, p. 640.
[2] "Human Physiology," p. 692.
[3] Ibid., p. 689.
[4] G. N. Stewart: "Manual of Physiology," Downing College, Cambridge, Eng., 1895, p. 775.

flamed tissue, and through the various degenerated tissues, are thickly scattered colloid bodies. The ova contain similar formations; in many there are colloid masses entirely destroying the vesicula and the macula, and even the epithelia, while near by are ova in waxy degeneration.

Fig. 5 is a most interesting illustration of colloid degeneration found in the ovaries of this patient. The yolk, vesicula, and macula, the essential elements of the ova, are displaced by colloid corpuscles, showing how every separate structure of the ova may be reduced to colloid material. First, the ovum, or portions of it, is changed to protoplasm; then colloid granules appear; they enlarge, have more and more the colloid appearance, and they continue to increase in size till colloid bodies or corpuscles larger or smaller are formed. In the left ovary, the walls of the cyst are waxy, and in this waxy degeneration are colloid bodies. In a gyromatous formation is a little remnant of an ovum, nothing seen but a waxy and a colloid mass. In this ovary also are two ova in one membrane, one in waxy degeneration and the other in colloid; near by another ovum in colloid degeneration, and next to it an ovum in waxy degeneration; then a group of ten ova all destroyed by waxy and colloid degeneration. Such wonderful pictures are again and again presented. In the right ovary many ova are in colloid and waxy degeneration, one partly colloid and partly waxy; another with all the vital parts waxy; then two equally destroyed by colloid degeneration; yet another, and all that remains of it is a waxy mass, and this waxy mass is surrounded by a crowd of colloid corpuscles scattered in fields of intense oöphoritis. Another inflamed cyst wall is filled with colloid formations, and the neighboring vessels are in waxy and colloid degeneration. What is very interesting, the wall of another cyst is reduced to fibrous connective tissue, while near it are fields in waxy degeneration, and in the cyst wall are colloid corpuscles! It is all more wonderful than fairy tales. I write as I see it in the microscope under a power of four hundred (Hartnack lens).

A yet more remarkable example of colloid degeneration was seen in the ovaries of the patient Mrs. I. L. Hunt. This patient called with her mother to see me, February, 1889. She gave her age as twenty-five years, that she had been married ten years, and "ever since her marriage she had constant soreness and distress in the pelvis"; repeating again and again, "I suffer terribly and get worse all the time." On the left side was found an enlargement the size of a cocoanut, and extremely tender. This appeared to be the left ovary, enlarged to a hæmatoma, or blood cyst. Each tube was a sack of pus, and was adherent to its corresponding ovary. The patient entered the Woman's Hospital of Brooklyn. As she lay in her bed she often marked from the outside of her clothing the boundaries of the blood cyst, saying, "There it is, and I want to get clear of it." She begged again and again to have the operation, and was more than disappointed at any delay. It took place in the hospital February 23, 1889. A part of the wall of the blood cyst was so thinned that even with the most gentle handling it ruptured, discharging much dark grumous blood, mixed with pus. The tissues of both ovaries, from subsequent examination, presented evidence of the most profound disease, and complete destruction of all normal structure; as the eminent pathologist, Dr. Charles Heitzmann, deceased, who had opportunities of examining many microscopical slides prepared from sections of both ovaries, said: "There was not in either ovary the least vestige of normal tissue."

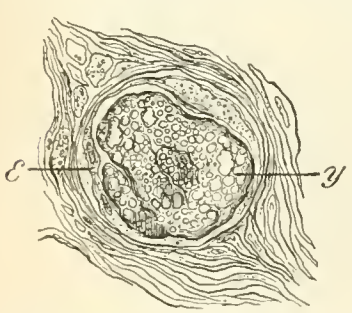


Fig. 5.—High Degree of Colloid Degeneration of the Ovum. *Y*, Yolk and central trace of vesicula germinativa transformed into colloid granules; *E*, epithelium, detached. × 600.

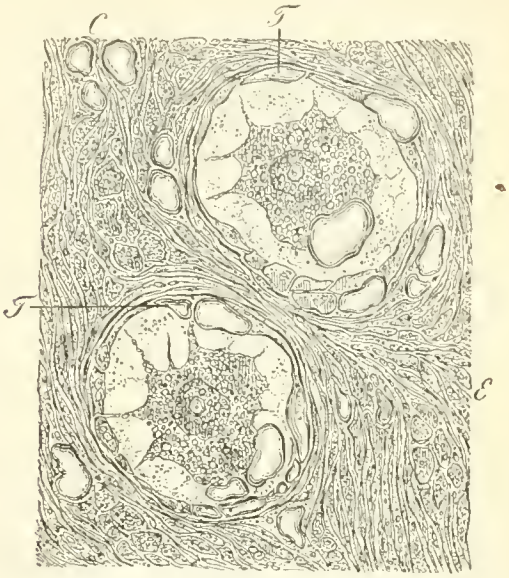


Fig. 6.—Colloid Degeneration of Ova. Colloid corpuscles are seen in the yolk and epithelia of both ova. *T*, *T*, Epithelia in transition to colloid substance; *C*, colloid corpuscles in the stroma of the ovary; *E*, embryonal corpuscles. × 600.

Fig. 6 represents two ova from the ovaries of this patient. The central part, the yolk, and vesicula and macula are transformed into a mass of colloid corpuscles, with not a vestige of the original structure. Large colloid bodies are seen in and around. The epithelia are very much swollen, and in the first stage of forming colloid masses. Many ova have evidently disappeared by one form of degeneration or another. Other ova are as profoundly diseased; not one is capable of any physiological function. It is a sad record. The patient was suffering, and her life was in peril. Without an operation there was no possibility of her life being prolonged.

It is an interesting and remarkable fact, that in the same ovary there may exist at the same time many different forms of degeneration. In the ovaries of the above-mentioned patient, besides the colloid degeneration, there were other grave forms—endothelioma, gyroma, and with these existed an intensely acute oöphoritis; but probably the most serious of all was the large hæmatoma of the left ovary, the walls of which were in extreme danger of rupturing. This of itself, without surgical help, would soon have proved fatal.

Another most interesting example of colloid degeneration: Mrs. M——, a young woman, scarce twenty years of age, had one child; she could have had many more, but disease came. The patient had interstitial pyosalpingitis, and there is found colloid degeneration of the whole ovary. The periphery is in intense inflammation, forming abscesses, while some portions are waxy, yet all filled with colloid corpuscles. Many fields of the cortex have not a single ovum, but are thickly crowded with colloid bodies. In another field appear a number of ova, and every one is almost destroyed by colloid formations, presenting most wonderful and curious pictures. In one field, by a power of four hundred, I counted fifty ova, a heap of ruin. In other places are continuous heaps, all in ruins. Other sections of the ovary show myriads of colloid corpuscles, and the same wonderful destruction of the

ova. Many ova are almost entirely gone by this degeneration; then appear repeated fields and no ova, and again groups of ruined ova. In other portions there are numberless ova; each one could have done good work, now destroyed by waxy degeneration. In

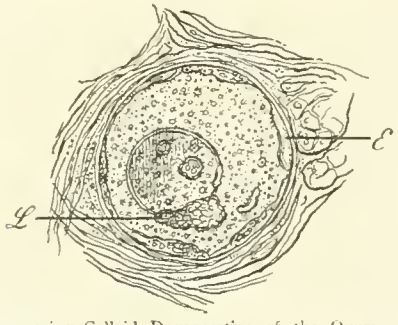


Fig. 7.—Commencing Colloid Degeneration of the Ovum. *L*, Lump of colloid material; there are similar lumps in the vesicula germinativa; *E*, flat epithelium in beginning colloid degeneration. × 600.

both ovaries the medulla is in myxomatous degeneration, yet crowded thick with colloid bodies. In one section, between the medulla and cortex is a Graafian follicle, the walls waxy, myxomatous tissue within, and this myxomatous tissue in a state of inflammation and crowded with colloid corpuscles. Outside of the follicle, the ovarian tissues are in intense oöphoritis and filled with similar corpuscles, while larger colloid bodies seem to crowd to the periphery; and amid them is the exhibition of ruined ova, all showing a wonderful history.

A most interesting study this the many ways in which ova may be destroyed, the various forms of degeneration, and the different degrees of destruction. Each section of these ovaries presents most important subjects for consideration, and they invite thoughtful study and investigation.

A yet more remarkable instance of colloid degeneration of the ovary: Mrs. R——, a young woman twenty-one years of age, with "pus tubes," interstitial pyosalpingitis. One section of the right ovary: intense inflammation of the cortex, and all around bright colloid corpuscles; not one ovum is to be found. Another section: no ova, colloid bodies, and blood-vessels in colloid degeneration. A third section: colloid degeneration of all the structures, blood-vessels closed, and walls in colloid degeneration. Left ovary: cortex in intense inflammation; abscess in the cortex; only one ovum is found, and both its yolk and its epithelia are in colloid degeneration.

In one of the most marked examples of myxomatous degeneration of the ovary, Miss E. Memmen, there is also colloid degeneration, and many of the ova are in the same degeneration. In one the whole ovum is reduced to colloid substance and protoplasm. In another, the epithelia waxy, waxy yolk, and the vesicula and macula colloid; another, the outside is in waxy degeneration, with colloid degeneration of the vesicula, and the macula reduced to protoplasm. In the midst of myxomatous degeneration is a Graafian follicle with waxy walls, and around it is intense inflammation, and near by are ova in colloid degeneration. Altogether it is a wonderful presentation.

It will be interesting to see the commencement of colloid degeneration represented in the next figure (Fig. 7). Colloid granules begin forming from a previously inflamed tissue; the granules grow larger, and form large masses, while there is a general infiltration of colloid corpuscles through the tissues. The patient was a Miss H——, thirty-five years old. She had an abscess in the left ovary, myxomatous degeneration of the right, then an endothelioma, gyroma, colloid formations, and waxy blood-vessels. The ova also present a scene of disease and destruction. In one, the yolk, vesicula, and macula are in colloid degeneration, and no epithelia can be traced; another, the epithelia are full of colloid bodies, and the yolk, vesicula, and macula are a mass of larger and smaller colloid formation with no normal structure left. Another ovum is only a vestige, showing it has been in colloid degeneration; then two more, almost destroyed by the same form of degeneration; and near by are all the wonders of an endothelioma changing to blood corpuscles; blood corpuscles rising out of this granular life matter, or protoplasm; and, more wonderful still, the oft-repeated sight of newly forming blood-vessels. Near this endothelioma is an ovum in the first stage of forming what is called a Graafian follicle. There are the spreading wall of the young ovum, the mysteri ous multiplication of the epithelia, the increasing activity of the vesicula and macula, and all the marvellous life changes in the process of the development of the ovum. But just when this wonderful little structure is taking on new life and new activity, it is stopped, blighted in its growth, petrified, fixed, callous, dead.

Such sad destruction of the growing ova I have seen in many instances. The young ovum is active in the wonderful processes of developing into a perfect human being, when, like a upas, comes this strange, this petrific degeneration, and all the life parts in the developing organization become apparently reduced to this yellow-like, bright, transparent colloid material. In one patient (Mrs. I. J. Hunt), besides the active young developing ovum already petrified, I could count seventy-eight bright colloid bodies crowding close up around the young ovum which had been so cruelly stricken, and thereby stopped in its process of development.

Fig. 8 shows colloid degeneration with pigmentation. We see the central parts of the ovum, the yolk, vesicula, and macula, are covered with colloid bodies accompanied by more or less pigmentation. The epithelia are also in colloid degeneration. Both ovaries in this patient were found in intense inflammation, each one containing an abscess. There were also peritoneal abscesses and interstitial pyosalpingitis. The patient, Mrs. A——, was twenty-eight years old, married, had never conceived, and was suffering so seriously that she could only seek refuge in a hospital. She complained of constant pain in the pelvis, and said

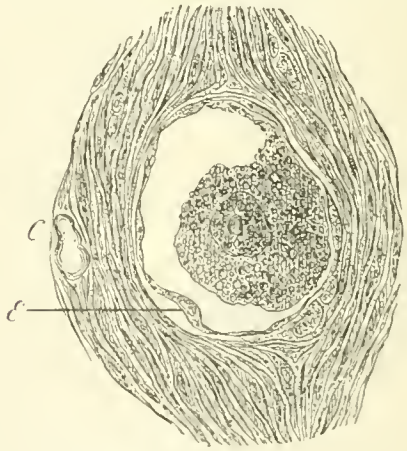


Fig. 8.—Diffuse Pigmentation and Incipient Colloid Degeneration of the Ovum. *E*, Detached epithelium; *C*, colloid corpuscle in the muscle layer. × 600.

she suffered so much that she could no longer endure it. The operation for removing the uterine appendages was performed at the Woman's Hospital of Brooklyn, in January, 1888. The "pus tubes" and ovaries were bound down by dense adhesions, and the adherent peritoneum contained a number of small abscesses. After being relieved of these hopelessly diseased struc-

tures the patient's health became excellent. I would say that the ovaries of this patient were remarkably well formed and well constituted; such as could develop hundreds of vigorous and life-giving ova. Gonorrhœa came!—not of long standing, but the infection seemed at once to affect the ova, and by some mystery they are all in colloid degeneration, while there are comparatively few colloid corpuscles found in either ovary. Sections of each one show not only abscesses, but large growths of endothelioma. The ova and blood-vessels are in colloid degeneration.

Fig. 9 is a most interesting example of colloid combined with waxy degeneration. Colloid corpuscles are in the epithelia, and they occupy a large portion of the vesicula, and apparently have destroyed the whole of the macula, while portions of the vesicula and of the yolk are in waxy degeneration. This ovum is in the midst of inflamed ovarian tissue. There are large ovarian cysts, the walls in intense inflammation, and filled with colloid corpuscles; other portions of the ovary are in intense oöphoritis. In many sections of the right ovary there are no ova. In other sections there are a few, and these in colloid or waxy degeneration; and of some ova there are only remnants of structure, many ova evidently having been destroyed. There is an endothelioma forming its seas and lakes of blood, a hæmatoma enlarging still more the enlarged ovaries and the cysts, with walls in a high state of inflammation. Also, in each ovary there are Graafian follicles, the walls of which are in waxy degeneration, and the myxomatous tissue within contains colloid corpuscles.

It was in the ovaries of this patient that gyromatous formations, or gyroma, were first recognized.[1] Any new growth or formation, or any morbid change of tissue, must necessarily cause in a patient pain, distress, and suffering, and more or less constitutional disturbance. As we know, even the formation of an abscess, which is a temporary change of only a small portion of tissue, gives more or less distress. This patient, Mrs. M. G——, once had healthy ova. Though only thirty-five years old, she had given birth to eight children, but the sepsis of the last confinement seemed to have infected every structure of the ovary, developing acute oöphoritis, gyroma, endothelioma, and finally a large hæmatoma or blood cyst; and probably the same sepsis destroyed all of the ova, and caused the colloid degeneration. She first came to the out-door

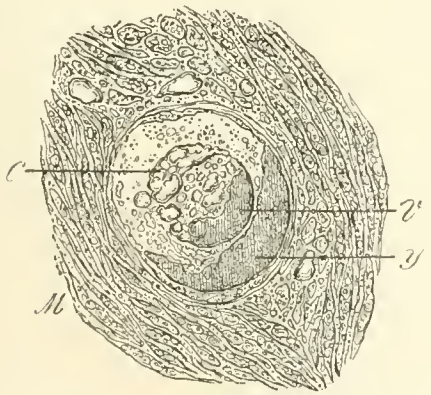


Fig. 9.—Combined Colloid and Waxy Degeneration of the Ovum. *C*, Colloid mass at the upper periphery of the vesicula; *Y*, lower portion of the vesicula transformed into a waxy mass; *Y*, waxy portion of the yolk. × 600.

department of the Woman's Hospital of Brooklyn, August, 1887, a mere shadow of her former self, emaciated, feeble, and suffering great pain. When she entered the hospital, she begged to be relieved of her suffering, and repeatedly asked that she might have an operation, and was disappointed at any delay. So weak was the patient, and so unfavorable her condition, that we did not think it possible for her to survive an operation.[1] Finally, to relieve her in some respects, the operation was performed; she made an

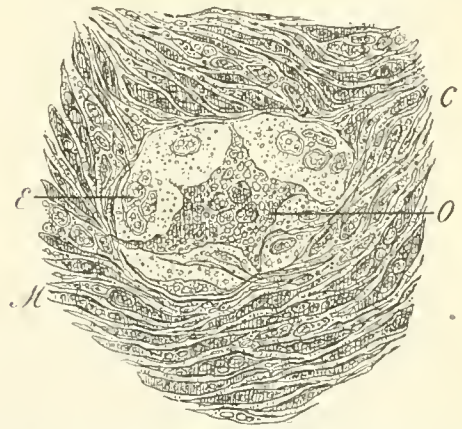


Fig. 10.—Beginning Transformation of the Ovum into Fibrous Connective Tissue. *O*, Yolk and vesicula germinativa, shrivelled and coarsely granular; *E*, embryonal corpuscles, sprung from previous epithelia; *C*, newly formed fibrous connective tissue entering the ovum; the capsule of the ovum is lost; *M*, inflamed smooth muscle fibres. × 600.

excellent recovery, was apparently in good health, and on returning home commenced at once her heavy household duties, working for a family of eight persons. Her husband said she had not been so well for fifteen years.

Fig. 10 is a remarkable presentation and suggests many subjects for thoughtful consideration. The ovum is atrophied and in waxy degeneration, yet the whole of both ovaries are in colloid degeneration. We see the inflamed muscle fibres around the ovum, and we can well imagine the advanced condition of disease when the muscle fibres themselves are inflamed; and if they are thus inflamed, or reduced to protoplasm, we may know that more advanced pathological changes will appear. We see that, amid the inflamed muscle tissue, new fibrous connective tissue is entering the ovum. It is progressive atrophy, and shows how many ova may gradually disappear from a diseased condition of the ovary. We see that the whole of this ovum is reduced to inflammatory corpuscles or protoplasm.

We find many interesting examples of atrophy, especially after ova have been reduced to fibrous connective tissue. This patient,[2] thirty-nine years of age, had been sick since she was twenty-five, and continued to grow into worse conditions, the pain increasing in severity, much of her time she was not able to be out of bed. She was at one time in the Massachusetts General Hospital, also under an eminent specialist of Boston. He informed her that her ovaries were diseased, but that an operation would be exceedingly dangerous. Subsequently, during the summer of 1888, this patient was in the Woman's Hospital of Brooklyn. She returned in the fall, and in November of that year I removed the diseased tubes and ovaries, and she has said many times since that "she was so glad that she had the operation, that before she did not expect to live, but now she had gained in health and strength." The ovaries were found diseased in every part; not only colloid degeneration, but a far advanced endothelioma was forming vast fields of blood; there was a gyroma in waxy degeneration, and in both ovaries there were found only the remains of a few ova.

[1] Proceedings, New York Pathological Society, May, 1887 also December 12, 1888.

[1] New York Medical Journal, September 22, 1889, p. 340. The Buffalo Medical and Surgical Journal, November, 1892, p. 206.

[2] Miss T. W——, Medical Record, August 7, 1897, case lxxiii

The nature of colloid degeneration is not yet understood. We do not know its origin or the cause that produces it. Nor do we know the symptoms of colloid degeneration in the ovaries or how to diagnose it. We can only recognize in the patient the evidences of disease, suffering, and distress; but no special indications that point to or would prove colloid degeneration.

Thomas Bryant,[1] the great English surgeon, said: "Its true nature is not yet fully known." Moore says:[2] "As to colloid, pathologists have not yet agreed among themselves as to the diseases which should be included under this name; many authors speak of it as a variety of cancer." Lazarus Barlow,[3] demonstrator of pathology, University of Cambridge, England, says: "Colloid, mucoid, and hyaline changes are at present but little understood and therefore lack definiteness." Professor T. H. Green[4] says: "The chemical nature of colloid material is as yet unknown." Quain in his "Dictionary of Medicine," 1894, says: "Colloid, a peculiar morbid product resembling in its character glue or jelly, and found associated with cancer and other forms of new growths." If colloid material is of the nature of glue or jelly, why should it not mix more or less with the interstitial fluids, or "juices," of the ovary? Would it be possible for masses of glue or jelly to remain constantly in fluids, and have such firm outlines, and apparently such clearly defined boundaries? Would not glue or jelly be more or less changed by the continued presence of the animal fluids or succulent tissues? Yet here, in these countless numbers of colloid bodies or corpuscles, not one is found that is the least mixed with fluid, or in itself is the least changed.

Many eminent authors speak of colloid bodies or corpuscles as "drops," or "droplets of colloid matter." These "drops," or "droplets," must be wonderfully firm to retain their various shapes and sizes; but, what is yet more surprising, many of these drops or droplets show distinctly that they are composed of granules.

Sir James Paget[5] says: "The colloid matter is in different parts or in different instances various in consistence." Dr. J. C. Warren[6] says: "There is some difference of opinion as to the origin of colloid matter. Some think it is elaborated by the cell; others assume that it is exuded by the vessels." If it is elaborated by the cells, would not similar cells produce it in all instances? I believe colloid degeneration develops directly from protoplasm, as all other degenerations or new tissues are formed.

Delafield and Prudden[7] say: "Colloid degeneration is of frequent occurrence in certain tumors and in the thyroid gland, and occurs occasionally in other places."

We have thus far seen that in various diseases of the ovaries colloid degeneration is of frequent occurrence. The human ovaries give a sad record of this disease or degeneration. For the last few months, I have been carefully studying by high and low powers of the microscope sections of eighty-seven pairs of ovaries, and in the eighty-seven I have found the ovaries of forty-seven of the women in colloid degeneration. I marked down the names of each individual case; each one was a most interesting history, and all illustrated many important facts in the pathology of the ovary. So many instances did I see of colloid degeneration, and so destructive was this disease to the ova, that when in reviewing old sections which I had previously studied,[1] not recognizing colloid degeneration, when I would see marks "No ova," or "Few ova," I at once concluded there was colloid degeneration, and invariably found it to be the case; though ova are, in a measure, also destroyed by endotheliomatous growths, and by waxy degeneration; yet colloid degeneration seems the most peculiar and the most universally destructive of all degenerations. I have found colloid degeneration in the ovary when there were most serious forms of tubal diseases, and when there was no special disease of the Fallopian tubes. I have found colloid degeneration in cases of the most intense oöphoritis; and I have found cases of intense oöphoritis, even bordering on suppuration, when there was no colloid degeneration. I have found colloid degeneration in some cases of abscess of the ovary, and in other cases of abscess there was no colloid degeneration.

In some cases when I have removed the uterine appendages for intramural fibroid tumors, I have found colloid degeneration of the ovary, and in other cases of intramural fibroid there was no colloid degeneration. In a feeble and anæmic woman with an intramural fibroid weighing nine pounds, there was no colloid degeneration; and in another suffering the same way, and with an intramural fibroid weighing thirteen and one-half pounds, there was colloid degeneration.[2] Then again there were small and large fibroid tumors, some with colloid degeneration, others without.

Colloid degeneration differs very greatly in different ovaries both as to the extent and the degree of degeneration. It differs also as to the size of the bodies or masses of colloid material, some being many times larger than others.

Colloid degeneration seems not only to destroy normal tissue, but it somehow has the power of displacing and destroying other growths and other forms of degeneration. An endothelioma around and in an intensely inflamed cyst wall, I have found almost destroyed by colloid corpuscles. Again, with the wall of the cyst in full waxy degeneration and crowded with colloid corpuscles, one could see that the waxy degeneration was gradually disappearing and being displaced by the growing colloid formations. In many cases of waxy degeneration, I have watched the glimmerings of new-forming colloid corpuscles, and could see that colloid degeneration was coming with its singular powers of destruction.

In another part of this paper I mention the instance of colloid corpuscles being in the endothelia of an endothelioma. A most extreme example of this was in the case of a patient who came to see me in 1887, suffering greatly from a complicated condition of disease of the pelvic organs, till the woman had become partially insane. After the operation of removing the diseased uterine appendages, the patient was not only improved in physical health, local and general, but had very much more normal mental conditions. In the examination of a section of the ovaries at that time I recognized the acute intense oöphoritis, the gyroma, the endothelioma, and the diseased ova, but only lately have I recognized the magnitude of the colloid degeneration. In an endothelioma in these ovaries, instead of granules merely of colloid matter, there were, all through the endothelioma, large bodies of colloid substance; and the endothelioma was somehow mysteri-

[1] "The Practice of Surgery," London, 1876.
[2] Holmes: "System of Surgery," London, 1860, vol. i., p. 534.
[3] "Manual of General Pathology," p. 519.
[4] "Pathology and Morbid Anatomy," 1898, p. 102.
[5] "Surgical Pathology," 1865, p. 659.
[6] "Surgical Pathology and Therapeutics."
[7] "Pathological Anatomy and Histology."

[1] This valuable collection of specimens I had prepared with great care and some expense for the museum of the Woman's Hospital of Brooklyn. They were collected in 1885–90, and the specimens are all from patients who were in that hospital. Subsequently the board of trustees of the hospital, by a vote, gave them again to me, but I intend some time to pass this valuable collection over to some college or to some hospital museum.

[2] Both these tumors were removed by hysterectomy, one suprapubic, the other total. Both patients recovered. (British Gynæcological Journal, February, 1898, p. 502.)

ously being destroyed by these colloid formations. I have recognized, in other instances, the destruction of an endothelioma by a growing colloid degeneration.

Colloid degeneration as yet presents a wonderful mystery, and it seems completely to destroy the ova in the ovaries of even the youngest women. I have found colloid degeneration in the ovaries of young women eighteen and twenty years of age, and equally in women who were forty-eight, forty-nine, and fifty-three years of age. It is not an understood disease, and each individual instance is of great interest. It, like all other pathological subjects of the ovary, should be studied in connection with the clinical history of the patient. The whole subject of the pathology of the human ovary is becoming more and more vast, and of more and more importance. When I first turned my attention to it, I imagined in a few weeks I could understand all about the normal and pathological structure of these little organs. More than twenty years have passed, and I find more than ever to study, to wonder at, and to consider seriously. Each individual slide, or each section of the ovary, would seem to demand hours, and some even years of study, and then all is not understood, there is so much in each one. And when I look at the wondrous changes, the marvellous developments and growths of diseased ovaries, and then at the infinite perfection of each minutia of normal ovaries, I can only bow in adoration, recognizing a Supreme Power and an Infinite Intelligence. It would seem there were enough wisdom, design, and painstaking in the construction of the ovaries to have created a world. They are the representative links of human history.

Dr. G. E. Herman, of London, author of a large work on "Diseases of Women," wrote me on June 16, 1898: "I have read many of your papers with much interest; more especially a recent one on 'Diseased Ova.' I think in studying this subject you break new ground, but I think a necessary preliminary to right judgment upon morbid conditions of the ova is a knowledge of the changes in the ova which depend upon age simply, and are not morbid." [1]

It would be exceedingly interesting if one could have the opportunity of studying normal human ovaries, and to note "the changes in the ova which depend upon age simply, and are not morbid." In my microscopical studies, I have been able to recognize in the ova only changes from disease, and in most instances these changes were in the ovaries of quite young women, nineteen, twenty, and twenty-one years old. Still, as far as I have had the opportunity of noting a few instances of normal ova between the ages of nineteen and fifty-three years, I could observe no change that could be attributed to age, or that might come from advancing years, nor have I been able to observe changes in any ova that were not clearly from infection, or some form of degeneration arising therefrom. The changes—pathological and otherwise—of ova, as of other structures of the body, are not so much from age as from infection.

I was once privileged to examine sections of the ovaries of a woman near seventy years of age, removed post mortem. These ovaries did not give evidence of any change from age, nor were there any special indications of disease, except a few colloid corpuscles in the cortex. The ova were in apparently normal condition. I give a drawing from the ovaries of this woman near seventy years of age (Fig. 11). I have seen sections of the ovaries of a girl eighteen years of age, and the ova were more changed than in the ovaries of this woman near seventy years old.

Why should the ova change from age any more than other anatomical structures of the body? Do the muscles change with the passing years? Do they not look the same in the old and the young? From a specimen of muscle tissue can one decide the age of the individual? In the ovaries of this old woman, the muscle structure, under a power of five hundred, did not show any apparent change. The interlacing fibres were apparently as natural and beautiful as those presented by a comparatively young woman.[1] Nor was I able to recog-

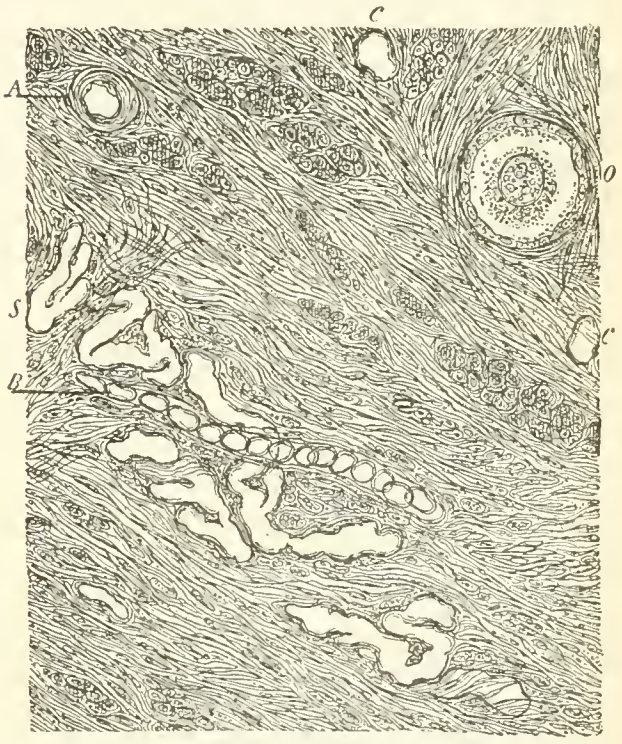


FIG. 11.—Cortex of the Ovary of a Woman Seventy Years Old. *S*, Convoluted structureless membrane, embedded in fibrous connective tissue; *O*, ovum, yolk shrivelled; *A*, artery in transverse section; *B*, capillary blood vessel in longitudinal section; *C*, *C*, colloid corpuscles. × 500.

nize, in the ovaries of this old woman past seventy years of age, any change in the blood-vessels, for instance. The walls had not changed to fibrous connective tissue, as we might imagine, nor was there any form of degeneration of the blood-vessels, which we so frequently find in the diseased ovaries of many young women, and, which changes must necessarily interfere with or render less active the circulation of the blood. Not one vessel in the ovaries of this old woman had become incapable of work, and, what was more remarkable, in all the sections that I examined there was not one instance of a diminution or closure of the calibre of any of the vessels, not one instance of endarteritis obliterans; yet I have found diseased blood vessels, a diminution of the calibre, and complete endarteritis obliterans in the ovaries of many young women, and in the ovaries of women of all ages from disease.

And in the ovaries of this old woman no part of the organs was so worn and diseased that it had degenerated into cysts; yet in the ovaries of the many young women I have found the whole ovary riddled and destroyed by cyst formations.

What was further remarkable in these ovaries was the structureless membrane, which often in the diseased ovaries of young women has shown such won-

[1] It has given me great pleasure to present from time to time my investigations to the kindly consideration of the medical profession. No profession stands higher, there is none I more profoundly honor, and none I regard as more profoundly learned. It was the great and good men of the medical profession in this country that stood by the right in that uncalled-for and most cruel persecution against the Woman's Hospital of Brooklyn a hospital that was doing such beautiful and excellent work. My debt of gratitude to these honored men is unceasing. I could again and again thank them by name, for their most noble magnanimity.

[1] See Fig 3 American Journal of Obstetrics, vol xxxvi, No. 2, 1897

derful pathological changes, developing those curious rormations known as gyroma, which in so many instances have proved to be the source of serious trouble and suffering; yet in the ovaries of this woman, past seventy years of age, the structureless membrane was in a normal condition. For thirty, thirty-five years, or perhaps longer, this structureless membrane had lain quietly, not changed, inflamed, or enlarged, but just as it would be in the healthy ovaries of vigorous young women.

It is disease that does the damage and works the marvellous changes in the ovary. One young girl twenty-one years of age was perfectly formed and apparently healthy, yet I find in the ovary intense oöphoritis, gyroma, endothelioma, and there is colloid degeneration through every part, which has destroyed the ova till there are but few left: one ovum has the macula and vesicula reduced to granular matter, and is in a crowd of corpuscles; another ovum with the vesicula and epithelia waxy, while colloid corpuscles are crowding into the ovum and close around it. In another section of the ovary is a group of four ova, all in waxy degeneration; next a group of four in colloid degeneration; some few scattering ones are almost gone, and there is a shower of colloid corpuscles all around. There was not only this wonderful showing of diseased ova and colloid degeneration, but this young girl of twenty-one had salpingitis. The folds of the mucosa of the Fallopian tubes were in most places completely destroyed by masses of inflammatory corpuscles, and even the whole muscle wall of the Fallopian tube was in colloid degeneration.

As a little further record, or other instances: Katie ——, eighteen years old, showed many different groups of ova almost destroyed by colloid degeneration, while around were imperfect remnants of colloid ova. In Mrs. F—— was seen an endothelioma nearly destroyed by colloid corpuscles, another endothelioma breaking down into intense inflammation; from periphery to cyst wall there was not a sign of an ovum. Another section found the ova almost gone, and the mucosa of the Fallopian tubes destroyed by inflammatory corpuscles. In Miss Polly P——, nineteen or twenty years old, repeated sections show colloid degeneration and ruined ova with a cyst wall intensely inflamed, becoming filled with colloid corpuscles, which are apparently destroying an endothelioma. In the midst of colloid material, ova are in waxy degeneration.

Another young woman, Miss M——, showed a waxy ovum almost gone in the midst of colloid degeneration. In another field were eighteen ova surrounded by colloid corpuscles, and colloid corpuscles thickly strewn all through the cortex; a waxy ovum with colloid corpuscles in it; in another portion of the cortex, not one ovum could be found. Thus constantly were presented wonderful pictures of the destruction of ova in the midst of colloid corpuscles. In this patient both tubes were in a state of interstitial suppurative salpingitis, and both bound to the ovary by inflammatory adhesions. In another young woman were many bright colloid corpuscles, and not one normal ovum! Sad, to see the ovaries of young women so diseased! All through these ovaries were intense inflammation and abnormal growths, and around were showers of colloid corpuscles.

Another young woman, Mrs. H——, only twenty-one years of age, was in even worse condition, both as to ovarian and tubal disease.[1] Mrs. U——, a young woman, sought relief because she wanted to be the mother of children. There are intense oöphoritis, endotheliomatous growths, and not one ovum is found—all destroyed! A young girl, Miss Mary M——, scarcely twenty years old, presented colloid degeneration, large endothelioma, acute oöphoritis, and no ova; Miss S. S——, twenty years of age, pus tubes, whole ovary in intense oöphoritis; Miss A. M——, twenty-one years old, the same conditions, and not a single ovum; Miss T——, near forty years of age, colloid degeneration and not one ovum; Mrs. C——, twenty-three years old, pus tubes, abscesses, colloid degeneration, and no normal ova; Mrs. N——, a young woman past thirty, married, sterile, with years of suffering, inflammation, suppuration, colloid degeneration, myxomatous degeneration, and no ova.

So I could give the history of many young women in whom the ova were gone or destroyed by colloid degeneration. I do not tell half the marvellous things that are constantly being revealed. We do not know the wonders or understand the significance of colloid degeneration. It seems the most wonderful of all forms of degeneration, and apparently has the power of overwhelming and destroying every other. I am convinced that colloid degeneration plays a large part in the pathological condition of many ovaries. This degeneration presents a wonderful mystery. I find the most interest and the most profit in studying the pathological conditions of the ovary in connection with the clinical history of the individual cases. A knowledge of the clinical history seems a necessity not only for the clear and full understanding of the case, but in order to have the clearest insight as to the nature and the causes of the pathological changes.

I am further convinced that the removal of such diseased ovaries and tubes as are mentioned in these various forms of degeneration is the salvation of the individual and the saving of the lives of many sick women. The diseased ova in these young women were, in most cases, if not every one, caused by some outside infection, in one way or other. Besides, every one of these young women was, so far as I could learn, before this infection apparently healthy and with sound constitution, and life's prospects were opening before each one with promises of joy and happiness. The infection came, and all their bright, beautiful prospects were destroyed.

These investigations only show a little more fully the nature of their sickness, and still more how it was not only blighting their dearest hopes but destroying their lives. Should not such diseases in young women be prevented? Should not young women be instructed and protected?

One young physician said to me a short time since: "What is the use of studying these intangible subjects? What we want to know is, when and how best to operate." Do we not know when and how best to operate, when we know the momentousness of the disease, and can weigh all the solemn responsibilities? I studied because I wanted to know, and wanted to learn the best thing to be done to help these suffering young women. I believe many young women have been lost from a lack of the recognition of all the seriousness of their disease, and the necessity of giving immediate relief. Many more have perished in this way than by having the ovaries removed when some may have imagined there was no necessity, or there was no immediate danger, or there was possibly some other way of relief. As I said in 1886,[1] "the fault is not with the surgeons who are trying to help the sick women, but with those who have gone before."

I have never been able to believe that ovaries have ever been removed when it was not necessary; even by Battey, who professed to remove normal ovaries for constitutional conditions, yet from a study of his cases I believe in each instance the disease of the organs themselves demanded their removal. I believe many women have died from not having hopelessly diseased tubes and ovaries removed. I said further in 1886:[2]

[1] MEDICAL RECORD, August 25, 1886, p. 100.

[1] MEDICAL RECORD August 21, 1886.

[2] Ibid

"I have never seen the ovaries removed in a single instance, but they were more diseased than the symptoms led me to suppose," and that "removing diseased uterine appendages is not unsexing a woman, it is restoring her from helpless invalidism to all the possibilities and opportunities of life and labor. It is not taking away her capability of having children — that has already been done by the disease— it is only removing a cause of suffering and of threatened danger." We will find that the disease makes more serious conditions and more profound constitutional disturbances than does the absence of these organs.

In the careful study of many ovaries, by the aid of high and low powers of the microscope, I have never yet seen an ovary of which I could believe a part could be left with advantage to the patient. I rather believe, when part can be left, none should be taken.

## CONGENITAL HERNIA OF THE UMBILICAL CORD.

By W. B. COLEY, M.D.,
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CONGENITAL hernia of the umbilical cord develops before the falling of the cord, and is due to defective development during fœtal life. Lyndfors estimates its

CASE I.—Before Operation.

frequency as 1 to 5,184. The size of the hernia varies from a small bulging at the base of the cord—sometimes described as hernia of the root of the cord —to a complete eventration in which nearly all the abdominal organs are found in the hernial sac. In this form of hernia there is no true sac, the protruding viscera being coated with the myxomatous tissue of the cord, and covered by its amniotic layer, the latter being continuous with the skin and the peritoneum.

The prognosis is very grave no matter what form of treatment be adopted. Until comparatively recent times, the treatment of this variety of hernia was entirely expectant, an attempt being made to retain the rupture by means of compresses and bandages. Of

CASE I.—After Operation.

twelve cases collected by McDonald treated in this way, nine were fatal; while out of nineteen patients treated by laparotomy only one died.

The present cases are (with the exception of one of small size) the only ones seen by the writer in nearly ten years' experience at the Hospital for the Ruptured and Crippled. The accompanying photographs, taken twenty hours after birth in one case and twenty-four hours in the other, give a very accurate idea of the condition.

CASE I.—The tumor itself, about the size of a large orange, is covered only by the dilated tissues of the cord. Operation was performed in July, 1889, twenty-two hours after birth. The projecting portion of the cord was cut off on a level with the hernial tumor; the outer layer of the tissues of the sac was peeled off as far as possible; the edges of the skin at the junction of the root of the cord were then freshened and by a series of silkworm-gut sutures brought together after the hernial tumor had been reduced. The peritoneal cavity itself was not opened; at the lower extremity a small opening was made to allow free drainage in case of any sloughing of the tissues. The abdomen was then firmly supported with compress and bandages. The time of operation was thirty minutes.

CASE II.

A small quantity of chloroform was used as the anæsthetic. The child made a very good recovery. The wound was dressed every two days by Dr. Preston I. Satterwhite, and to his careful after-treatment is largely due the successful result. Case II., taken two months

later, shows only a slight bulging, which is slowly diminishing.

Case II.—A child aged twenty-four hours was brought to the hospital just one week after the case just described. The tumor was much larger than that in the first case, being fully as large as the child's head and partly made up of fluid. An incision was made into the sac, evacuating about half a pint of straw-colored fluid. The sac contained the liver and most of the large and small intestines, and in view of the very small size of the abdomen it was quite impossible to reduce the contents. The wound was closed, and the prognosis was regarded as absolutely bad, but three weeks later Dr. Satterwhite found that the child was still alive.

## HEADACHES DUE TO EYE STRAIN.[1]

By JAMES COLE HANCOCK, M.D.,

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OPHTHALMIC SURGEON TO THE EASTERN DISTRICT HOSPITAL.

Gentlemen: During the ten minutes allowed me this evening I want to call your attention to the symptom headache, than which there is probably not one more frequently encountered, and there are certainly few giving more discomfort and resisting the ordinarily employed treatment longer, the last being often due to a lack of appreciation by the physician of the true direct or indirect cause, and often to a so-called "headache habit" in cases of long standing, that sturdily resists even proper treatment for a varying length of time, usually extending to the limit of our patience and frequently beyond it.

The headaches caused by eye strain, and it is to these I want to ask your notice especially, are of far more frequent occurrence than is generally supposed; and this is mainly due to the fact that in hypermetropia, the most frequent cause of these headaches, the visual acuity is often as great and sometimes even greater than where there is no error of refraction at all. Due to this it is that so many of our school children pass satisfactorily the eye tests in vogue in the public schools to-day, but continue to suffer from headache and other symptoms attending eye strain.

Hypermetropia, astigmatism, insufficiency of muscles, myopia, and last but very important, the so-called accommodative asthenopia due frequently to disturbances of the general nervous system and not infrequently to uterine disorders especially in young women, are the conditions giving rise to most of the headaches due to eye strain, and I have arranged them with regard to their relative frequency as I have found them. The generally accepted normal eye is so constructed that parallel rays—and all rays are considered as such that come from a distance equal to or greater than six metres—are brougth to a focus at the fovea centralis in the retina without any muscular effort or aid. When a normal eye is being used for distance the ciliary muscle is lax, the lens compressed in its capsule, the vision of such an eye being quite as acute when the ciliary muscle is completely paralyzed with atropine as when the muscle is in the natural state. When a change to the near or so-called reading distance is made, the ciliary muscle at once comes into action, drawing the choroid forward, thereby loosening the lens capsule and allowing the hitherto compressed lens to thicken itself by its inherent elasticity, thus shortening its focus and bringing the diverging rays from a near object to a point upon the retina.

In hypermetropia, or so-called "far-sightedness," we have to deal with an eye shortened in its antero-posterior diameter, hence even parallel rays must be forcibly focussed upon the retina, as the latter lies forward of the focal point of the lens. In such an eye, then, the ciliary muscle is in constant action except during sleep. It becomes over-developed and very irritable. The eye, as you see, is under a constant strain, and you can readily imagine the result: headache almost always.

The astigmatic eye is the one in which there is a difference in the refraction of the horizontal and perpendicular meridians of the cornea generally, and sometimes of the lens or both. One meridian may be normal, the other hyperopic or myopic; both may be hyperopic or myopic in different degrees, or one may be hyperopic and the other myopic, the last condition almost always causing headache and being very difficult to correct. Astigmatism usually causes headache, and invariably when present in marked degree.

The main factor in the causation of headache due to muscular insufficiency is the unceasing and often abortive effort of the weak muscle to contribute its proper share of muscular force to maintain the equilibrium necessary to binocular vision.

In myopia the eye is elongated antero-posteriorly. The rays coming to a focus upon the retina of such an eye must be divergent upon entering, hence objects are held close to the face. The ciliary muscle in these cases is usually small and has little call upon it. The cause of headache here is extreme and constant action of the internal recti muscles, convergence due to the near point at which objects must be held to be distinctly seen, calling them into use with every visual effort. Myopia is usually acquired in close application at school, etc., and is practically unknown in uncivilized communities, while hypermetropia and astigmatism often seem to be hereditary. Myopia has a tendency to increase, and the condition requires very careful watching.

Regarding the last cause in the list, that depending upon a deranged state of the nervous system in general, and the generative organs in particular, much might be written, but it seems best to leave it to those who have made these conditions subjects for general study. The resulting eye symptoms and the headaches are often severe, and we frequently find upon careful examination that the eyes are quite normal with regard to their refraction. These are, of course, cases for the neurologist or the gynæcologist, and proper treatment at their hands usually results in the disappearance of all eye symptoms.

To sum up: The conditions bringing about a so-called "eye headache," it seems to me, are an undue stimulation of the nerve centres of nerves supplying the intrinsic and extrinsic muscles of the eye, causing a reflex vasomotor action referred to the meninges and producing congestion.

It is also suggested that confusion of images plays the important part in the causation of these headaches, and that there is no known instance in which they have followed excessive use of other than ocular muscles. I believe the confusion of images may be an important contributing cause, but it seems to me that the "muscular reflex" plays the most important part. While I fully admit that continued muscular exertion in general does not cause headache, I think it probable that excessive and continued contraction of any muscle supplied by cranial nerves would do so. Obviously, except in the case of the ocular muscles, it is difficult to gather evidence in support of this theory.

In all the conditions mentioned above, even including those due to purely reflex causes through the nervous system—by way of exclusion—a thorough examination of the eyes should be insisted upon, and this can be thorough only when the ciliary muscle is completely paralyzed.

[1] Read before the Medical Society of the Eastern District Dispensary and Hospital, August 30, 1899.

In hypermetropia glasses should be worn for reading and other close work only, unless distant vision is impaired; in myopia for distance when present in marked degree, and for reading when the book is habitually held nearer the face than thirteen inches.

For muscular insufficiency prisms are worn and the weak muscles exercised. Operations are often necessary.

In astigmatism glasses should be worn constantly for here a complete correction, even temporarily is quite impossible.

43 Cambridge Place

## LIP-READING—AN AID FOR THE INCURABLE DEAF

By Mrs. CORA D. GORTON

NEW YORK.

According to late statistics, the number of deaf people under the age of thirty years is enormous While we realize what this implies for those who have not yet reached their prime in life, it is encouraging to know that a way is open to them by which they may still enjoy the privileges which are rightfully theirs.

The recent improvements in the treatment of aural diseases have restored many deaf people to spheres of usefulness, but there still remains an army for whom treatment is of no avail. Such people are seriously handicapped in all the walks of life, and many who possess remarkable natural talents are prevented from exercising them through their absence of hearing. This defect also debars them from participating in the social features of life, and imperceptibly, though surely, they become melancholic, hypersensitive and suspicious, leading a most unhappy existence. It is true that such mechanical contrivances as audiphones, fans, tubes, etc., offer to deaf people considerable improvement in hearing, but the extreme sensitiveness of such people prevents their using aids of this kind

How, then, are these people to be made to hear, after having been dismissed as incurable by a competent aurist? The question finds its answer in lip or speech reading. This science, at the present day, is no longer a theory, but something grounded upon established principles. The experimental age is past, and we realize with satisfaction the results obtained from the perfect systems now in use.

That the possibilities of this means of communication were recognized years ago is known by a statement of Dr John Bulwer's (1648), in which he speaks of "the subtile art which enables one with an observant eye to hear by watching the movements of the lips." The work of reducing it to an art, by systematizing and arranging it upon scientific and phonetic principles, is of more recent origin, and in its advanced state does great credit to the ingenuity of man and comes as a boon to the deaf, enabling them again to participate in the world's activities as people of understanding and intelligence.

We have so commonly regarded the sense of hearing as the only medium through which spoken language is understood, that for some people to realize the possibility of reaching the same result through other means may appear difficult. It is readily accomplished, however, by educating the eye, the sense of sight becoming unusually acute and taking the place of the aural sense.

When we recognize the positions and actions of speech, we are reading speech. In its accomplishment, both a mechanical and an intellectual process is exercised. The sight may be trained to carry to the brain actions of the organs of speech, and the brain associates ideas with them. Facility requires not only a quick and trained eye, but a degree of intellectual alertness, to resolve doubts instantly when possible cases of ambiguity arise, there being a vast number of words which appear alike to the eye of the speech-reader, words, for instance, beginning with the labial consonants *p*, *b*, *m*, and the linguals *t*, *d*, *n*. Such words, when presented separately, are to be distinguished with difficulty but the mind of the reader is at once made certain when they are recognized in their association with other words in the sentence. With unconnected words there is no context to assist the mind. The imagination is an aid to comprehension, and guessing oftentimes supplies doubtful words in a sentence in which two or three of the leading words are recognized. There is more to be seen by the reader than the mere moving of the lips, the position of the tongue, and the size and shape of the aperture of the mouth. There is the brow expression, whether it be contracted, elevated, or passive. He observes much that is important to his understanding from the expression of the eye and the unconscious movements of the head, the affirmative and negative nods. Perhaps one short sentence may contain a number of facial expressions other than those produced by the muscular activity of the mouth.

Do you imagine it difficult to be obliged to watch so much at one time? In learning to play the piano, for instance, you could see at first but one note at a time on a sheet covered with them Then, through practice, your sight was trained to embrace two, four, and more, until shortly your eye, in a single glance, recognized correctly chords of eight and ten different notes, including marks of expression and even read in advance whole measures of notes. The child wonders at his struggles with the first short words, after he has learned to scan in a glance and with perfect ease, a lengthy paragraph.

So with the speech-reader He grows unconsciously to note every mark of facial expression Through experience it becomes no tax upon the memory Even in the almost entirely blank faces of some speakers, and with the impediments furnished by heavily mustached mouths, there are always expressions and aids to be found, when one knows where to look for and how to interpret them. To expert readers whole sentences appear as one long word, for they learn to take it from the lips as a whole rather than to analyze it into its constituent parts.

How important to deaf people is such a knowledge of the art of reading the lips need not be demonstrated. One who has become a proficient reader often passes among strangers as an intelligent hearing person. It renders the social position, not a memory of something connected with a happy past, but a continued realization of the same. It releases one from that mental strain and suffering often produced from a sense of isolation too well known to the deaf person, a state of painful existence of which the fortunate hearing person cannot conceive.

The art is of material benefit to partially deaf people as well, in that the eye may catch the words the person fails to hear, and the combination of both senses renders conversation intelligible, even at a great distance.

Age, as a rule, makes but little difference in the acquirement of this language. My experience as an instructor proves that with a fair degree of intelligence and an ordinary vocabulary of vernacular language, the art may be acquired at almost any age in life; the pupil of fifty or sixty years other conditions being equal, will show as favorable progress as the much younger one.

While the methods are acquired in comparatively few lessons, much after-practice is necessary to insure proficiency. The pupil first learns to read his teacher's lips, then those of his family and the people with

whom he is more constantly associated, and lastly those of strangers

The tête-à-tête conversation is always easier for the beginner, but with experience the eye becomes accustomed to read general conversation quite as readily. While a few acquire a fair knowledge of the science of speech-reading intuitively, after many years of hopeless deafness, its accomplishment is much more rapid and satisfactory when systematic instruction is received.

The accomplishment of speech-reading is the addition of sunshine to a life which has been clouded by an impairment of hearing.

52 West Thirty-eighth Street.

## Progress of Medical Science.

**Cystinuria.**—In a study of cystinuria completed in the September number of the *Annales Génito-Urinaires*, Moreigne presents the following conclusions: (1) Cystinuria is an affection, or rather a particular and extremely rare condition of the organism which owes its name to the presence in the urine of a body of special nature, cystin. (2) The pathological importance of cystin depends upon the troubles which it may mechanically produce, it generally occasions nephritic colic by the elimination of cystinic gravel, and in certain cases it forms calculi in the bladder. (3) The urines which have been examined are acid, but slightly colored, having a greenish-yellow tinge, and generally depositing cystin in a sediment, under the form of hexagonal plates. In a word, they offer the common features of urine of cystinurics whose urinary apparatus is in good condition. (4) In the absence of certain influences, such as that arising from the ingestion of salicylate of sodium, the urine of cystinurics does not generally give rise to a deposit of uric acid along with the sediment of cystine. (5) The deposits, gravel or calculi of cystin, are generally accompanied by tyrosin. As to leucin, it remains in solution in the urine (6) Uric acid is found in the cystinuric urine in quantities notably greater than normal, other things being equal, and does not vary in inverse ratio to the quantity of cystin, contrary to the opinion put forth by some authors. (7) All the results of analysis tend to show that cystinuria is characterized by a state of the economy in which the nutrition processes are slowed. There is diminished activity in the intra organic exchanges, or again, under another form, there is exaggeration of the anaerobic life of the cells and partial arrest of the oxidation processes This deduction, the author says, is confirmed by different facts, the chief ones of which he goes on to specify.

**Phototherapy** — Valdemar Bie, of Copenhagen, gives an account of Finsen's phototherapy (*The British Medical Journal* of September 30th), illustrated with a double plate showing cases of lupus before and after treatment, and pictures of the instruments in use for sunlight and electric-light treatment He says in regard to the results of concentrated rays: "The principal advantages of the method are, besides its reliability, its excellent cosmetic results, the infrequency of relapses and their slight extent, and the fact that the treatment is painless. The good cosmetic results are due to the fact that there is no destruction of tissue, healthy or diseased. It is for the same reason that the results in respect to relapse are so favorable. One may without harm treat both the diseased tissue and the apparently healthy surrounding skin until one is fairly sure of having destroyed all the disease germs. When the patient has been treated till there are no distinct nodules of lupus to be seen, at that moment the treatment is discontinued till the swelling and redness of the skin have disappeared, so that it is easier to determine whether anything is left of the disease or not. If there is nothing visible the patient is still kept under observation. Many have, however, to be submitted to a second course of treatment Whether the nodules which develop are the result of recurrence, or whether they could not earlier be recognized as lupus nodules, is a matter of little consequence in itself. The principal thing is that there have always till now been a few scattered nodules which disappear after a short further course of treatment If the treatment is carried on for some time after the last nodule of lupus seems to have disappeared, recurrence would be more surely guarded against The fact that the treatment is discontinued as soon as we think it justifiable to do so is due solely to the desire to save the time and the money of the patients as far as possible. Inasmuch as the efficacy of the treatment is absolutely certain, and the patients, on account of its painlessness, are very willing to submit themselves to a second course, a recurrence is not nearly so serious a matter as it is after the older methods of treatment."

**The Restoration of an Entire Tibia Necrotic from Acute Osteomyelitis.**—In the *Annals of Surgery* for October, 1899, Dr. Cushing reports a case of osteomyelitis, with necrosis of the tibia, in which a successful result was obtained by removal of the dead shaft of the bone, and he summarizes as follows the indications for treatment in similar cases: To save the patient's life and relieve pain by immediate operation to establish free drainage, the medullary cavity should be opened, pressure relieved, and infection checked. If the bone dies, as it usually and rapidly does in the course of a few days, it should be removed. The most favorable time for removal is when the periosteum and the granulation tissue are in their most active regenerative stage, but before the process of calcification of the bone trabeculæ has enclosed the sequestrum within a compact dense shell of involucrum. This point is to be determined by frequent examination of sections of the periosteum with the microscope It is indicated by the presence of numerous fibroblasts, osteoblasts, and small trabeculæ in which lime salts are beginning to be deposited. Clinically, it can be recognized by the slight crackling sensation appreciable as the periosteum is incised, and due probably to the crushing of the trabeculæ by the knife The periosteum at this stage resembles granulation tissue in color, density, and vascularity. Macroscopically, there is no appearance of ossification. Bone will be formed from this elastic, flexible periosteal layer This stage in the case reported was probably reached in the seventh or eighth week of the disease. At this stage the necrotic bone should be removed by incising the periosteum in the long axis of the leg and shelling out the sequestrum. The periosteal sheath remaining should be closed by suture, leaving a solid cord or mass of periosteum buried in the centre of the leg when in its most active bone-producing condition If areas of calcification of any extent of thickness are found adherent to the inner surface of the periosteal sheath they should be dissected off. The superjacent soft parts and skin can be closed by suture. The utmost care and most efficient means should be used to render the operation an aseptic one, for primary union is important. The new bone is formed rapidly, apparently in from eighteen to twenty-four days, when the operation is performed at the time indicated. At this time ossification is so far advanced that the new bone is rigid. If the operation is performed too early, the growing periosteum is apparently injured and its growth interfered

with, if too late, a rigid bony involucrum makes the removal of the sequestrum more difficult and gives rise to the formation of a cavity that it is difficult to close. A radiograph in the case reported demonstrates that the medullary cavity is re-formed in the new bone The shaft of the bone is easier to restore than the epiphysis.

A Case of Ruptured Aortic Aneurism and Gumma of the Heart at Twenty-Six Years of Age.—Shaw reports in *The Lancet* of September 23, 1899, the case of a lighterman, twenty-six years old, who came under observation in a state of collapse. He had started work apparently in perfect health and spirits, with the exception of a slight cold that he had had for three weeks He was a singularly steady man, and had always been in good health. The work was fairly heavy, that of carrying frozen carcasses ashore, but the man had worked as usual for about two hours and a half when he was noticed to sit down, apparently in a faint His head was held between his knees for half a minute or more and he revived, but soon he fell on to the deck, again unconscious When the man came under observation he seemed to be conscious, but he was blanched and considerably collapsed He kept crying out about the pain in his abdomen and he asked not to be touched. The abdomen at first was rigid but afterward relaxed and the man was rolling about in great pain which was localized to the lower part of the left chest. There were, however, no corresponding physical signs The pulse was barely perceptible, 140 to the minute and irregular The heart could not be heard. The chest seemed to be resonant, and the entrance of air everywhere good The pupils were equal and only moderately dilated. A small bowel movement was passed involuntarily. Twenty minims of brandy were injected hypodermically. As the man was only taking gasps of breath, artificial respiration was performed and oxygen administered. Brandy was again injected, but the patient died within ten minutes after coming under observation and less than an hour from the time he was taken ill. On further examination after death the cardiac area was found to be increased by about one finger's breath in every direction beyond normal, although the chest indicated considerable emphysema. There were no signs of previous illness, and no scars on the legs or on the penis. It was stated by the patient's family that he had never had a day's illness, and no definite syphilitic history could be made out. The patient had three healthy children. He was fond of rowing, and was out training for a race only two days before his death Upon post-mortem examination the pericardium was found to be tightly distended and full of blood, and at the top of the pericardial sac there was a narrow slit, about one-sixth of an inch in length, opening into a saccular aneurism. This was about the size of a hen's egg projecting forward and to the right from the first part of the aorta over the top of the right auricle and pressing slightly on the right bronchus. The innominate artery opened out of it at its base. When opened, its walls were found to be thin and smooth and to contain only recent blood-clots. The cavity communicated with the aorta by an aperture three-quarters of an inch in diameter, two inches above the aortic valve. The aorta was dotted with patches of yellow atheroma in an early stage. The valves were healthy. The myocardium and the visceral pericardium in general were healthy with a fair deposit of fat. In front of the apex of the left ventricle, however, in an area about three-quarters of an inch in diameter the pericardium presented a nodular, yellowish-gray gelatinous surface, beneath which, on section, the myocardium was found to be replaced by a soft, yellowish-gray gelatinous tissue, with here and there soft, yellowish nodules, which appeared about to break down. This was situated at the base of one of the papillary muscles, and on microscopical examination proved to be a gumma. There was no local dilatation of the ventricular wall. An early gumma was found in the pancreas, about half an inch in diameter. Otherwise the necropsy was negative.

A Case of General Paralysis of the Insane in Early Life.—In *The Lancet* of September 23, 1899, Dr. Mair reports the case of a girl fourteen years old, who had suffered from mental derangement for four years. The mother and paternal grandmother had died in asylums. The patient had been healthy until the age of six years, when she became restless and destructive in her habits, tearing off her clothes and putting them into the fire. She also wandered about the street, and gradually became so mindless that when she was ten years old she was sent to an institution for imbeciles. At the age of twelve she was unable to recognize her friends, was dirty in her habits, and quite unfit to do anything for herself. When she came under observation, she was hardly able to walk Her gait was spastic, and the deep and superficial reflexes were equal and exaggerated. There was apparently no change in general sensibility. The pupils were dilated and unequal, the right being larger than the left. Both responded in accommodation, but sluggishly to light. Fibrillary tremor of the face was present, but the state of the tongue could not be ascertained. The movements of the hands and feet were at times irregular and tumultuous. The abdomen was somewhat retracted. Beyond the short, sharp, so-called hydrocephalic cry, the patient uttered no sound. She gave no sign of any intelligence, and was dirty in her habits. The face was pallid and anæmic. A mass of swollen glands, hard and isolated, was present in the axilla. The other organs of the body were apparently normal. The urine was pale and of low specific gravity, but presented no other feature of importance The temperature was subnormal and continued so until a few days before death, when it became febrile. The patient was compelled to go to bed on account of difficulty in walking. The muscles of the lower extremities were in a state of clonic spasm, but ultimately this state passed into tonic spasm, so that the thigh was retracted on the abdomen and the legs were flexed on the thigh. The choreic movements increased in extent and in amount, but affected chiefly the upper extremities and the face. The deep reflexes disappeared, but the exaggerated superficial reflexes remained. The patient grew more and more emaciated and failed progressively till death ensued. On post-mortem examination the head was found to be nineteen inches in circumference, narrow in front, but wide in the middle parietal region. The sutures of the calvarium were well marked. The skull cap was light and porous, the diploe increased. The frontal bone was three-eighths of an inch, and the occipital one-quarter of an inch thick. The dura mater was thickened. In the subdural space false membranes consisting of fibrin, covered the whole of the upper surface of the hemispheres. This fibrinous deposit was in its thickest parts a quarter of an inch in thickness. It tapered to one-eighth of an inch at the circumference of the brain. The pia mater was thickened and presented milky patches, especially in the region of the cerebral veins. A gelatinous deposit filled the sulci. Clear serous fluid was present in some quantity in the spaces of the meninges and ventricular cavities. The convolutions were fairly well marked. The brain weighed twenty-four ounces. Microscopical examination disclosed marked thickening of the pia mater and infiltration of leucocytes. There

was marked subpial felting. The blood-vessels presented hyaline changes, marked periarteritis, and extravasation of blood-corpuscles. The neuroglia cells were proliferating, and the neuroglia fibres, increased in density and number, caused extensive fibrosis. The nerve cells were much disintegrated.

**The Etiology and Treatment of Aortic Aneurism.**—In the *Berliner klinische Wochenschrift*, No. 12, 1899, Dr. Aaron expresses the opinion that in the majority of cases aneurism of the aorta is of syphilitic origin, the history of infection being often either suppressed or overlooked. This would seem to be particularly true when the vascular disease appears early in life, and especially if no other etiological factor has been operative. In every event the patient should have the benefit of any doubt, and anti-syphilitic treatment should be instituted as promptly as possible. In this connection skiagraphy may be of service in arriving at an early diagnosis. The administration of iodides in effective doses is not likely to be harmful, even if the condition is not syphilitic, while if there is the slightest possibility of such an origin mercurial inunctions should in addition be practised faithfully.

**The Elimination of Uric Acid in the Urine of Gouty Patients.**—As the outcome of an elaborate clinical investigation His (*Deutsches Archiv fur klinische Medicin*, Nos. 1 and 2, vol. 65, 1899) has reached the following conclusions: (1) The mean daily elimination of uric acid in gouty patients does not differ from that in healthy individuals. (2) The daily elimination of uric acid is subject to considerable and inexplicable variations in both healthy persons and gouty patients. For this reason the estimations of individual days or for short periods are inadequate for a decision. (3) The acute attack of gout is inaugurated with a diminution in the elimination of uric acid, which precedes the attack by from one to three days. The attack is followed by an increase in elimination, which reaches its maximum between the first and the fifth day. (4) The mean daily elimination of uric acid in gouty patients both during the attack and in the intervals between attacks exhibits no typical variation. (5) Sodium bicarbonate and various mineral waters, as well as the use of lemon juice, do not appreciably influence the amount of uric acid excreted. (6) Lithium carbonate appears constantly to diminish the elimination of uric acid slightly.

**Mercury in Diseases of the Heart.**—Wallace Beatty (*The Dublin Journal of Medical Science*, October) makes the following statements regarding the cases in which mercury is of real value: (1) Of all conditions in which mercury is useful, one in which it is most certain to do good is general venous engorgement due to chronic primary mitral-valve disease. In a typical case there are a rapid, irregular, compressible pulse, physical signs of dilatation of heart, a regurgitant or obstructive murmur, full and pulsating cervical veins, an enlarged and congested liver, high-colored, scant, and albuminous urine from congested kidneys, anasarca, and perhaps some ascites—in short, all the evidences of back pressure. (2) The cases of general venous engorgement dependent upon mitral incompetence (relative incompetence) secondary to aortic regurgitation of old standing. (3) Cases of dilatation of the heart with general dropsy, but yet no obvious valvular disease, there being no murmur and no evidence of kidney disease. (4) Cases of general venous engorgement from failure of the right heart, caused by severe emphysema and bronchitis. (5) Cases of general venous engorgement due to cardiac dilatation following upon long-continued hypertrophy of the left ventricle, due to chronic interstitial nephritis.

**Sterilization of the Hands.**—As the result of personal experiments and from a consideration of those of others, Freeman (*Annals of Surgery*, October, 1899) submits the following propositions: (1) None of the methods of sterilizing the hands thus far suggested can be absolutely depended upon. Many positive results are arrived at by means of faulty experimental technique, the culture media becoming impregnated with antiseptics, the skin temporarily hardened by alcohol, formalin, etc., or the hands not being subjected to sufficient maceration and friction in the culture medium. (2) Under circumstances amid which it seems desirable to do so, much may be accomplished by sweating the hands in a hot-air oven, by wearing rubber gloves for some time prior to an operation, or by immersing the gloved hand in hot water. Mere prolonged soaking in very hot water, although not so effective as dry hot air, must have some favorable effect. It is difficult to understand, however, how the sweating method can dispose of all the micro-organisms beneath the nails. The procedure will hardly be employed extensively, owing to its inconvenience. (3) Excessive brushing beneath the nails, as much even as the sensitive tissues will tolerate, seems merely to stir up the bacteria when carried beyond a certain point. Little is to be hoped for from this means. (4) Thus far, the only really reliable means of rendering the hands aseptic is to encase them in sterilized rubber gloves, but if the gloves become torn, as they often do, the danger of infection is considerable, owing to the bacteria that have accumulated beneath from perspiration. Coating the hands with various substances has been tried and found ineffectual. Cotton gloves, although they soon become contaminated by exudations from the skin, probably do some good, especially if changed frequently, by filtering out the bacteria, as it were, and preventing their entrance into wounds.

**The Relationship between Syphilis and General Paralysis of the Insane.**—Campbell (*British Medical Journal*, September 16, 1899) indicates as follows some of the grounds upon which is based the assumption that there is an intimate relationship between tabes dorsalis and general paralysis on the one hand, and syphilis on the other: In the first place, statistical enumerations prove that in a large proportion of cases an attack of syphilis has preceded the onset of general paralysis. In the next place it appears that the majority of cases of general paralysis emanate from localities where the traffic in immorality is greatest, and for this reason it is a disease of urban and industrial communities rather than of rural populations. Thirdly, the more the etiology of juvenile or adolescent general paralysis is studied, the more clear does it become that the majority, if not all, cases arise in the victims of hereditary syphilis. Another argument in favor of the syphilitic origin of general paralysis is the occurrence of that disease in married couples who have infected one another with syphilis. The fifth indication in favor of the syphilitic origin of general paralysis is the occasional occurrence of syphilis in parent and offspring. In the next place, no case has been recorded of a general paralytic acquiring syphilis after the mental symptoms have declared themselves, in spite of the fact that many of the patients, at any rate at the commencement of their illness, are prone to sexual excess, and are, therefore, liable to expose themselves to contagion. Lastly, the influence of social conditions on the prevalence of general paralysis is of importance. It is stated that among the officers of the Continental armies general paralysis is common, but among members of the priesthood it is rare, and among women of high standing it is practically unknown.

# MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

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PUBLISHERS

WM WOOD & CO., 51 Fifth Avenue

New York, November 4, 1899.


## THE WAR IN SOUTH AFRICA AND THE BRITISH ARMY MEDICAL SERVICE

To judge from the present condition of affairs in South Africa, there would seem to be but little doubt that, contrary to the opinion of many military experts based on the successes gained by the British in the first engagements, the Boer war will be a protracted and sanguinary struggle. Especially should it be remarkable for the wounds inflicted by the modern small-bore bullet, owing to the superb marksmanship of the Boers. Consequently the lessons to be learned from a surgical standpoint will assuredly be of the very greatest importance. At the same time the war will be an extremely severe test of the efficiency of the British army medical service—the first, indeed, since the Crimean war—and the manner in which its members acquit themselves will be watched with almost as much interest in this country as in Great Britain itself.

We ourselves have been of late acquiring by bitter experience the knowledge that when war is undertaken no department of the army needs such careful supervision as that of the medical, and that if this is not done the suffering entailed will be awful to contemplate. Grave charges have been made from many quarters against the manner in which the British army medical department is conducted. The contention has been advanced times without number that the supply of surgeons to the British army in times of peace is inadequate, and woefully so, to meet any pressing emergency, and in addition to this that many of its surgeons are, from lack of proper training and experience, not fitted to cope with the difficulties placed upon them by war on a large scale.

That everything in this respect is not as it should be, is a fact too patent to be evaded by those who have followed the discussions on the matter in the medical and lay press of Great Britain, as well as evidenced by the widespread dissatisfaction with the existing order of things exhibited by the British army surgeon himself, and by the difficulty experienced in inducing the best class of young medical men to join the army. Dr. Alexander Ogston, the distinguished Scotch professor and authority on army surgery, contributed a paper at the recent meeting of the British Medical Association in which he voiced the opinion of those who believe that radical reforms are indicated in the conduct of the British army medical service. His remarks were strongly traversed by some, and no doubt, like so many ardent reformers, he may have taken a somewhat too pessimistic view of the case and exaggerated the defects of the present system, yet it is to be feared that the greater part of the English medical profession are quite conscious that his strictures were more or less warranted by facts. The professor in no way denies that the British army medical service fulfils its duties efficiently under ordinary conditions, probably in a better manner than could be achieved by any other country, but he asserts that it must not be inferred from this that it is in a state to deal with a war against a great power in which large numbers of wounded must fall to be treated. What ever may be the condition of efficiency of the British army medical department, one fact at least has already been made very clear, that is, as regards its inadequacy. As stated in the MEDICAL RECORD of October 21st, the authorities, in order to make up the British army medical service for the one army corps for South Africa to fighting strength, have been compelled to employ a number of contract civil practitioners.

It is said that the British war office is wholly to blame for this unpleasant situation. For many years it is stated there has been constant friction between the army medical authorities and the war office. Some slight changes have been effected and concessions made within the past few years, but until radical and satisfactory reforms have been introduced it will be—according to those in a position to speak from actual knowledge—impossible to place the British army medical service on a sound basis.

Army authorities are too much given to the habit of taking for granted that surgeons can be obtained at any time, and do not sufficiently consider that the training of an army surgeon is just as important as that of the army officer. However, it is to be hoped that the condition of the British army medical department is not nearly so black as it has been painted, and that, contrary to adverse prognostications, it will pass the ordeal in South Africa scathless.

## MORPHINISM, DRINK, AND THE MEDICAL PROFESSION.

ARE physicians more addicted to the morphine habit and to strong drink than members of the other learned professions? Unfortunately it would appear, if statistics may be believed, that the answer to the question must be in the affirmative. Dr. T. D. Crothers at the recent meeting of the New York State Medical Association, averred that after an extended study of the subject, and the collection of statistics, the estimate had been made that ten per cent. of all medical men used morphine. In a work on the morphine habit, published in Paris in 1897, the whole question is threshed out in a fairly exhaustive manner.

Statistics are furnished of one thousand cases collected from all parts of the world showing that of the

male morphinists the medical profession supplies the largest number, forty per cent. According to official statistics collected in 1898 with regard to the prevalence of the morphine habit in Prussia, it appears that of ninety-two male victims of the habit under treatment in institutions in Prussia in the year 1895, nearly one-third belong to the medical profession. The estimate brought forward by Dr. Crothers, that of all medical men ten per cent. were given to the use of morphine, would seem to be somewhat misleading, for the fact must be taken into account that in some countries the drug is not taken to any great extent. In Great Britain, for instance, probably not more than one or two per cent. of the medical men are addicted to the habit, while in France, Germany, and this country the practice is much more prevalent. However, if an average is struck, the estimate supplied by Dr. Crothers may be found more or less accurate.

With regard to the charge brought against physicians of indulging too freely in strong drink, here again it is question to a great extent of locality. In this country medical men do not fly to alcohol to stimulate their jaded nerves to the same degree as is the custom in many other lands. Strong drink is much more freely used for this purpose in Great Britain, Denmark, and Russia among physicians than here. Nevertheless the main point cannot be evaded, viz., that physicians are more addicted to the use of morphine and alcohol than other professional men. This being so, what is the cause? for no one can pretend to assert that the physician is naturally more vicious than his fellow-man, probably the reverse. Are there no extenuating circumstances? If the matter be well looked into, it will quickly be seen clearly enough that there is greater temptation for the doctor to use morphine or a drug of a like nature or alcohol than for a man in any other branch of life. The chief factor is undoubtedly the mental and physical strain forced upon him by the exigences of his profession. The fact must be remembered that the busy doctor is at the beck and call of every one; he has not a moment he can call his own. Often at night, after a heavy day's work, when the minister or lawyer is enjoying the sleep of the just, an urgent message will be sent in, and go he must, maybe to a case involving life or death and requiring the exercise of his utmost skill and intelligence. After such tension of mind and body a reaction will surely supervene. What cause can there be for wonder, then, that the temptation to stimulate or soothe exhausted nature and the tired nerves by means of alcohol or drugs proves too great, and he falls a victim? Again, take, for example, a physician practising in the country in a sparsely populated district, driving long distances by night and day, exposed to all inclemencies of the weather, is there not greater excuse for a man circumstanced thus to resort to a means which will, for a time at least, infuse fresh life and vigor into his body and mind than for him whose pursuits call for no such exertion? Sick people, too are notoriously selfish, and have no consideration for the physician, but expect, however trivial may be their ailments, that when he is sent for he will go promptly; if he does not, in very many instances they will dispense with his services entirely. The medical man is well aware of this idiosyncrasy on the part of his patient, and when fagged out or racked with pain will turn to the baleful drug or the only less harmful alcohol in order to be able to fulfil his engagement.

In speaking in this strain it must be distinctly understood that there is no intention to condone the sin or to palliate the folly of using either drug or spirit in the manner referred to, but we would merely point out that in many instances the long-suffering doctor who has become a victim of the habit should be regarded as an object for pity rather than blame, and would further emphasize our contention that medical men are more exposed to temptation in this respect than are members of other professions. The truth is beyond controversy that the use of morphine, continued as a habit, will lead—and in some cases much more quickly than in others—to mental, moral, and physical destruction, and we would advise in the strongest possible terms that medical men, whatever may be their trials, strictly guard themselves against seeking a panacea in morphine. Once the needle has been inserted and the insidious drug injected into the system, allaying pain, composing the tired nerves, and, for a time, bathing the mind in the waters of Lethe, it will again and again be resorted to for the same purpose, until at length, sometimes gradually, sometimes more rapidly, it will complete the ruin of its slave. Totally to abjure its use is the surest safeguard against this result.

## AN UNPARDONABLE INDIGNITY.

Few greater outrages have been committed upon medical men in New York than the arbitrary arrest last week of two reputable physicians, Drs. Purdy and Maier, who had been called to a charity case, seeing it but once, and who subsequently recommended that the patient, who was a poor woman, should be taken to Bellevue Hospital, where she died a few days later. An autopsy was held, about the results of which there seems to have been some justifiable difference of opinion, and the matter was left to the police for "investigation," it being alleged that the cause of death was criminal abortion. The patient had during life presented the symptoms of acute articular rheumatism and endocarditis, and the existence of pelvic symptoms was not even recognized or suspected by the doctors or by the visiting staff of Bellevue, or, in fact, any one else except the astute coroner's physician. The "investigation" of the police captain consisted in finding out the names of the physicians who had last seen the patient, and after being pilloried in the yellow journals, and subsequently spending a morning in the coroner's court, they were "exonerated" by the coroner and the jury; and will for some time suffer from the stigma of a false arrest in a questionable case.

If this sort of thing is allowed to go on, any doctor may be dragged to a police station at the pleasure of any autocratic coroner or any over-zealous and notoriety-seeking police captain.

## SPORADIC LEPROSY.

If the kindly hearted officials who placed a row-boat within easy reach of the few detained lepers on North Brother Island a couple of years ago thought they had solved the problem of how to care for our lepers, they must since then have realized the inadequacy of their method. Last month one of those who had escaped died in an isolated hut on Blackwell's Island, where it had been found necessary to take him. A second is said to be now occupying the place vacated by his presumably more fortunate companion.

A third, according to a newspaper account, after keeping a gambling-room, losing his capital, and being deserted by his white wife, lived for a time with his cousin, a laundryman, where the police found him bound to the floor with bamboo stakes lacerating his flesh. His fellow-countrymen were chanting about him, it is said, in an attempt to drive out the devils which they thought possessed him. He was removed to a bare top-floor room in Chinatown, known as the "morgue," where, at last accounts, he was reported to be dying. Sing Jug, who died on the island, is said to have contracted the disease in San Francisco.

Just now San Francisco is having troubles of her own growing out of this unsettled problem. The local authorities desire the government to transport one of their residents, a woman with advanced leprosy, to the leper colony which is now ours in Hawaii. The lady objects. The Secretary of War has been unable to reach a decision. In the Record of November 7, 1896, we asked what had become of the strong and urgent resolutions adopted over a year before by the American Dermatological Association, when it met in Washington and devoted a day to the leper question?

The answer has this year been received in a public document approved March 2d, and entitled "An Act for the Investigation of Leprosy":

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Supervising Surgeon-General of the Marine-Hospital Service, under the direction of the Secretary of the Treasury, shall appoint a commission of medical officers of the Marine-Hospital Service to investigate the origin and prevalence of leprosy in the United States, and to report upon what legislation is necessary for the prevention of the spread of this disease; the expenses of this investigation, not exceding the sum of five thousand dollars, to be paid from the fund for preventing the spread of epidemic diseases."

Baltimore has just been relieved by death of a leper woman, Mary Sansoni, who has given the city and hospital authorities considerable trouble in one way and another for many years. When the patient was a young girl, she went to Demerara, British Guiana, and remained for several years, undoubtedly contracting the disease from one of its many subjects in that region. She had come to Baltimore from Allegheny, and refused to return, while Allegheny refused to have her do so. Property-owners secured an injunction against her stay in some old quarantine quarters, so the Johns Hopkins people opened their doors, and there she died.

Death settles the problem for a day. Will the gentlemen of the Marine-Hospital service please get together, do five thousand dollars' worth of investigating, and tell the lawmakers what is required in the premises?

There are plenty of other lepers in this city and elsewhere who are rapidly approaching the point of intolerableness, which causes citizens and city fathers to act in a most uncharitable manner toward these unfortunates. We have repeatedly pointed out means of preventing the spread of the disease on humane and kindly lines. Of course, since the New York board of health pronounced leprosy not contagious, no attempt has been made to seek the remedy in enforced isolation, although, to be sure, the lepra conference recently held in Berlin decided that it was contagious, and declared that isolation was the only remedy. One question for the Marine-Hospital commission to settle will be whether we are to go by the board or by Berlin; whether we are to abide by a home-made decision or one made in Germany, but participated in by the profoundest thinkers in these matters, drawn from all quarters of the globe.

## News of the Week.

**Smallpox** is reported to prevail to an alarming extent in many parts of Texas, and fears are felt of an epidemic spreading this winter unless the State board of health adopts very stringent precautionary measures.

**Monument to an Army Nurse.**—A monument erected by the Daughters of the American Revolution to the memory of Reubena Hyde Walworth, who died of disease contracted while nursing soldiers at Montauk Point a year ago, was unveiled and dedicated in Greenridge Cemetery, Saratoga, on October 18th.

**A Hospital in Cuba Destroyed.**—It is reported that a hospital at Sagua la Grande, Cuba, was destroyed by a tornado on Friday of last week, four of the patients being killed. The hospital was built by the American authorities.

**Unsanitary Conditions at Fort Meade.**—In the annual report of Brig.-Gen. James F. Wade, commanding the department of Dakota, recently made public, it is stated that the three posts and one camp occupied are in very fair condition, with the exception of Fort Meade, which is unsanitary and has reached a point where it is a question of reconstruction or abandonment.

**Doctors in Politics.**—Three well-known physicians of this city are candidates for election to the State Assembly, all of them on the anti-Tammany side. Dr. Nelson H. Henry was elected to the Assembly from the Fifth District last year and is a candidate for re-election. He is a graduate of the College of Physi-

cians and Surgeons in 1879 Dr. Samuel F. Brothers was nominated in the Fourth District by the Citizens' Union, and has been indorsed by the Republicans. He is a graduate of the College of Physicians and Surgeons in 1890. Dr. John Franklin Southmayd, a graduate of the College of Physicians and Surgeons in 1892, is the Republican candidate in the Twenty-sixth District.

**A Medical Meeting Forbidden.**—A congress of railway surgeons, which was to have met in Warsaw on October 20th, has been indefinitely postponed by the Russian minister of railways.

**To Abolish the Side-Saddle.**—It is announced from Cleveland that the Health Protection Association, a local body of sanitary betterers, is about to inaugurate a crusade against the present mode of horseback riding for women. It is asserted that the side-saddle is dangerous, and that a woman should wear divided skirts and bestride the horse man fashion. High hats, corsets, and trailing skirts are also subjects of attack by this association.

**The Guild of St. Luke.**—The annual service in St. Paul's Cathedral, organized by the Guild of St. Luke the Evangelist and Physician, to emphasize the working together of the two professions of religion and medicine for the good of humanity, was held on Thursday evening, October 19th. The bishop of Stepney preached the annual sermon.

**The Medical and Chirurgical Faculty,** which is the State society of Maryland, will hold its semi-annual meeting at Westminster on November 14th. At this meeting the principal points of interest will be the addresses of Dr Flexner, now of the University of Pennsylvania, and of Dr. Barker, of the Johns Hopkins University. These speakers will relate their experience in Manila and give some account of tropical diseases prevalent there. In addition to this Dr. Barker, who visited some of the plague-stricken districts in China, will add something on that subject.

**Laboratory Committee of the American Public Health Association.**—The programme of papers to be presented by this committee at the meeting of the Public Health Association in Minneapolis on October 30th, has been published. The following subjects have been selected for discussion with special reference to co-operative work by the laboratory committee: I. Disinfection; II. Shortening the period of infectiousness in contagious diseases; III Disposal of sewage and waste; IV. Milk and infection by milk; V. Transmission of specimens to laboratory. In addition twenty-one titles of papers on general subjects have been sent to the secretary.

**Restaurants in Cemeteries.**—Last summer the health authorities in the Borough of Brooklyn had some contention with the owners of a cemetery who persisted in renting a building within the cemetery grounds for use as a restaurant and drinking-saloon. In order to prevent any similar misunderstanding in the future, the board of health has now amended section 171 of the Sanitary Code, relating to cemeteries, by adding the following clause: "No food or beverage or other article of human consumption, may be sold, exposed, or offered for sale, within any premises used as a cemetery, in the limits of Greater New York."

**The Famine in India.**—It is feared in India that the present famine will affect a larger area than that of 1896. It is likely to be most severe in the vast tracts of western India.

**Work of the Pasteur Institute in Rome.**—In the recent published report of the Antirabic Institute in Rome, statistics are given of the results of the inoculation treatment since the establishment of the institute. From June 1, 1895, to May 1, 1899, six hundred and thirty persons were treated, of whom ten died, giving a mortality of 0.16 per cent. One hundred and sixty six persons were treated in 1896, with two deaths. In both the fatal cases the patients were children who had been severely bitten in a number of places, and who were brought to the institute sixteen days after. In 1897, of two hundred and twelve cases treated, death occurred in one; in this case, also, the bites were multiple and deep; the disease developed on the nineteenth day of treatment. In 1898, of one hundred and seventy-one patients treated, three died, all during the treatment or within fifteen days of its completion.

**Philadelphia Neurological Society.**—At a stated meeting, held October 23d, Dr. Charles S. Potts exhibited two brothers, about ten and twelve years old respectively, suffering from progressive muscular dystrophy of pseudo-hypertrophic type; and also a man presenting a combination of paraplegia of organic spinal origin and hysteria following severe railway injury. Dr. D. J. McCarthy reported a case of ambulatory automatism, probably of epileptic nature, occurring in a boy of sixteen, with a history of convulsive seizures early in life, who had attacks attended with loss of consciousness and purposive and well-co-ordinated motor manifestations. Dr. F. X. Dercum presented a communication upon a case of hemiplegia, jargon aphasia, hemianopsia, and neuritic pain in the arm of the paralyzed side. He was disposed to consider the lesion as vascular occlusion, probably embolic. Dr. Dercum also recorded a case of acute anterior poliomyelitis with paralysis of all four extremities, occurring in a child, in which lumbar puncture disclosed the presence of the diplococcus of pneumonia in the cerebro-spinal fluid. Dr. Joseph Sailer reported a case of sensory equivalent for the epileptic attack, occurring in a young man, with a previous history of convulsive seizures, who was on several occasions seized with headache, numbness, and tingling on one side of the body, and derangement of vision. Dr. S. M. Hamill reported a case of migraine with aphasia and numbness in one arm, and also with visual hallucinations. Dr. William G. Spiller reported two cases of partial sensory epilepsy, in which after a long history of attacks of migraine convulsive seizures appeared. The analogy between epilepsy and migraine was especially emphasized.

**A Testimonial to Dr. E. Eliot Harris.**—A fitting close to the exceptionally large and successful annual meeting of the New York State Medical Association was the presentation to the chairman of its committee on legislation, Dr. E. Eliot Harris, of a testimonial in recognition of his indefatigable labors and peculiarly valuable services, during the past year, in matters of legislation, notably that designed to check the dispensary abuse. Almost immediately after the dispensary bill had become a law, certain members of the profession, who were most familiar with the details of the work that had been done during the session of the legislature, set on foot a plan by which the medical profession could give evidence, in a substantial way, of its appreciation of what had been so well and so unselfishly done. As a result, there was a quiet gathering in the Mott Memorial Hall on Friday evening, October 27th, of those most interested. Dr. Harris had been beguiled into coming, though completely ignorant of the pleasant surprise in store for him. After he had been presented with a handsome silver tea service, and several appropriate speeches had been made, the evening was given over to social enjoyment and the narration of anecdotes drawn from the experience of the last legislative campaign.

**Philadelphia County Medical Society.** — At a stated meeting held October 11th, Dr. J. M. Anders read a paper entitled, "Gall-stone Crepitus and Friction, with Illustrative Cases," in which he dwelt upon the diagnostic utility of these two phenomena, laying especial stress upon a combination of palpation and percussion in the examination—auscultatory palpation. Dr. E. Laplace read the "Report of a Case of Acute Purulent Peritonitis, Accompanying Appendicitis, Treated by a New Method." The prognosis appearing fatal, after the abdomen was opened and the adhesions were freed, combined permanent irrigation and drainage of the peritoneal cavity were established and continued uninterruptedly for seventy-two hours with physiological saline solution at a temperature of 100° F., some three hundred and sixty pints in all being used. The patient survived. Dr. B. F. Stahl demonstrated a man presenting a "musical heart."

**Philadelphia Pediatric Society.**—At a stated meeting held October 10th, Dr. F. A. Packard exhibited a colored child, four years old, presenting symptoms of both scurvy and rickets. Dr. Packard also demonstrated cerebro-spinal fluid obtained by lumbar puncture from a case of traumatic meningitis, and which, though apparently clear, was found on closer inspection to contain fine floating flocculi. Dr. J. H. McKee exhibited a child, one year old, presenting marked symptoms of rickets, in which the history pointed to the previous existence of scurvy. Dr. L. C. Peter exhibited a case of peripheral facial palsy in a boy, aged about ten years, complicated by herpes zoster in the distribution of the affected nerve. Dr. J. F. Schamberg presented a communication detailing the results of "A Clinical Study of the Lymphatic Glands in One Hundred Cases of Scarlet Fever." Widespread glandular enlargement of varying degree was observed in most of the cases, the inguinal glands exhibiting changes in all. The exanthem must be looked upon as a dermatitis dependent upon toxic influences, and to which the glandular involvement may stand in direct relation. Similar adenopathy may attend other exanthemata. The degree and extent of desquamation will depend upon the intensity of the cutaneous inflammation. Dr. H. A. Marcy, Jr., read a paper entitled "Auto-intoxication as a Cause of Cyclic Vomiting," in which he reported three cases, two of which terminated fatally. In one of the latter a post-mortem examination disclosed necrosis of the membrane of the gastro-intestinal tract with degenerative changes in the parenchymatous viscera. Hypodermic injection of morphine and atropine have proved highly serviceable in the treatment of attacks, and intravenous infusion of saline solution was suggested as a promising measure.

**Give Your Address.**—Dr. Andrew H. Smith writes: "If writers for medical journals would always append their addresses to their contributions, they would receive many more acknowledgments from the busy men to whom they forward their reprints."

**Typhoid Inoculations** have been tried on a large scale in the case of many of the British troops sent to South Africa. This was not made compulsory, but the company commanders were instructed to urge the men to allow themselves to be inoculated, and most of them submitted to the experiment.

**The New York Obstetrical Society.** — At the annual meeting of the New York Obstetrical Society, held on October 10th, the following officers were elected: *President*, Dr. Clement Cleveland; *First Vice-President*, Dr. H. J. Boldt; *Second Vice-President*, Dr. R. Waldo; *Recording Secretary*, Dr. R. L. Dickinson; *Assistant Secretary*, Dr. E. A. Tucker, *Corresponding Secretary*, Dr. E. E. Tull; *Treasurer*, Dr. J. Lee Morrill.

**The Smoke Nuisance.**—There is an encouraging prospect that the soft-coal danger which has for some time been menacing this fair city will be met and removed. The board of health, as we noted last week, has secured the conviction and punishment of certain offenders. The Merchants' Association and other influential bodies are actively furthering the work of the health board, and the United States government officials are moving against the burning of soft coal by tugs and other vessels in the harbor. Complaints of the burning of soft coal by the tugs and lighters of the New York Central Railroad Company and by its freight locomotives having been made, President Callaway of that company promptly gave instructions that such use should cease. In a recent letter, the president of the Merchants' Association said that "this movement is one which is bound to resolve itself into action before the legislature looking toward the absolute prohibition of the use of soft coal in this city, and in making the penalty for its use far more severe than it is now. Complaints have been numerous in many directions, especially against factories in the city, and

the board of health is determined to put an end to this nuisance. New York should be the most attractive city in the country, and the saving in cost attendant upon the use of soft coal is not sufficient to warrant destroying the city's chances in that direction."

"The Lancet" is seventy-six years old, the first number having been issued on Sunday, October 5, 1823.

**The Plague** seems to be definitely established at Quero, near Toledo, in Spain, and at Santos in Brazil, two or three new cases being reported in each place daily. Eleven cases are now under treatment at Santos, and five deaths have occurred since October 17th.

**The Druggists' League** of this city, which endeavored last year to secure the passage of a bill by the legislature regulating the hours of labors for drug clerks, has entered the political arena this year in the hope of defeating the re-election of the opponents of that measure.

**Yellow Fever** is practically epidemic at Jackson, Miss., though there as elsewhere in the South the disease exists in mild form. A case has occurred in the penitentiary. There are also a few cases at Flora, a town about twenty miles from Jackson. A man who arrived here ill with yellow fever on a steamer from Cuba died a few days ago at quarantine. There were no other cases on the vessel.

**Western Surgical and Gynæcological Association.**—The ninth annual meeting of this association will be held at Des Moines, Iowa, December 27 and 28, 1899. Titles of papers should be sent to the secretary, Dr. George H. Simmons, 61 Market Street, Chicago, as soon as convenient, but not later than November 20th, to insure a place on the programme. The president of the association is Dr. H. C. Crowell of Kansas City, Mo.

**Prize of the Massachusetts Association of the Boards of Health.**—A prize of $50 is offered by this association for the best essay on "What shall boards of health do officially with persons who are carrying diphtheria bacilli in their throats or noses, without being ill, to prevent the spread of the disease, and how can these bacilli be most rapidly destroyed?" The essays, which must be typewritten and accompanied by the author's name in a sealed envelope, should be sent before January 15, 1900, to Dr. Henry P. Walcott, 141 State House, Boston, Mass.

**Congresses to be Held in Paris in 1900.**—Announcement is made of over one hundred international congresses which are to be held in Paris during the exposition. A special building is to be erected for the convenience of these assemblies. This building will be about six hundred and fifty by three hundred feet in ground area and some seventy feet in height. The ground floor will contain the exhibits of social economy, and above will be several large halls for the congress talks. It is difficult to think of any question of public or even private interest which will not be open to discussion in one or other of these congresses. Among the subjects of more or less interest to physicians are medicine, medical deontology, homœopathy, dermatology and syphilography, alcoholism, abuse of tobacco, insurance, charities, electricity, botany, chemistry, the blind, deaf-mutes, hygiene, hypnotism, pharmacy, the medical press, psychology, and anthropology.

**Opposition to a New Dispensary.**—A hearing took place last week before Dr. Stephen Smith of the State board of charities, as to whether the board should approve of a charter granted to the Emanuel Hospital and Dispensary, which it is proposed to establish in East Broadway. The reasons given for the establishment of the hospital were that the population of the district was very dense, and that the only other hospital within reach, besides the Gouverneur Hospital, was the Beth Israel Hospital, that had twenty-eight beds. To start the hospital, the papers stated, $40,000 had already been pledged and was available, and as soon as it is started a further amount of $60,000 had been promised. The opponents of the new institution alleged that it was not a charity, but was a business venture of certain physicians and others. They maintained, also, that there was no need of any more medical charities in the lower east side of Manhattan, for there were already existing hospitals and dispensaries with sufficient accommodation, and in addition to this nearly all the inhabitants of the district belonged to lodges and other associations providing medical attendance for their members. No decision was reached, and the hearing was adjourned.

**Medical Matters in the Transvaal War.**—Sir William MacCormac, president of the Royal College of Surgeons, has volunteered for service in the medical department of the British army in South Africa. His position will be that of consulting surgeon with the forces of Gen. Sir Redvers Buller.—In reply to a question in Parliament last week relative to the arrangements made for the care of the wounded in South Africa, Mr. Wyndham, the parliamentary secretary for the War Office, said there were ample stocks of medicines, etc., with all the British forces; but possibly, if the British hospital corps was forced to care for many Boers, the resources would be strained. The government was making provision for that contingency.—The imperial authorities have granted permission for trained nurses and surgeons to be sent from Canada with the Colonial troops, but in view of the demands made upon the space available in the transport *Sardinian*, which has sailed to convey the Canadian volunteers to Cape Town, accommodation could not be found for many extra physicians or nurses.—In a despatch to *The Sun* regarding the Boer medical service it is stated that the Transvaal has the Red Cross society and an efficient St. John's ambulance society as auxiliaries to the regular military medical corps. The latter is well equipped, but is perhaps numerically too weak. It was mobilized before the burghers were called to arms. When the war commenced several railroad trains were made ready fitted with swing beds and all modern conveniences for alleviating suf-

fering. A field hospital was attached to every commando and the hospital headquarters fixed at Pretoria, to which place all the burghers wounded within reach of the railway will be sent with the least possible delay. The women of Pretoria and Johannesburg responded numerously to the invitation to do volunteer duty in nursing, "for the sake of their Lord and their country," as the appeal read. A. H. Bleksey, chief representative in the Transvaal for St. John's Ambulance Society, with Drs. Croghan, Lillpopp, and Mangold, organized classes, and lessons in nursing and first aid to the wounded and other useful instruction were given. Several hundred women attended the classes. As soon as a sufficient number had been trained, the English nurses were turned out of the Johannesburg hospitals, Dr. Mangold asserting that none but Dutch women were fit to nurse the Dutch. —A number of American women residing in London have undertaken to raise £30,000 within two weeks for the purpose of equipping a hospital ship which will be sent to South Africa. The British government has turned over to them the *Maine*, which the Atlantic Transport Line presented for the purpose, and the American women will equip the *Maine* with a complete medical outfit. A firm of manufacturing chemists will give all the medicines and drugs. The ship will accommodate two hundred patients, and will have a staff of four doctors, five nurses, and forty non-commissioned officers and orderlies.

**Bequests to Hospitals.**—According to the will of the late Cornelius Vanderbilt, St. Luke's Hospital in this city will receive $50,000, and the Newport (R. I.) Hospital $10,000. Yale University will receive $100,000.

**Burning of a Hospital.**—The City Home and Hospital, in Findlay, Ohio, was destroyed by fire on October 23d. The fire was caused by the crossing of two electric wires. The patients were removed, the last being taken out but a moment before the walls fell. Seven of them are, however, in a precarious condition from the exposure and excitement.

**"The American Medical Quarterly"** is the name of a new publication, the second number of which, bearing date of September, 1899, is before us. The editor is Dr. William Warren Potter, which fact in itself is a sufficient guarantee of excellence. The contributors to this number are Drs. A. Jacobi, Joseph Price, F. R. Sturgis, Edward Brush, Adam Wright, Mathew D. Mann, and Nelson W. Wilson. There is a very good portrait of Dr. Joseph D. Bryant, recently president of the New York State Medical Association.

**The Exhibit of the Johns Hopkins University,** including that of the Medical School, for the Paris Exposition, is now being prepared by the librarian of the university, and will be forwarded in December. This collection will form a part of the educational exhibit of the United States. Articles relating to the scientific publications of the university will be sent, also to work in the physical laboratory, in geology, and in the biological sciences, especially in anatomy, physiology, and pathology. The exhibit of the Medical School will be included in this last division. It will consist of plates illustrating the work done in the laboratory courses, and of publications reporting the original investigations which are being carried on under the auspices of the Medical School. There will probably be examples of the laboratory work of the students.

**The Baltimore Hospital for Consumptives.**—Improvements are to be made in the Hospital for Consumptives of Baltimore. An addition to the present hospital will be built, together with a cottage for pay patients who desire treatment. Improvements in the sanitary condition will also be made.

**Typhoid Fever in Alaska.**—Advices from Cape Nome, Alaska, brought by a steamship which left there October 6th, say that typhoid fever in severe form has broken out in the camp. More than two hundred and fifty patients were in the hospital, and five deaths had occurred.

**The Southern Surgical and Gynæcological Association.**—The annual meeting of this association will be held in New Orleans on Tuesday, Wednesday, and Thursday, December 5, 6, and 7, 1899. The president of the association is Dr. Joseph Taber Johnson, of Washington, and the secretary Dr. William E. B. Davis, of Birmingham, Ala., to whom intending readers of papers should send the title of the same.

**Petroleum as a Prophylactic of Malaria.**—It is reported from Sierra Leone that those who are engaged in investigating the mosquito theory of malaria in that district poured a drachm of kerosene oil, as an experiment, upon a puddle about a square yard in area, floating on which were numbers of Anopheles larvæ, with the result that after six hours all the larvæ were found to be dead.

**The Liverpool Tropical Expedition,** under the lead of Surgeon-Major Ronald Ross, has returned from West Africa. The members of the expedition report that there is every reason to hope that the country can be made entirely possible as a residence for Europeans. They say that other conditions are favorable to health, there is a good water supply, and if Europeans are careful both in their mode of living and house construction they will have every chance of health after the malarial mosquito has been exterminated. Only one member of the expedition suffered from malaria. He slept for one night without a mosquito bar, and was thus infected.

**The Question of an International Language** will seemingly not down, yet its solution is apparently as far off as ever. The *British Medical Journal* says that, on the invitation of the Prussian Academy of Sciences, delegates of all the European scientific academies have met in Wiesbaden for the discussion of some questions of international importance. Opinions are to be taken as to the possibility of establishing a uniform scientific language, and a uniform language for general

intercourse—Latin for the former, English for the latter. Whether this result will be attained by the Wiesbaden meeting, and whether it is attainable at all in our present multinational civilization, our contemporary thinks, is very questionable. "But the fact that distinguished and eminent representatives of science have come together from all European states and from America for the purpose of seeking a way toward the realization of more complete mutual understanding, thus forming, so to speak, a peace conference of science—this fact in itself is of the highest significance."

**Navy Department,** Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending October 27, 1899. October 20th.—Medical Director M. C. Drennan promoted to medical inspector. Medical Inspector J. C. Wise ordered to duty as member of the naval examining-board, Washington, D. C., November 1st. Surgeon W. A. McClurg detached from duty as member of the naval examining-board, Washington, D. C., November 1st, and ordered home and to be ready for orders for sea service. October 21st.—Passed Assistant Surgeon C. E. Riggs ordered to the marine recruiting rendezvous, New York, November 1st. October 24th.—Medical Director M. C. Drennan retired October 24th, under section 1453 Revised Statutes and section 11 navy personnel law. October 25th.—Medical Director C. J. Cleborne detached from duty in charge of the naval hospital, Philadelphia, Pa., November 1st, and ordered to Washington, D. C., November 2d, for examination for retirement and then home to wait orders. Medical Inspector R. A. Marmion ordered to duty in charge of naval hospital, Philadelphia, Pa., November 1st. Passed Assistant Surgeon C. H. T. Lowndes detached from the *Princeton* and ordered home by the first public conveyance. Assistant Surgeon O. M. Eakins appointed from October 21st. October 26th.—Medical Director J. C. Boyd promoted to medical inspector. Assistant Surgeon R. C. Holcomb detached from duty at the Naval Academy, Annapolis, Md., and ordered to the *Solace*, November 9th, for duty in connection with battalion of marines for Manila. October 27th. —Assistant Surgeon R. Spear detached from the *New York* to home and sick leave two months. October 27th (changes from Asiatic station, by cablegram).—Assistant Surgeon M. V. Stone detached from the *Brutus* and ordered to the island of Guam.

**Dr. Richard Grady,** of Baltimore, has been appointed dentist to the Naval Academy, this appointment being the result of a competitive examination open to all dentists. There were more than thirty applicants from Baltimore and Washington, and one from California. The salary attached is $1,600. Dr. Grady is a graduate in medicine as well as in dentistry.

**Diphtheria** prevails to an unusual extent in many of the small towns in southern Ohio on the banks of the Ohio River, and in many of the places it has been found necessary to close the public schools. In Princeton, N. J., also the public schools have been closed because of the appearance of this disease in many parts of the town. Most of the cases reported have been of a mild type, and the deaths have been fewer.

**A Maryland Laryngological Society.**—The throat physicians of Maryland are about to form a Laryngological Society.

**A Thief in a Hospital.**—A man went to the Orange (N. J.) Memorial Hospital one day last week, and said he had been sent by the local electric company to see what repairs were needed by the electric-lighting system in the hospital, and also to measure the nurses' home for wiring. He was allowed to go through the place, making measurements, and apparently taking notes of defective lights and places where new lights were needed. But soon after he had finished his work and gone away it was found that he had taken money, watches, and jewelry, and whatever else was portable and of any value.

**Pathological Society of Philadelphia.**—At a stated meeting held October 26th, Dr. J. H. Lloyd exhibited a brain tumor in the antero-frontal region, of which symptoms had been present for four years, and most prominently hemiplegia, headache, frontal ataxia, astasia-abasia, but no convulsion. The tumor was an infiltrating growth, probably gliosarcoma. Dr. H. W. Cattell reported "A Case of Hypertrophic Cirrhosis of the Liver." Dr. M. H. Fussell exhibited specimens of mitral stenosis with renal calculus, in which distinctive symptoms were unobserved during life, although the lesions were marked, the ureter on the affected side being occluded and the kidney largely disorganized. Drs. De W. H. Sherman and W. G. Spiller reported "A Case of Acute Poliomyelencephalitis in an Adult," occurring in a medical student in the sequence of infection at autopsy. The inflammatory reaction was not strictly confined to the gray matter of the anterior horns and the basal ganglia, though most pronounced in these parts. The opinion was expressed that the disease might arise from the activity of any one of a number of bacteria. Drs. W. M. Welch and D. Riesman exhibited specimens from a case of typhus fever. The patient had been a Hungarian immigrant just arrived and received into the Municipal Hospital. The spleen was enlarged, the mediastinum was emphysematous, the kidneys were inflamed, and the liver exhibited focal necrosis. Bacteriologic examination of the heart's blood disclosed only the presence of the staphylococcus albus. The Widal reaction had yielded negative results. Dr. D. J. McCarthy read a communication entitled, "Iron Filtration in Ganglion Cells," reporting the results of a histological study of the brain from a case of central tumor, and the brain from a rabbit dead of experimental snake-poisoning, in both of which chromatolysis of the Purkinjé cells of the cerebellum was found. Dr. D. Riesman exhibited specimens from a young lioness dead in consequence of occlusion of the larynx by a large piece of meat. The organs were in a normal condition, but were interesting from the viewpoint of comparative anatomy.

**Obituary Notes.**—Dr. P. A. Boyer, chief burgess of Selin's Grove, Pa., died on October 23d, at the age of forty-three years. He was graduated from the medical department of the University of Pennsylvania in 1881, and was a member of the State board of vital statistics.—Dr. C. Russell L. Jakes, of Wilmington, Del., died suddenly of heart disease at Philadelphia, on October 26th, at the age of forty-five years. During the recent war he was assistant surgeon to the First Delaware regiment.—Dr. William R. Maddox, of Washington, D. C., died on October 25th, at his country residence near that city, from pulmonary hemorrhage. He was born in Erie, Pa., in 1854, and was graduated from the Jefferson Medical College in 1877.—Dr. Thomas Jefferson Jackson, of Springfield, N. J., died on October 26th, of disease of the heart, following pneumonia. He was born in Baltimore County, Md., in 1849, and was graduated from the College of Physicians and Surgeons, Baltimore, in the class of 1880.—Dr. Ernest Diese died at Philadelphia on October 30th, at the age of seventy-eight years. He was a graduate of the German University of Jena, but had lived and practised his profession in this county for forty-eight years.

## Surgical Suggestions.

**Diagnosis of Relaxation of the Pelvic Outlet.**—The following conditions which are of diagnostic importance are present: (1) Backward dislocation of the perineum; (2) bulging of the perineum, which diminishes or destroys the concavities in the perineum; (3) diminished resistance of the perineum on palpation; (4) protrusion of the recto-vaginal or vesico-vaginal walls.—J. T. Watkins.

**Treatment of Displacements of the Uterus by Operation: Based on Two Hundred Cases.**—If the uterus is too long, the cervix is amputated by the method of Schroeder; if chronically inflamed, it is dilated, curetted, and treated with rest, hot douches, iodine, boroglyceride tampon, until its size and weight are reduced. If the vaginal outlet is torn or relaxed, it is tightened up by means of anterior and posterior colporrhaphy. If it is absolutely certain that there are no adhesions, and that the tubes and ovaries are healthy, Alexander's operation is performed. If there is the slightest doubt as to the mobility of the uterus, ventro-fixation is chosen.—J. Lapthorn Smith.

**Treatment of Indolent Ulcers.**—Marcuse describes a method of treatment for troublesome ulcers of the leg which he has found more efficacious than elastic bandages or sticking-plaster In cases of large ulcers which have been neglected for a long time, and are constantly pouring out a copious secretion, or callous ulcer with sharp indurated edges, the author has found that the application of wet bandages moistened with Burow's solution, subsequently followed by the zinc-glycerin glue, has an excellent effect. The composition of the solution is as follows: Alum pulv., 5.0; plumb. acet., 25.0; aq. destil., 500.0. A more convenient form for use in general practice would be: Alum, 10 parts; plumb. acet., 50 parts; both powders to be well mixed in a litre of water. The application of this lotion is found to have an astringent action on the ulcer without causing dryness. It is antiseptic, and lessens tension and pain. The moist warmth in the case of the callous ulcer has a powerful effect in lessening the induration and improving the general vascularity of the part. The patient should be kept in bed for some weeks. The method of application consists in cutting a large piece of ordinary gauze dressing, so that the skin for several inches round the ulcer is covered. The gauze is moistened with the lotion and then applied, the whole being covered with gutta-percha tissue. After a short time sulphate of lead is precipitated.—*International Medical Magazine*, July.

**Indications for Cholecystectomy.**—(1) When, after cholecystotomy, the gall bladder is constricted and cannot be sutured to the parietes, and it is assumed that the comomn duct is clear; (2) when suppurative changes in the wall of the gall bladder have rendered suture impossible; (3) when there is complete obliteration of the cystic duct.—Robson.

**Gynæcological Hints.**—Give iron when the menses are scanty and lack color; give arsenic when the flow is too profuse, prolonged, or frequent.—Fordyce Barker.

Chronic leucorrhœa of long standing can be cured only by persevering in frequent local use of astringents through a speculum, together with hot vaginal injections.—Mundé.

All pelvic congestions are venous, and the term "chronic inflammation," so far as it applies to the organs in that cavity, is a misnomer, because the arterial vessels are not involved in that process.—Emmet.

The most common displacement of the ovary is dislocation downward into the retro-uterine pouch, to which the name of prolapse has been improperly given. —Tait.

Cancer of the womb usually begins on the vaginal portion of the cervix, and consequently has to bear the brunt of the insults of coition and parturition.—Goodell.

Tepid vaginal injections, so generally recommended and inadvertently used by patients in place of hot injections, have no positive therapeutic effect whatever. —Barnes.

**Epidemic Cerebro-Spinal Meningitis and Lumbar Puncture.**—Dr. J. L. Hirsch (*New York Medical Journal*, August 19th) says: "As to the therapeutic value of lumbar puncture all do not agree. By relieving abnormal pressure, and probably by getting rid of some of the toxins, the beneficial results can readily be conceived. The technique of the operation is simple and the pain to the patient is but slight. In children I have found the best position to be with the child lying on its right side and its back slightly arched, so that the spinous processes stand out prominently. Many prefer the child in the sitting position. The puncture is to be made between the second and third, or the third and fourth, lumbar vertebræ. The needle, from 5 to 8 cm. long, is thrust in about 1 to 2 mm. from the median line, so as to avoid the strong intraspinous ligament. When the needle is within the spinal canal its point can be felt to move freely; if the fluid does not flow spontaneously, slight suction may be made with a hypodermic syringe. Needless to add that all antiseptic precautions must be observed. A procedure so simple, so readily carried out, and so absolutely devoid of danger, has, I think, no contra-indications for diagnostic, if not for therapeutical purposes.

**Indications for Enucleation.**—Knapp (Norris and Oliver's System) mentions the following: (1) In intolerable pain with incurable blindness; (2) in pain, inflammation, hemorrhage, photopsia, and other irritative symptoms in chronic irido-cyclitis, glaucoma, phthisis bulbi, etc., in one eye, which is blind, or surely will be blind, irrespective of the other; (3) in eyes so extensively injured that a recovery is not to be thought of; (4) in intra-ocular malignant gliomas and sarcomas, except when they are small and situated in

the iris, so that they can be radically removed; (5) in epi-ocular malignant tumors, if they cannot be removed without destroying the eye, (6) in orbital tumors that threaten life, if it is impossible to remove them without sacrificing the eye; (7) in staphyloma and macropthalmus, if the eye is blind and becomes unsightly and troublesome, (8) in panophthalmitis, conditionally; (9) in the presence of foreign bodies in the eye that cannot be removed, and cause trouble, inflammation, and blindness; (10) in traumatic iridocyclitis, to prevent or cure sympathetic ophthalmia.

**Hydrocele.**—In cases of complicated, doubtful, or old hydrocele, resection of the tunica vaginalis should be done. In simple cases, the injection method is preferable, using 5 cm. of pure tincture of iodine, after first emptying the sac and cocainizing.—MALHERBE.

**Condyloid Fractures.**—It has been my practice to treat these fractures with the elbow extended, and carefully to compare the injured with the sound limb, in order to preserve by my splints the humero-ulnar angle. The position advocated seems to relax the important displacing muscles.—JOHN R. ROBERTS.

**The Drainage Tube** will never be resumed in operations for cancer of the breast. It is a foreign body and only delays repair while admitting air to the wound. Seal up the wound with aristol collodion. Should suppuration occur in any portion, cleanse with peroxide of hydrogen, and apply tincture of iodine to the pus cavity.—DANIEL LEWIS.

**Radical Cure of Hernia.**—When we consider the high percentage of cures and practical freedom from danger in these operations; that a patient may in two weeks, without pain and with little inconvenience, be freed from the danger of strangulation, the burden of a truss, and the constant sense of insecurity—when we consider these facts, it is incomprehensible that all physicians do not advise the radical cure for all their patients, except those rare cases in which, for special reasons, operation is contraindicated.—BUCHANAN, of Pittsburg.

**Pyelitis.**—The modern treatment for pyelitis will remain, after medical means fail, incision and drainage; if this fails, nephrectomy. Some have favored primary nephrectomy, because the secondary, when the fatty capsule has changed into fibrous tissue and intimate adhesions have formed, is more difficult of execution, but the danger of nephrectomy is certainly greater than that of nephrotomy, and many a kidney which seemed doomed has resumed its work entirely or partially at least.—MARCELL HARTWIG, *Buffalo Medical Journal*, January.

**Appendicitis.**—Dr. Carl Beck sums up the following conclusions (*Sammlung klinischer Vorträge*, No. 221): (1) Appendicitis is a surgical disease and should be treated surgically as soon as diagnosed. (2) Since it is impossible in the early stage to estimate the virulence of the infection, the best therapy is the removal of the appendix. (3) If the patient objects, the opium treatment is to be adopted, and after the attack the patient should be impressed with the necessity of an operation. (4) If a competent surgeon is not at hand, or the surroundings are unfavorable, the expectant treatment is to be adopted and an operation performed later. (5) In consideration of the fact that the mortality of a simple appendectomy is almost *nil*, the operation should be strongly advised after the first attack.

**Pelvic Abscess.**—The objections that may be reasonably urged against the vaginal route is that it is necessary to depend upon the sense of touch altogether; it is work in the dark. In pelvic abscess, when it is found necessary to remove adherent appendages, the operation through the vagina is very difficult, and injury to the intestines and ureters is likely to occur. In cases in which the abscess reaches low in the pelvis, pointing into Douglas' pouch, I certainly would prefer the vaginal route, believing that there would be less danger of infecting the general peritoneal cavity in operating through the vagina. Mere incision and drainage should be practised only in desperate cases, in which the condition of the patient will not admit of a more formidable operation. Patients quite often make a complete recovery from incision, irrigation, and drainage; but as it is often found necessary to operate the second time to complete the cure, it is always advisable, when the condition of the patient will admit, to make a complete operation at first. Pus cases do not stand well prolonged anæsthesia and shock, so it is very necessary to operate quickly, and I recommend thorough irrigation and drainage.—O. B. CAMPBELL, *New York Medical Times*.

**A Few Points Concerning Chloroform Anæsthesia.**—Dr. A. Paul Heineck (*Medical Standard*, July) says: (1) Always reduce to the minimum consistent with full and complete anæsthesia the amount of chloroform vapor inhaled. Do not administer chloroform from a towel. An overdose is too easily given this way. By autopsies and experiments, Heintz has proven that chloroform inhaled for long periods produces, through a slow secondary action, pathological changes in the organs, capable of causing death, one or several days after the anæsthesia. By lessening the dose of chloroform the liability to undesirable after-effects is lessened.

(2) Avoid the continuous action of chloroform on the organs by allowing at least one week to elapse between two chloroformizations in the same individual. The elimination of chloroform inhaled is completely effected only in about a week. The secondary action of chloroform exhausts itself also in about a week. Both elimination of the chloroform inhaled and its secondary action must be at an end before more chloroform is introduced in the system.

(3) Always be very watchful while administering chloroform to individuals suffering from renal or hepatic insufficiency. These subjects offer to chloroform, as they also do to other intoxicants, as, for instance, sepsis, an impaired resistance.

(4) Use an Esmarch inhaler in administering chloroform. Give this agent well diluted with air. Give it drop by drop. Danger of an overdose is thereby lessened. "Quantity is the all-important factor in chloroform anæsthesia. I am convinced that death is nearly always due to unskilful administration, and that unskilful administration is the administration of an overdose" (Waller). Chloroform should always be given with about ninety-five per cent. of air. At the beginning of anæsthesia hold the inhaler some inches from the mouth and nose, so that the chloroform will be diluted with air. By doing this the sense of suffocation which is so trying to the patient, and so provocative of struggling, will often be prevented. Asphyxia taking place within a few minutes from the commencement of the anæsthesia can be caused by a too highly concentrated vapor of chloroform. If the patient struggles violently, breathes irregularly, or holds his breath, remove the cap and have the patient take a breath of fresh air before the administration is proceeded with.

(5) The following conditions, occurring under chloroform anæsthesia, are signs of impending danger: (*a*) Sudden dilatation of the pupil; (*b*) shallow, sighing respirations, (*c*) absence of pulse, rapid, irregular or intermittent pulse; (*d*) sudden paleness or sudden lividity of countenance.

# Society Reports.

## NEW YORK STATE MEDICAL ASSOCIATION.

*Sixteenth Annual Meeting, Held in the New York Academy of Medicine, October 24, 25, and 26, 1899.*

JOSEPH D. BRYANT, M.D., OF NEW YORK, PRESIDENT.

*Third Day—Thursday, October 26th.*

(Concluded from page 644.)

**The Sphere of Drainage in Surgery of the Appendix.**—DR. WILLIAM STEVENSON MACLAREN, of Litchfield, Conn., read this paper (see page 617).

**Appendicitis—Its Treatment from a Medical and Surgical Standpoint.**—DR. THOMAS B. SCULLY, of Oneida County, was the author of this paper. He said that if more attention was paid to the cause of appendicitis there would be less confusion regarding the best treatment to be pursued. He favored the administration, in the early stages, of divided doses of calomel and soda, and the use of a high enema, given by the physician or by an experienced nurse. He also advocated the use of cold applications. While not objecting to the use of morphine in the early stages, he preferred to combine it with strychnine, giving them hypodermically. The locking up of the secretions would be overcome by this combination with strychnine. He had not found that this treatment masked the symptoms or led the physician astray. However, if there were no signs of amelioration after the first twenty-four hours, the physician should call a surgeon to his aid. He was of the opinion that when operation seemed to be demanded the appendix should be removed in all cases in which this was possible. He did not think an inch-and-a-half incision was any safer than one twice that length. He was of the opinion that too many sutures were used in approximating the peritoneum and the other layers of tissue, and that these tended to strangulate the circulation in the parts. Peroxide of hydrogen acted beautifully as a disinfectant within the cavity.

DR. ROCHESTER thought the author had been inconsistent in advising morphine, strychnine, and sulphate of magnesia. If sulphate of magnesia was to be used, morphine should be withheld, and the combination of morphine with strychnine did not seem rational, because the morphine was intended to quiet peristalsis, while strychnine would excite this muscular action of the bowel. Personally, he was one of those who believed that acute appendicitis should not be operated on in the acute stage, but should be treated with large doses of morphine, according to the old method of Alonzo Clark. The morphine should be given in doses not merely sufficient to quiet pain but to reduce the respirations to four or eight per minute. Cases were cited from his own experience, to prove the excellent results obtainable by this method.

DR. EDEN V. DELPHEY, of New York, said that it was not always a question of when or how to operate in appendicitis, but whether or not to operate, and proceeded to give cases illustrative of this point.

DR. LEROY J. BROOKS, of Norwich, pointed out some of the difficulties in the way of early operation in country practice.

DR. SCULLY, in closing the discussion, said that morphine was commonly given with atropine, and it was the latter that was chiefly responsible for the locking up of the secretions. The opium treatment was not in accord with the view commonly held by physicians of the present day, that the cleaning out of the intestinal tract was the great desideratum. By giving morphine with strychnine the nervous irritability of the sufferer would be allayed without interfering with intestinal peristalsis or locking up the secretions.

**Cholangiostomy, with Report of Two Successful Cases.**—DR. MERRILL RICKETTS, of Cincinnati presented a brief paper with this title. Its object was to consider hepatostomy for the sole purpose of removing biliary concretions contained within the intrahepatic bile ducts and bladder, and to report two hepatostomies on the human being, one for exploration and the other for the removal of a concretion within the biliary bladder. He stated that while incision into the liver for the evacuation of a pus cavity had become an established procedure incision into hepatic tissue for the purpose of extracting concretions had been limited to only three or four cases. In cases of hepatic abscess the liver was softened and much more congested than when incision was practised for the extraction of concretions; moreover, it was highly probable that the hepatic abscess had been so walled off as to prevent, to a great degree, interstitial hemorrhage. Intrahepatic ligation could be resorted to, if necessary, in cases of excessive hemorrhage. The operation of hepatostomy might be required in the following conditions: (1) When the gall bladder was contracted upon one or more concretions, or when it was desirable to explore an atrophied biliary cyst that could not be sutured within the abdominal incision, and where cholecystectomy was not necessary or advisable; (2) when, from any cause the lobe of the liver was too large to allow the gall bladder to be brought into the abdominal incision for suturing, (3) when one or more concretions had escaped from the biliary tract into the liver substance; (4) when one or more concretions had become encysted or impacted within the intrahepatic ducts, (5) when the common and cystic ducts had become occluded by a new growth, or the common duct had become occluded by a new growth and the gall bladder atrophied to such a degree as to prevent cholecystenterostomy or cholecystotomy; (6) when, before or after opening the peritoneal cavity, it was found that a hepatic abscess had ruptured into the biliary tract, filling the gall bladder with pus that could not freely escape through the common duct. It was advised that the operation be done in two sittings, the object of the first being to reach the capsule, and of the second to enter the liver tissue after sufficient time had been given for the cut edges of the peritoneum to become adherent to the capsule—ordinarily an interval of three or four days.

**The Differential Diagnosis between Chronic Joint Disease and Traumatic Neurosis.**—DR. REGINALD H. SAVRE, of New York, presented this communication. He said that cases in which there was no joint inflammation often presented symptoms so much like arthritis as to mislead even experienced physicians. Such mistakes were largely the result of carelessness in making the examination or in eliciting the history. Many cases of injury were followed by affections of the nervous system, even when there was no legal suit involved. In cases of true joint disease one of the best guides to the extent of the destructive process in the bone was the thermometer. If the inflammation was superficial the local rise of temperature could often be appreciated by the hand. One of the first symptoms of an inflammation of a joint was involuntary spasm of the muscles controlling that joint. One of the peculiarities of this spasm was that passive motion could often be made through a certain distance without causing pain. If in a spinal case there was tenderness along the whole of the spine, it almost certainly indicated the neurotic nature of the affection. The facial expression of the neurotic pa-

tient would often prove a useful aid in diagnosis. The chief points to remember were: (1) Neurosis was apt to follow injury sooner than joint disease; (2) the temperature was usually lowered in a neurosis, and elevated in inflammation of a joint; (3) the local temperature was usually much lower in cases of neurosis than in joint disease; (4) atrophy progressed more rapidly after injury to a nerve, (5) true muscular spasm was not present except in joint disease, though it may be simulated.

**Subnormal Temperature.**—Dr. Leroy J. Brooks, of Norwich, presented this paper, which was a continuation of one read at the last annual meeting. The paper dealt with the possible value of a subnormal temperature as a means of predicting a recurrence of melancholia, epileptic attacks, dipsomania, and nervous exhaustion, and discussed the various forms of toxæmia and autointoxication and their relation to lowered body temperature.

Dr. Edward D. Fisher, of New York, in discussing the paper, said that, among physicians in hospitals for the insane, it had been generally conceded that insanity, as a rule, ran a non-febrile course, with the exception of attacks of acute mania. In cases of melancholia, stuporous insanity, or dementia—in other words, in those characterized by very little activity—the body temperature was apt to be slightly below the normal. It was well known that, in the normal individual, muscular exercise was associated with a certain rise of temperature, and there was good authority for the statement that this increased temperature was dependent upon muscular action. According to his experience, the study of the body temperature in the insane had afforded very little information as to the onset or recurrence of an attack. The temperature changes in epileptics were not of sufficient importance to serve as a guide to the physician as to the approach of a seizure. In the ordinary epileptic there was rarely a perceptible rise of temperature; elevations of temperature were observed chiefly in those cases in which the convulsions succeeded one another quite rapidly, and gave rise to the condition known as the *status epilepticus*. The elevation or depression of the temperature of the body did not seem to be an important factor in either nervous or mental diseases, and its occurrence could be explained by intercurrent maladies or by too little or too great muscular activity.

**Etiological Relation of Auto-Infection and Auto-Intoxication to Diseases of the Eye.**—Dr. Alvin A. Hubbell, of Buffalo, read this paper. He said that by auto-intoxication was meant a self-poisoning, whether by excess or retention of normal products, or by abnormal products generated in the body. Auto-infection, on the other hand, was a direct germ invasion. Uricacidæmia was probably an example of an auto-intoxication resulting from an accumulation of a normal product. An excess of the secretion of the thyroid gland was now thought by many to explain the condition known as exophthalmic goitre. Retinitis might always be regarded as the result of some poison circulating in the blood. Optic neuritis, both in its papillary and retrobular forms, was distinctly a toxic affection. He believed that sympathetic ophthalmia furnished another illustration of auto-infection or auto-intoxication, not in the sense that germs were transported from the injured eye to the sound eye, but in the sense that the uveal tract of the sound eye, by the lowering of its vitality through the extreme reflex and vasomotor disturbance kept up by the foreign body in it, so injured the other eye that it became a true poison, and induced a most obstinate and uncontrollable inflammation.

**The Effects of Certain Occupations on the Pharynx.**—Dr. Seymour Oppenheimer, of New York, was the author of this paper. The paper was based upon a study of fifty cases, a familiar type being the granular pharyngitis and congested larynx of the public speaker. The age of the patient did not, in itself, bear any relation to the development of catarrhal affections of the laryngeal mucosa, but the statements of those engaged in such occupations as weaving showed quite clearly that the younger the person at the time of entering upon such an occupation, the greater the liability to ill effects. The inhalation of dust vapors and chemical agents were the most important exciting causes. The changes so produced were those of acute congestion and inflammation, and the resulting pharyngitis differed in no way from the ordinary form. Those already affected with pharyngitis before beginning such work were naturally those who suffered first and most severely from the irritation produced by their special occupation.

Dr. George B. Hope, of New York, said that there was no course of local treatment which would meet more than a comparatively limited number of such cases, in the majority, more could be accomplished through constitutional than local medication.

Dr. Robert C. Myles and Dr. Henry Risch continued the discussion, taking the ground that neglected pathological conditions of the upper respiratory passages were very important predisposing factors. The individual differences in irritability were also dwelt upon.

**The Topical Application of Iodoform in the Treatment of Tuberculous Peritonitis**—Dr. Zera J. Lusk, of Warsaw, contributed this paper. He was of the opinion that in topical application of iodoform was to be found a most potent means of treating tuberculous peritonitis. The method consisted in the application of the remedy in the form of an "iodoform poultice." Illustrative cases were narrated.

**An Epidemic of Intercostal Neuralgia.**—Dr. Thomas F. Reilly, of New York, read a communication on this subject. The paper was founded on a series of fourteen cases, seen last summer within a period of five weeks, which had been characterized by chilliness and malaise, lasting for a few hours, and followed by pain along the intercostal nerves. This had increased rapidly in intensity, and had been associated with a mild febrile movement. After three or four hours the pain had disappeared and the temperature dropped. At the same hour on the following day the pain would recur, and after three or four days there would be, in most cases, a profuse herpetic eruption. The spleen had not been enlarged in any cases. In four of the cases the herpes had been along the course of the intercostal nerves; in eight it had been on the face. Pruritus of the entire body had been observed in several of the cases. Obstinate constipation had been a marked feature in nearly all. All the cases examined for leucocytosis had shown this condition to be present. In none had there been the tender point characteristic of ordinary intercostal neuralgia. Three cases had occurred in one house, two in another, and two in still another house. The mean temperature of the atmosphere, according to the report of the local forecaster, had been slightly low for this period, but there had been no unusual meteorological conditions. Quinine had seemed to have no effect, and a previous malarial history had been wanting. A very similar epidemic had been reported, the speaker said, in a small German city, and had comprised about one hundred cases. The reporter of these cases was of the opinion that it was an acute infectious disease. Strapping of the thorax with rubber plaster had given great relief in those cases in which there had been no eruption of herpes zoster present in this region.

**Suppurative Ethmoiditis and Its Treatment.**—Dr. Frank S. Milbury, of Brooklyn, read this paper.

He stated that severe ethmoiditis was often followed by necrosis. All parts of the ethmoid might be inflamed, but when the inflammation went on to suppuration the affection became most formidable. The antrum was implicated in over fifty per cent. Personally he had found suppurative ethmoiditis rather frequent and necrosis quite rare. The pain was usually referred to the base of the nose and under the orbit, or to the back of the eyeball. If a simple inflammation, it usually subsided spontaneously, but the suppurative form sometimes lasted for months or years. The treatment should consist in cleansing the nasal cavity with some antiseptic solution and in removing all obstructions to free drainage. The wholesale removal of the turbinates was absolutely uncalled for. Recent cases would respond rather quickly to treatment, but those of two or more years' standing were extremely obstinate, and he was doubtful if complete recovery took place at all. In his thirty-nine cases the maxillary sinus had been involved in sixteen.

Dr. Francis J. Quinlan, of New York, said that it was to be regretted that many specialists did not dwell sufficiently on the conditions of the system leading up to these so-called vascular hypertrophies and their attendant evils. Personally he believed that many of these hypertrophies of the nasal fossæ, as well as lymphoid thickenings of the base of the tongue, were, in a great many instances, due to some deterioration of the health, and especially to the uric-acid diathesis Under constitutional treatment, many of these enormous vascular hypertrophies would tone down, the spaces would open up, and the normal drainage would be restored. The importance of securing this was obvious to those who fully appreciated the important respiratory function of the nose.

Dr. Robert C. Myles called attention to the necessity for sharply distinguishing between unilateral and bilateral suppurative ethmoiditis. Double chronic suppurative ethmoiditis was usually the result of polypoid degeneration of the ethmoid bone. Here the original cause was evidently some structural change in the bone, resulting in a passive or watery œdema, which, in turn, gave rise to polypoid change and sufficient interference with the nutrition of the bone to lead to its destruction. If suppuration occurred, it was absolutely necessary to remove all polypoid growth and penetrate the cells in such a way as to secure good drainage within the cells. The best method of doing this was to remove part of the middle turbinate, especially the anterior part, and curette carefully. A very fine silver cannula should then be inserted, and through it a mixture of vaseline and iodoform be injected. This remedy had no equal in these cases. In all cases of cystic formation the cells should be opened. The bone would be found rough in polypoid cases, but it was not really necrosed. The speaker predicted that in the future drainage would be secured by the aid of an external incision. He had adopted this plan in two or three instances with much satisfaction, and greatly preferred it to the internal method.

**Poisoning of Soldiers at Aldershot.**—The American soldiers are not the only ones who suffer from the ill-effects of canned meat. Embalmed beef or tinned food of some description has been playing havoc with the digestive organs of members of the British army. The Aldershot correspondent of *The Central News* reports that considerable apprehension has been caused among the military authorities there at the strange deaths of several soldiers who had recently returned from the Salisbury Plain manœuvres. Two men died recently with all the symptoms of ptomain poisoning.

# Clinical Department.

## ANTISEPTIC GAUZE.

By G. W. TYRRELL, M.D.,
PERTH AMBOY, N. J.

One of my medical friends having told me that a simple procedure of mine might be of some use to others in the fraternity, I am encouraged to publish a description of the same. The procedure is simply a method of preparing gauze for application to suppurating and like surfaces. I first take a sufficient quantity of cotton-seed oil and add carbolic acid or other antiseptic in quantities sufficient to make the strength of solution desired. This I bring to a very high temperature over a water bath and maintain this temperature quite some time. Then taking some aseptic gauze folded conveniently for subsequent use, I immerse it in this hot mixture. After it has become saturated it is removed and squeezed out in a heavy press under probably three hundred pounds' pressure. This squeezes out nearly all the oil, but leaves the gauze with every fibre sufficiently greasy to prevent its sticking to any surface to which it may be applied. Any physician who has to deal with many large granulating surfaces, as for instance after the removal of a cancerous breast, will, I think, save much time and be greatly pleased with gauze prepared in this manner. He will also obtain much better results than by applying to the surface quantities of foreign matter which must ultimately be thrown off before the healing-process is perfected. I believe this method is more convenient than gradually removing dressings with $H_2O_2$ or any other antiseptic solution, and I feel confident that the satisfaction experienced by the patient will equal that of the surgeon.

## VOLVULUS OF THE CÆCUM.

By G. H. COOMBS, M.D.,
WALDOBORO, ME.

At 10 P.M., July 23d, the writer saw with Dr. Strickland, of Washington, Me., a patient with the following history. The case was one of a woman aged thirty-six years, able to perform alone the laborious duties of a farmer's wife, an epileptic, with seizures limited to mild nocturnal attacks during the past few years, and with a history of a short attack of acute mania three years before. She was the mother of three healthy boys. At about 2 P.M., July 21st, she was awakened, after a short nap, by a severe paroxysmal pain beneath an area three inches in diameter just to the left of the umbilicus, attended with vomiting of the contents of the stomach only, which soon ceased; the pain was somewhat controlled by household remedies. Several doses of Epsom salts were taken the following day because of constipation, but without result.

On the forenoon of the 23d, nearly forty-eight hours after the onset of the pain, Dr. Strickland was called and found her suffering severe paroxysmal pain; the temperature was normal, pulse 84; there was no vomiting The right side of the abdomen was flattened, not sensitive; on the left, from a little above the umbilicus to three inches below it, the abdomen was very prominent, tympanitic, and quite sensitive. The menstrual history was peculiar and suggested the possibility of extra-uterine pregnancy as a factor.

A high rectal injection of Epsom salts and glycerin in hot water was administered; it was retained twenty minutes and was expelled with a large quantity of fæces, after which the woman was more comfortable. Morphine gr. $\frac{1}{4}$ and atropine gr. $\frac{1}{150}$ were then given

hypodermically, and instructions were left to use a warm rectal injection a few hours later, arrangements meanwhile being made for a consultation. This enema resulted in a copious fecal discharge which afforded great relief.

Living fourteen miles distant by carriage, I was unable to reach the patient until 10 P.M., and then found her so much relieved that she ridiculed the idea of a consultation. At that hour the pulse was 90, temperature 99.4° F.; the abdomen showed a more even distention on both sides than at Dr. Strickland's first visit, though there was still a little more prominence on the left than on the right side, while the latter was more sensitive. The left side of the abdomen was very tympanitic, and there was no shading to dulness at any point. Vaginal and rectal examinations gave negative results except that the cervix uteri was unusually soft for a non-pregnant uterus. Finally deciding to await developments, I returned to my home, but was again called at 7:30 A.M., on the 24th, and reached the patient in company with a trained nurse at about 10 o'clock. I found her condition much worse in every respect, there being a great increase in the soreness, abdominal distention, and paroxysms of pain, the increase having begun rather suddenly at 5 A.M. The temperature was 100° F., pulse 96.

I operated at 11 A.M., seventy hours after the initial symptoms, assisted by Dr. Strickland; Dr. Wood, of Union, anæsthetizing the patient. The usual precautions, so far as time and locality permitted, were made to secure asepsis. The median incision was necessarily long on account of the intestinal distention. The intestines were found to be much inflamed. Search revealed the cæcum with a normal appendix in the left lower quadrant of the abdominal cavity. It had undergone complete rotation on its own axis. Finding that reversal of this rotation did not result in an emptying of the cæcum naturally, I incised it at a point where its peritoneal coat had ruptured and been stripped off, and removed nearly three pints of liquid fæces, a large amount of gas first escaping. The patient had failed so rapidly that an attempt to anchor the cæcum was not deemed expedient, and the intestinal incision was closed; the loosened peritoneal coat at this point was sutured, a second peritoneal tear two inches in length was also sutured, and after copious irrigation of the abdominal cavity the intestines were replaced and the external wound was closed.

The patient's condition was bad, the pulse being about 140 for forty-eight hours in spite of stimulation to the limit, the temperature rapidly rising to 104° F., and remaining at that point for forty eight hours. At that time the woman became violently maniacal, attempting to tear off the dressings and get at the wound. A restful sleep was secured by a large dose of bromide of potassium, chloral, and hyoscyamus, administered by catheter through the nostril, these being used because of their prompt action in the previous attack. On awakening, the patient was much improved and thenceforward made an uneventful recovery under Dr. Strickland's care. The wound healed by first intention throughout. The bowels moved slightly on the first day, when a rectal tube was passed to aid expulsion of the gas, and naturally after the second day without resort to cathartics. Normal menstruation began within twenty-four hours after the operation. Strychnine stimulation was exchanged for digitalin and whiskey at the onset of the mania, and to this change part of the gain at this point seems to have been due. Interest attaches to the relief afforded by the high rectal injection, to the nervous history of the patient, and to the nervous post-operative complications, as well as to the involvement of the cæcum, its complete transposition to the left side, and its narrow escape from intra-abdominal rupture.

## Therapeutic Hints.

**Acute Nephritis.—**

℞ Tinct. digitalis ..... ʒ ss.
Liq. ammon. acetat ..... ʒ iss.
Spir. æther. nitrosi ..... ʒ ij.
Syr. tolutani ..... ʒ ss.
Aquæ cari ..... q.s. ad ʒ iij.
M. S. Teaspoonful every two hours to a child six years old.

—Goodhart and Starr.

**A Diuretic Wine in Chronic Nephritis.—**

℞ Juniper. contus ..... ʒ x.
Pulv. digital ..... ʒ ij.
Pulv. scillæ ..... ʒ i.
Vini Xerici ..... O i.
After macerating for four days add:
Potassii acetatis ..... ʒ iij.
M. Express and filter. S. A tablespoonful three times daily to an adult.

—Trousseau.

**Vomiting in Scarlatina.—**

℞ Tinct. gelsemii ..... ʒ ss.
Aq. calcis,
Aq. cinnamomi ..... āā ʒ i.
M. S. A teaspoonful every hour.

—Hatfield.

**For Senile Heart.—**

℞ Ac. arsenosi ..... gr. $\frac{1}{100}$–$\frac{1}{50}$

—Balfour.

**Toothache.—**

℞ Hydrochlorate of cocaine ..... gr. iss
Menthol,
Carbolic acid (crys.) ..... āā gr. xv.
Oil of cloves ..... ♏ v.
Camphorated alcohol ..... ʒ ij.
M.

Or:

℞ Orthoform,
Carbolic acid ..... āā gr. xv.
Camphor,
Chloral hydrate ..... āā ʒ i.
M. S. Pack cavity with cotton saturated with one of the above preparations.

—Dauchez.

**Liquor Thymolis Compositus (B.P.).—**

| | |
|---|---|
| ℞ Benzoic acid | 10 gm. |
| Boric acid | 20 " |
| Borax | 10 " |
| Thymol | 2 " |
| Eucalyptol | gtt. x. |
| Oil of wintergreen | " x. |
| Oil of peppermint | " vi. |
| Glycerin | 100 c.c. |
| Alcohol (90 per cent.) | 300 c.c. |
| Water | A sufficient quantity. |

**The True Value of Gargling.**—By gargling in the usual way only the upper anterior surface of the uvula and soft palate and base of the tongue are reached. The method of holding the nose and throwing the head well back when gargling enables the fluid to reach every surface of the pharynx.

The value of the two methods can readily be tested by painting the posterior wall of the pharynx with a strong solution of methylene blue. After gargling with water in the usual way, the latter will be perfectly clear and unstained; then let the patient gargle again by the method suggested, and the ejected fluid will be found stained.—*Editorial, Charlotte Medical Journal.*

**Typhoid Fever with Constipation.**—Dr. F. P. Henry (*Dunglison's College and Clinical Record*) recommends the use of saline cathartics, such as sulphate of magnesia, or citrate of magnesia, or Hunyadi water. He says purgatives may do harm; castor oil is bland when applied topically to an ulcer; but when taken by mouth produces increased peristalsis. The Peyer patches are infiltrated in typhoid fever. If you

choke off the circulation to these glands suddenly, you would cause sloughing. The molecular disintegration which is going on might be converted into dangerous sloughing. Now, in increasing peristalsis you constrict the vessels, choke off the circulation, and perhaps produce sloughing. So you must avoid increasing the peristalsis, in other words, avoid such cathartics as castor oil and use salines in preference.

**Pneumonia.**—The most successful treatment consists in giving a patient a hot-water bath. When nothing better was at hand I have often called for a tea-kettleful of boiling hot water and a bucket of cold water, a wash-basin, and a bath or large wash-tub. Seating the patient on a stool in the tub, covered with a sheet, having the water mixed in a wash-basin, as hot as it can be borne, I ladle it on the sheet covering the patient. From the tea-kettle of boiling water and the pail of cold water the wash-basin is kept replenished. The hot bath is kept up for thirty or forty minutes. If the patient complains of suffocation, cut a hole in the sheet and let his nose out. While under this simple operation patients by inhaling the hot vapor will expectorate a large amount of mucus, and sometimes more or less blood The heart action is improved and the dyspnœa is greatly relieved, in short, you have respited the patient and gained time for the operation of medicine.—Dr. A. Chase (*Pacific Medical Journal*, September).

**Rotation of Drugs.**—Dr. William Ewart read a paper at the sixty-sixth meeting of the British Medical Association on "The Alternating Administration of Drugs by Rotation as a Practical Principle of Treatment," from which the following conclusions are taken: (1) Some drugs—and these are chiefly the stimulants and the sedatives—lose more and more of their effect the longer they are continued (2) Other drugs, being slowly eliminated or distinctly cumulative, acquire through prolonged administration an increased activity, and in some instances a modified, and sometimes a dangerous action. (3) The most active dose, in the case of any stimulant or sedative and in that of many tonics, is (putting aside summation of doses or of their effects) the first dose. These considerations have led the writer more and more to the adoption of a principle which may be regarded as novel, less in itself than in its practical application, that of a systematic "rotation of drugs," not unlike the farmer's "rotation of crops." Patients may often be placed with advantage under the joint influence of several drugs; but they will derive most benefit from a frequent renewal (thanks to intervening breaks) of the first impression which had been produced by each drug.

**Treatment of Asthma.**—The inhalation of the fumes of burning nitre paper or specially prepared powders, or of cigarettes, is the popular remedy for the attacks of asthma. In many cases they give relief, in some marked relief. The powders consist of stramonium and nitre chiefly; the one we use at the hospital contains one part each of anise and nitre, two parts of stramonium leaves, and five grains of tobacco to the ounce; one teaspoonful is to be burnt on a plate and the fumes inhaled. The cigarettes used are a manufactured article containing stramonium leaves, nitre, and tobacco; they relieve the attacks sometimes when the powder fails. A pill containing gr. $\frac{1}{6}$ – $\frac{1}{4}$ of morphine, with gr. $\frac{1}{60}$ of atropine sulphate, given at bedtime, is sometimes useful. Extract of stramonium (gr. $\frac{1}{4}$) may be substituted for the atropine. I have not found the ethereal tincture of lobelia very useful; but I have not tried it in the way recommended by Hyde Salter, namely, in repeated small doses before the attack is expected.—Sidney Martin.

# Correspondence.

## OUR LONDON LETTER.

(From our Special Correspondent.)

THE PROVINCIAL SCHOOLS, ADDRESSES BY SIR T. W. GAIRDNER, DR BYROM BRAMWELL, PROFESSOR HUGHES, AND SIR J. CRICHTON-BROWNE—MEDICAL SOCIETY OF LONDON, OPENING ADDRESS, SERUM THERAPEUTICS —CONFERENCE ON HOSPITAL REFORM.

London, October 13, 1899

The provincial schools carry on an able rivalry with their metropolitan competitors, and most of them have retained the custom of an introductory lecture. As on former occasions, several of them have invited distinguished persons from a distance to discharge this function, and they have been the gainers. Thus, this year, Sir W. T. Gairdner discoursed at Birmingham on "The Two Disciplines in Education," maintaining the importance of objective as against subjective teaching. Not that he undervalues the humanities; as a university professor how should he? But as a clinical teacher he knows the importance of practical work.

Dr. Byrom Bramwell went to Leeds and lectured on "The Progress of Medicine during the last Thirty-five Years," the time that has elapsed since he began his studentship, and Professor A. W. Hughes, of Kings College, went to Cardiff, at the invitation of his former colleagues, and delivered the inaugural lecture.

But the most notable of all these addresses in London or the provinces was that delivered at Owens College by Sir James Crichton-Browne, who took for his subject "The Quest of the Ideal." Speaking to the students as one who had travelled along the road himself, he warned them not to lose their ideals in the tendencies to materialism by which they would be surrounded, for their studies ranged over so vast or wide a field of empirical knowledge, so closely packed with facts and hide-bound by law, that there seemed little room left for the ideal. The loss of a man's ideal he regarded as a personal calamity. "That way madness lies," he said, as those engaged in his own department of practice are not seldom made aware. Yet the loss of the ideal is inevitable, if the only solution of the world-problem is materialism, for that reduces all things to the pull of opposing atoms, making intellect the activity of nerve cells, virtue, honor, and duty forms of selfishness, and heroism a kind of disease. "When the stewardess of the *Stella*—glorious woman!—took off her life-belt and gave it to an affrighted being beside her, and bravely sank, commending her soul to God, her act was not conducive to the preservation of the individual or the species It was an expression, we are told, of the abnormal over-functioning of a certain portion of her brain. Does not the heart sink and the gorge rise at such revolting nonsense?" Sir J. Crichton Browne exhorted his hearers to hold fast by idealism, which in some shape or other, however smothered up, dwells in every one, and went on to show that materialistic assumptions are still open to refutation Wide as the sphere of science is, it is limited in all directions. On no side does it begin at the beginning or end at the end, for, as Max Muller said, "Our minds are not so made as to grasp either beginnings or endings" Everywhere, said the lecturer, it is possible to leave the confines of science behind, and to come on unexplored regions beyond the pale, where the ideal is supreme, where poets and philosophers may expatiate at large. There are wavelengths beyond the red and violet to which the retina does not respond, vibrations beyond those the ear can catch. It is certain there is an uncircumscribed

physical universe of which we have no cognizance. It is equally certain that in the mental universe there are boundless areas which may be designated by contradictory terms, as our entrance to them is barred by self-contradiction in thought We can conceive neither of boundless space, nor of space without bounds, nor of an ultimate atom which is not both divisible and indivisible at one and the same time. What we call our intellect rests on our belief, not on our knowledge. Science cannot demonstrate the existence of a material world nor prove the existence of mind in our fellowmen, yet these are our rooted convictions! Having touched on similar metempirical regions, the lecturer passed on to consider three unfathomable chasms that yawn within the bounds of science and the existence of which is inconsistent with materialism. These chasms are that between the organic and the inorganic, that between the physical and vital, that between mind and matter, which is widest of all. As to this he referred to the fashionable materialistic notion of neural currents encountering resistance and causing the cells to glow like an incandescent lamp which is merely shirking the materialistic theory by taking shelter under a metaphor, and so blinking the chasm which gapes huge and impassable as ever, for of nerve cells in a glow or at a white heat we know nothing. Neural facts we know, and mental facts we know but there is no bridge between them, they cannot be identified any more than can a telegraph wire with the meaning of the message it transmits An idea and a vibration in nerve molecules are as essentially different as the multiplication table and the slate on which it is jotted down.

The lecturer concluded with the wish that his hearers, while immersed in the realities of life, might be rewarded in their quest of the ideal—a talisman that once seized and pressed to the breast would enable them to say to pessimism, "Avaunt!" and to beneficence, 'Open sesame." Negation is a barren wilderness, belief a teeming garden.

The medical societies as well as the schools resume work in October. On Monday the oldest, the Medical Society of London, opened its one hundred and twenty-seventh session. Dr. F. T. Roberts gave his presidential address. He said it would be inhuman to expect him, when every one is talking about the close of the century, not to take advantage of the inaugural meeting of the last session of the century in selecting a topic. So having stated that he began his medical life in the early part of the latter half of the century by apprenticeship, and that he had never regretted and was always grateful for the experience thus acquired, he passed on to his retrospect. Assuming that his hearers would agree with him that vast strides in progress had been made, the president indicated some of the agencies by which this was brought about. Foremost of these he ranked the advance in general education and culture, and the adoption of scientific methods of study and teaching. Then came the division of subjects essentially distinct and the addition of new subjects. This growth led to specialism in practice, for which he had a good word saying, "Medical progress owes it more than can be imagined or expressed in words." The influence of examinations, the value of research by experiment, the increase of hospitals and other institutions, the development of medical literature and the opportunities for discussion in this and sister societies, and in recent times congresses, were among the means of the progress made. Dr. Roberts then proceeded to discuss the practical results attained. Of these he considered: (1) The improved position of the profession with its higher standard of knowledge and skill; (2) the extraordinary advance in positive knowledge of morbid processes and conditions, and the discrimination of diseases which had previously been confused together; (3) the light thrown on etiology and its results in prevention and hygiene, (4) the addition to our means of clinical investigation and diagnosis, culminating in the startling revelation of the Roentgen rays; (5) the advances in treatment, under which he referred to anæsthetics, antiseptics, hypodermic medication, and the remarkable triumphs of surgery.

After the presidential address there was a discussion on "Serum Therapeutics and Antitoxin Treatment," introduced by Dr. H. Heron, who took an encouraging view of the tuberculin treatment, and said he had never seen any untoward result, not even a superficial abscess, although at his hospital they had made above two thousand injections.

Dr. Washbourn thought it necessary to repeat that the two remedies differ, the antitoxins acting by neutralizing the toxins, the sera by preventing the growth of bacteria. He accepted Ehrlich's explanation of the action of toxins—that they combined with the tissues, and that antitoxins prevented this by themselves combining with the toxins. As antitoxin does not always succeed, he suggested that some tissues might have a stronger affinity for the toxins. He said that in all fatal cases the patients died with symptoms of paralysis of the vagus, and suggested that by preparing antitoxins from other animals it might be possible to obtain the remedy with an affinity for toxins more intense than for nerve tissue. With regard to antistreptococcic serum it sometimes succeeded and sometimes failed, and at present we cannot distinguish the cases. Antipneumococcic serum he thought deserved some further trial.

Dr. Hubbard had tried serum in two cases of aneurism as a coagulating agent. It had relieved the pain. He had used it also in menorrhagia with success, and further in a case of epistaxis in a hæmophilic patient it had succeeded after other plans failed. He could not satisfy himself that normal serum had equal coagulating properties. He thought the antidiphtheritic serum more effective than the others.

A conference called by the Hospital Reform Association was held on Tuesday and Wednesday. The attendance was not so large as was to be expected, to the regret of those who had energy enough to go and support the movement of the association. The subjects discussed were the inquiry system, payments by patients, provident dispensaries, and medical contract work. There was a programme which might have sufficed to attract a large number of ardent reformers as well as of those practitioners who suffer most from the abuses of hospitals.

Mr. Douglas Dent, of Bristol, spoke of the great increase of out-patients in that city, and held that proper inquiry was not difficult but easy, and would restrict charity to those for whom it was intended.

Sir William Broadbent admitted that he had seen at times patients who were not proper objects of charity, but thought it was not for the doctor to make inquiry or to protest. A proper inquiry officer should be attached to every hospital, and all should work on the same system.

Colonel Montefiore showed that many patients were admitted who could be far better treated in their own homes by general practitioners, and these are accordingly deprived of their practice.

Mr. Hawkins-Ambler, of Liverpool, said the general practitioners blamed the consultants, and these returned the compliment. He considered both to blame. An inquiry system would prevent fraud, and at the same time teach the public what hospitals were for.

Dr. Isambaud Owen believed that the rate of remuneration of the general practitioner had been reduced fifty per cent by hospital abuse.

Payments by patients was considered at the evening

meeting, and the levying of pence by the large hospitals was regarded with disfavor, though Mr. Holland defended the threepence charged at the London Hospital, which was not for advice but for medicine and appliances.

Mr. Timothy Holmes presided at the meeting devoted to provident dispensaries. This eminent surgeon has taken a great interest in these institutions from their first establishment. He said they enabled the poor to provide for themselves a family doctor. The hospitals, however, by their out-patient system compete improperly. Mr. Holmes has not been able to prevent this even at St. George's, of which he has been so long an ornament.

Mr. A. Smith said that in many cases the provident dispensaries were really sweating institutions — a number of people making a large sum out of the work of the doctors.

Sir W. Broadbent said the provident dispensaries might solve the problem if every practitioner in the neighborhood was allowed to share the work and the emolument.

## FAITH CURE.

To the Editor of the Medical Record.

Sir: In your issue of October 9th last, my attention was drawn to an article entitled, "Faith Cure and the Law." Now while I am a firm believer in the right of individual opinions, and my brother physician has certainly a right to his, as expressed in his article, I deem it no more than right that we of the profession who differ with him shall stand up in defence of our position, when we say that the laws regulating the practice of medicine ought to and should be enforced, and let the penalty be the same, whether the transgressor be a common quack or a Christian Scientist. Let it be a duty with us, one which we owe both to our profession and to mankind at large.

Without taking the time or space to go into a lengthy discussion of the Christian Scientist, let us look at the matter in a practical way and manner. Now for my part I do not believe in the theory of the Christian Scientist. I can see nothing in it—as I heard an old farmer put it, nothing which appeals to "good horse sense."

My experience with the Christian Scientist teaches me that abuse is his argument and ignorance his creed—ignorance, I mean, of the laws which govern all treatment for the relief and cure of disease. What citizen of this great republic would want a drug doctor to attend him in sickness, who could not tell pneumonia from gout, or the difference between the trachea and the œsophagus? I take it that such a person would be hard to find. No matter what the treatment, he demands a certain amount of knowledge.

To this we are told that no matter what the disease or number of diseases, the cure is all the same, providing the patient has a certain amount of faith and incidentally a certain amount of cash. If he recovers, well and good, and the details, carefully censored, are hurried abroad over the land. If he dies, he lacked the faith.

If faith be the only prerequisite, why the healer, who is often as far from the true religion as is a Tartar on his native steppe? Why the wandering professor, who professes to cure every and all forms of disease for one dollar—ever the almighty dollar, and all this in the name of the Deity? Does it not look like taking the name of God Almighty as an advertising medium? And who shall say that this is not worse even than using the folds of our starry banner?

We are shown a statement, and asked to believe it, viz., that the Christian Scientists cure as large a proportion of the sick as do drug doctors. I would like to ask, Where is the authority for such a statement? From whom does it come? Surely not from any member of our profession, and the Christian Scientist could not be authoritative for such a statement. He pretends to tell or boast of the number of diseases treated and cured, he who could not tell the foramen ovale from the carunculæ myrtiformes, and who would apply the same treatment to an attack of appendicitis as to a Colles' fracture. No, we do not believe it could come from him, and will do him justice, to say the least.

The law requires all who practise the art of healing to be graduates in medicine, and up to a certain standard any transgression of this law is punishable. And why should not this law be enforced in the case of the Christian Scientists? I would like to hear of one single reason. True, we are asked if we have no liberty in this matter, and can we not do as we choose? The same question might well be asked by the man who is made to desist from burning a pile of rubbish on his back lot, close to his neighbor's barn. In the first case you are endangering your neighbor's health, life, and the same of his family. In the second case it is his property, and you have no right to do either.

So the law should be enforced, and especially so when the life of an innocent child is at stake, who has no voice in the proceedings and goes down to its death at the bidding of one, while the thousands say no.

There are, I believe, none of us but who recognize to a certain extent at least the power of the mind over the body, and as a curative agent in disease. True, to make believe that a cure has been effected is equivalent to a cure itself is undoubtedly true in a great many cases, and alas, how many have come under my personal observation in which it was not true! But be this as it may, suffice it to say that whoever would practise medicine in this broad land of ours, be he Christian Scientist or other, let him conform with the law or stop.

When we look back over the past few years and note with pride the immense strides which our profession has taken, thousands of lives annually saved that were before lost, the many dreaded diseases utterly annihilated or now little feared, antisepsis with all that the word conveys, modern surgery, and the wonders that are now being done, and of which we read every day—I say, when we look back over all this we are not afraid (as we have been told) that our grandchildren will smile when they read of our absurdities, eccentricities, and contradictions, but think that they will commend us for defending our position, though in this case they may smile to think that we should have deemed even an argument in our behalf necessary. And by the aid of that which they will have learned from us, advancing far beyond where we are to-day, pushing the good work ever on.

When a Christian Scientist loses a case a great hue and cry is not raised against him because of it alone, but because the law has been violated. And in the case of the drug doctor, if he be a conscientious man nothing is said because his action was fully in accord with the law, and because a great majority of the people believe that everything has been done which could be done by the aid of skill, intelligence, and scientific research along the precepts laid down by Christ himself. Perhaps many a mortal at or near death's door who recovers does so by the direct will of God, but who dares to say that he is less likely to receive divine favor because he has tried to help himself, because he uses first every resource at his command to aid in saving the life which he loves, because he employs a drug doctor?

No believers in the true God doubt for a moment his power over all forms of disease and human suffer-

ing, but they do not believe that he will exercise his power when the subject of the affliction, by the use of his brain, his talent, the greatest of all God's gifts to man, may snatch the weapons for his defence from every meadow, wood, and glade, from the bowels of the earth, and from the very air itself, and meet his enemy as a man in the entire sense the term implies.

A. J. Richie, M.D.

Sylvania, Ohio.

## THE FILTHY WATER SUPPLY OF NEW YORK.

To the Editor of the Medical Record.

Sir: After something more than twelve years of absence I return to New York to make it once more my home, and find many surprising changes.

The time was, as old New Yorkers can recall, when the city's supply of water was so remarkably pure, that it was really a moral persuader and potent aid to the temperance movement. It was a delight to take a morning bath in a tub of pure Croton, but the believer in cleanliness thinks twice nowadays before he steps in a bath of light-brown colored liquid from which he emerges mulatto-colored. Instead of the song of the "Old Oaken Bucket," one can very properly say:

"The typhoid old bucket,
The bacteria-filled bucket,
The germ-diseased bucket.
We all know so well."

In the thousands of flat houses in New York the tenants are depending on the water that is stored very largely in roof tanks, and what sometimes comes from the faucets is an unending source of surprise to the occupants of the houses—brown mud, gravel, wisps of straw, small worms, diminutive tadpoles, and other like trifles, but, seriously speaking, the state of affairs is very bad all over the city, as every one knows.

There is no place now, within the limits of Greater New York, as near as I can learn from careful inquiry, where pure water, or anything like pure water, can be had from the public supply. The quality and quantity of the water during the past summer have been matters of serious and constant complaint, because of its utter unfitness for domestic use, either for bath, cooking, or drinking. The water department of this city has been flooded with complaints. If they were made public there would be an uprising of the citizens, and during this past season the rate of infant mortality under five years of age has risen from 9.1 per cent. average for the balance of the year, to over thirty per cent.

There were reported for the first five days of last July one hundred and twelve deaths among children in New York City proper from diarrhœa alone.

The reports of analyses made by the health department show that the albuminoid ammonia in the samples of water during this week is almost double what it was in the comparative reports of 1897 and 1898. This shows that the water is polluted by decayed vegetable matter, sewage, or other poisonous material. In addition to this cause of the bad state of the water, there is growth in the old water mains of fungus, accumulation of slime and other things, resulting from stagnation because of the low pressure. These reports also show a minute percentage of nitrogen, the significance of which has a most vital import in the increased death rate.

The condition of the water supply in the new and fashionable West Side district, between Seventy-second and One Hundred and Twenty-fifth streets, has called forth public remonstrances in the neighborhood from a number of the best-known physicians in this district. The pressure is so low that the residents must depend for their drinking-water during the day upon the supply that fills the tanks during the night when the water can mount to the height where they are located. In the three- and four-story private houses the supply-tank is usually on the top floor in the room usually denominated the "trunk" room. The top, as a rule, is boarded over, ostensibly to keep out the dust, but the cover finds general use as a shelf on which to store light articles. There is an automatic valve by which the supply is cut off when the tank is full, and a stop-cock in the supply pipe and one in the feed pipe. The top of the feed pipe projects upward from the bottom of the tank, perhaps two inches, to keep the sediment out. Trusting solely to this precaution, and more often because of ignorance of the fact that the family derives any water supply from these tanks, the larger number of householders neglect them for years. However, this class, in this fashionable section, when they find the water unfit for use, can purchase distilled water at their chemists at the rate of five gallons for fifty cents; but what about the tenement districts, which, as we know, are more largely supplied by the tank system than others? Out of two hundred and fifty-one of these tanks examined by the health board, one hundred and fifteen were found to be in an unhealthful condition. It goes without saying that neglect of these receptacles is one of the most frequent causes of disease, and it amounts to a criminal omission of duty by the owners which the law ought to ferret out and punish unsparingly, that our health board does not look to it that this particular source of water supply is not regularly inspected and kept in a sanitary condition.

I have mentioned that five one-gallon bottles of distilled water are sold for fifty cents, by the single bottle the price is twenty cents, and herein the city authorities trade upon the poverty of their inhabitants, for the poor and wretched can ill afford to buy five bottles of pure water at a time, and must be content with a single bottle at the double price when ordered by the doctor.

While we hear talked of and see constantly in the daily papers the projected expenditure of hundreds of millions of the public moneys for the increase of rapid transit, for the repaving of streets, and for public improvements innumerable, there is too little agitation as to the preservation of the lives of the people who are expected to enjoy these improvements, by furnishing to them an adequate and healthful supply of water.

While the craze for public improvement is so rampant, why should not the corps of physicians, who by natural right are the guardians of the public health, make a demand upon our city fathers that they shall give us something besides rank poison to quench the thirst of our city's children?

If it is necessary, we can go back to the Roman Empire and learn some lessons from their extensive aqueduct systems, of their high appreciation of the necessity for a sufficient supply of pure water.

P. Sherwood-Dunn, M.D.

New York, October 28, 1899.

**The Detection of Strychnine in Bodies Long Buried.**—Dr. Haw reports in *The Lancet*, September 23, 1899, the case of a man previously in good health and supposed to have taken strychnine with a fatal result, "in which, when exhumation was practised for medico-legal purposes after the lapse of nearly ten months, the body was found still in a state of fairly good preservation, and $\frac{1}{2}\frac{1}{0}$ mgm. of strychnine was obtained on chemical analysis from the stomach, intestines, liver, remains of the spleen, the left kidney, the spinal cord, and fluid from the thoracic and abdominal cavities."

# Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending October 28, 1899:

| | Cases | Deaths. |
|---|---|---|
| Tuberculosis | 151 | 140 |
| Typhoid fever | 75 | 20 |
| Scarlet fever | 117 | 4 |
| Smallpox | 4 | 0 |
| Measles | 176 | 8 |
| Diphtheria | 206 | 29 |
| Laryngeal diphtheria (croup) | 13 | 8 |
| Cerebro-spinal meningitis | 0 | 6 |
| Chicken-pox | 18 | 0 |

**Pyuria with an Acid Urine,** especially if intermittent in character, at once calls attention to a strong probability of renal tuberculosis. Again, a spontaneous and intractable cystitis should always be regarded in the same light as a spontaneous bronchitis—an indication of a tuberculous process.—VANDERVEER and MCDONALD.

**War Echoes.**—In reviewing the war correspondence of Dr. Senn, the *British Medical Journal* of September 2d says in regard to the examination of recruits: "We suspect many bad bargains must have slipped through who at the end of the war probably further swelled the gigantic American pension list, by diseases supposed to have been 'contracted in and by service'!" And in speaking of the recruiting, ranking, etc, the following complimentary words are used: "Such a condition of things is almost incredible, and the wonder is, not that there was confusion and constant breakdowns, but that anything was accomplished at all Truly the patriotism, versatility, and practical ability of the American people must be unbounded to make headway against such a system."

**Rate of Nail Growth.**—A considerable divergence of opinion exists as to the rate at which the finger-nails grow. Bean gives as a rule that the nails of the hand grow 1 mm. per week. At this rate the nails, which average 15 mm. in length, would take one hundred and five days to grow out. Dufour gives one hundred and twenty-one to one hundred and thirty eight days. The fact is, the pace of growth varies very much, not only at different ages, but in different individuals of the same age. Influenced by many external and internal conditions, the pace also varies in the same person from time to time A few observations will be submitted to the notice of the reader as to the growth of finger-nails in men at different ages. At twenty-one years the nail was replaced in one hundred and twenty-six days, at thirty-one years in one hundred and fifty-nine days; at thirty-two years in eighty-eight days, at fifty-five years in one hundred and ten days; at sixty-seven years in one hundred and forty-four days. It is curious that in this growth the swiftest grower was a tuberculous subject who had a sharp attack of blood-spitting during the observation. Sea air is said to quicken the growth of the nails, profound grief has been credited with the power of destroying them. A valuable point of diagnosis is afforded by the growth of the finger-nail. In distinguishing between true paralysis of centric origin and the various pseudo-paralyses of hysteria which sometimes so closely simulate organic disease, it is well to remember that the growth of the nail is modified by most of the centric lesions, while its development is not affected by hysteria. It is asserted that intracranial hemorrhages arrest the nail growth.—EDWARD BLAKE, "Study of the Hand."

**Vital Statistics in the United States.**—The fact has long been recognized that the adoption of a uniform certificate for the return of deaths would greatly simplify the work of those whose duty it is to prepare the census tables. The chief statistician of vital statistics in this country is at present engaged in the endeavor to bring about this result, and to establish a common national system of collecting vital statistics. That this object cannot be successfully accomplished without the co operation of the physicians in the various States is fully appreciated, and therefore an earnest appeal is made to the members of the medical profession to lend their assistance. The MEDICAL RECORD has on more than one occasion drawn attention to the defective working of the existing methods of collecting vital statistics, and has urged the introduction of reforms. The following condensed statement of facts has been issued by the census office: "Correspondence has been had by the chief statistician, Mr. William A. King, with the officers in charge of mortality registration in the States employing a uniform system, and in the cities having a population of five thousand and more at the last census, which also collect and register death returns. Complete and accurate information of the different methods in vogue has been obtained, and it was found that there is much unnecessary and objectionable variation, considered from the census point of view, in the form of official returns Having no power to compel co-operative action, and hampered by want of time in which to carry out the whole project, nevertheless the census office undertook to secure the modification or amplification of the death certificates so as to have them include the items necessary to obtain census data. A model return form was prepared and submitted with explanatory correspondence to each registration office or officer controlling the preparation of the State or local forms. The result has been more important and gratifying than even the census office expected, as not only have the items in the specimen form been very generally adopted, but the registration officers have abolished many practically obsolete local variations in their certificates, and the latter have been made to conform to one standard more nearly than ever before. The promptness and willingness displayed by the State and local officers in complying with the request of the director have been surprising as well as gratifying. The benefit that will result to the census office and to science from this first step toward the goal of national uniformity is incalculable, but it will be seen readily that the study of the natural law of the growth of population is made easier and more certain. The director of the census confidently expects that physicians everywhere will appreciate the desirability of the new order of things, and that they will earnestly and actively cooperate in securing prompt and accurate mortality returns of the uniform character required by Congress and sought for by statisticians. He recognizes the fact that failure on the part of physicians to give vitality to the common standard by carefully reporting the items that may be new to their certificate may be fatal to the end in view."

**The Electrotherm Compress** is an apparatus devised by Lindemann (*Berliner klinische Wochenschrift*, September 18, 1899) for making applications of heat to the body by means of an electric current passed through resistance wires carefully covered by asbestos and flannel. Special designs are constructed for different parts of the body, and any desired amount of current can be obtained by means of a rheostat, and any degree of temperature can be attained and main-

tained for any given length of time. The apparatus is dry, clean, neat, regulable, and time-saving. It may be employed in the same way as a dry-heat apparatus. Apart from its direct application it may be employed to heat cataplasms, when these are deemed ncessary. It may be fitted out as a pillow for the neck or for the abdomen, or in the form of a semicircle for the knee, the elbow, or the shoulder, and in the form of a sheet to be placed upon the mattress to supply warmth or to induce sweating. The same principle may be applied further to warming articles of food, as, for instance, milk for children or invalids, at night.

**Soda-Water to Relieve Hunger.**—According to *Modern Medicine*, soda-water is now prescribed as a palliative for hunger, especially for the abnormal hunger produced by disease. The above-named journal says: "Carbonic acid gas has the singular property of lessening the sense of hunger, and may profitably be remembered in dealing with cases of diabetes in which bulimia is a prominent symptom. The seat of hunger is found in the solar plexus. By the use of water charged with carbonic acid gas the branches of the solar plexus distributed through the mucous membrane of the stomach are influenced in such a way that the abnormal irritation of the plexus which is the foundation for the ravenous hunger often present in diabetes and certain forms of indigestion may be greatly mitigated, if not wholly appeased. Water charged with carbonic acid gas may likewise be employed with advantage in many cases of hyperpepsia in which there is a sensation present in the stomach described by the patient as a gnawing 'goneness,' emptiness, etc."

**Should Physicians Tell the Truth to Their Patients, when Suffering from an Incurable Malady?**—The law lays down the dictum emphatically that physicians should use the utmost good faith toward their patients, but a reported Missouri decision carries this doctrine to unconscionable lengths. This decision was to the effect that if the doctor is aware that the patient is past cure, or that his treatment will probably be of no benefit, "it is his duty to advise his patient of these facts, and if he fails to do so he is guilty of a breach of trust." In many instances such a declaration would have a disastrous effect upon the sufferer, but this view of the situation is altogether ignored. These matters are better left to the discretion of the physician.

**The Biter Bit.**—The following amusing tale was recently told to his class by Professor Comstock, of Cornell, in speaking of the trials of scientists. It appears that a professor of invertebrate zoölogy in a sister university wished to procure some trichinous pork for purposes of experiment. The learned scientist went to his butcher and asked him if he ever got any measly pork. "Sometimes," the butcher cautiously answered, "but I always throw it away." "Well," said the professor, "the next time you have any I wish you'd send me up some," meaning, of course, to his laboratory. The butcher, although somewhat taken aback, said that he would. Three weeks passed, when the professor, growing impatient, again visited the store. "Haven't you found any measly pork yet?" "Why, yes," said the butcher, "I sent up two pounds a week ago." A sickly grin broke over the professor's face. "Where did you send it?" "Why, to your house, of course," said the butcher.

**Infectivity of Milk from Tuberculous Cattle.**—While the observations of the majority of those who have interested themselves in this matter leave no doubt as to the infectivity of milk from cows affected with either generalized tuberculosis or with local tuberculous disease of the udder, there has been some difference of opinion as to the danger attending the use of milk from cattle affected with other and lesser degrees of tuberculosis. Lydia Rabinowitsch and Kempner have recently investigated this latter question. The milk from fifteen cows which had reacted with tuberculin was examined, and the presence of tuberculosis bacilli was proved in the milk of ten, or about sixty-six per cent., by means of animal inoculations. Of these ten cows nine showed, save for the tuberculin reaction, no clinical evidence whatever of tuberculosis. In two of the animals the post-mortem examination showed no obvious tuberculous lesion, in spite of the proof afforded by the inoculation experiments that their milk had contained tubercle bacilli. In these two cows the tuberculosis is described as being "latent"; but it is obvious that a very careful examination of all the bones would have to be made before the use of the term could be strictly justified.—*English Public Health.*

**John C. Whittier's Color Blindness.**—The Boston *Transcript* prints a letter from Robert L. Rantoul to the Whittier Club, in which he said: "Mr. Whittier told me the story of discovering his color-blindness when his mother had taken him out to pick wild strawberries and he could find none. He told me of the embarrassment this limitation had caused him through life lest, in describing flowers so freely as he had done in his poems, he might sometimes go wrong as to the coloring."

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended October 27, 1899:

| | | Cases. | Deaths. |
|---|---|---|---|
| **Smallpox—United States.** | | | |
| Massachusetts, Butler | September 30th to October 18th. | 2 | 1 |
| Everett | October 14th to 21st | 1 | |
| Michigan, Saginaw | October 14th to 21st | * | |
| Montana, Butte | September 30th to October 18th. | 2 | 1 |
| New York, New York | October 14th to 21st | 3 | |
| Ohio, Cleveland | October 14th to 21st | .. | 5 |
| Texas, Galveston | October 20th | 1 | |
| Virginia, Alexandria | October 20th | 1 | |
| Portsmouth | October 19th | 1 | |
| * Present in five places. | | | |
| **Yellow Fever—United States.** | | | |
| Florida, Key West | October 16th to 27th | 61 | 4 |
| Miami | October 23d to 26th | 12 | |
| Louisiana, New Orleans | October 21st to 25th | 7 | 2 |
| **Smallpox—Foreign.** | | | |
| Argentina, Buenos Ayres | August 1st to 31st | 1 | 1 |
| Austria, Prague | September 23d to October 7th | 5 | |
| Belgium, Antwerp | September 25th to October 16th. | 4 | 4 |
| Brazil, Rio de Janeiro | August 11th to 25th | 180 | 75 |
| Greece, Athens | September 30th to October 7th | 8 | 3 |
| India, Bombay | September 19th to 26th | .. | 5 |
| Madras | September 16th to 22d | .. | 1 |
| Russia, Moscow | September 23d | 1 | 1 |
| Odessa | September 8th to October 7th | 7 | 2 |
| St. Petersburg | September 23d to 30th | 3 | 1 |
| Warsaw | September 23d to 30th | .. | 5 |
| **Yellow Fever—Foreign.** | | | |
| Argentina, Buenos Ayres | August 1st to 31st | 1 | 1 |
| Brazil, Rio de Janeiro | August 11th to 25th | 3 | 6 |
| Cuba, Havana | October 5th to 17th | 15 | 9 |
| Matanzas | October 16th | Suspected. | |
| Santiago | September 23d to 30th | .. | 1 |
| Mexico, Tampico | September 22d to 29th | 2 | 1 |
| Tuxpan | October 2d to 16th | .. | 15 |
| Vera Cruz | October 12th to 19th | .. | 2 |
| Straits Settlements, Singapore | September 2d to 9th | .. | 4 |
| Teneriffe, Santa Cruz | September 16th to 23d | .. | 2 |
| Turkey, Erzeroum | September 16th to 23d | 5 | |
| Smyrna | September 25th to October 1st | .. | 1 |
| **Cholera.** | | | |
| India, Calcutta | September 8th to 16th | .. | 2 |
| **Plague.** | | | |
| China, Hong Kong | September 2d to 9th | 13 | 12 |
| Yingkon | August 18th | Reported. | |
| Egypt, Alexandria | September 25th to October 1st | 1 | 1 |
| India, Bombay | September 19th to 26th. | .. | 82 |
| Calcutta | September 8th to 16th | .. | 46 |
| Kurrachee | September 16th to 23d | .. | 4 |
| Madagascar, Tamatave | September 8th to 16th | 2 | 2 |

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 56, No. 20. Whole No. 1514. NEW YORK, NOVEMBER 11, 1899. $5.00 Per Annum. Single Copies, 10c.

## Original Articles.

### TEN YEARS' EXPERIENCE WITH TYPHOID FEVER AT THE ROOSEVELT HOSPITAL.

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PHYSICIAN TO THE HOSPITAL.

THE observations which I propose to make on this occasion are based exclusively on my own experience with typhoid fever for the past ten years, from September 1, 1889, to September 1, 1899, in the wards of the Roosevelt Hospital during the months of my service. Those months were June, which according to the health-board statistics corresponds to the time of least prevalence of this fever in New York, and September and October, which correspond to the time of its greatest prevalence. I wish here to express my thanks to Dr. Ernest V. Hubbard for the work done in collating the statistics from the hospital records.

Owing to its gradual development and prolonged, though fairly definite course, this fever offers better opportunities than almost any other acute disease for noting whether we can modify in any way its natural course so as to lessen its dangers or complications.

In a paper read last November before the Harveian Society by Dr. Sydney Phillips, physician to the London Fever Hospital, he maintains that while typhoid fever during recent years appears to have changed its type in the lessened severity of the accompanying abdominal and nervous symptoms, yet according to English statistics the fatality from the disease has not altered, so that the chances of recovery of a person contracting typhoid fever to-day are little or no better than they were fifty years ago, notwithstanding the advances in medical knowledge and improved nursing and hygienic conditions. Murchison found that the mortality of patients in the London Fever Hospital during the ten years ending 1862 was 18.5, and Dr. Phillips says that all the figures available to him in the same fever hospital and other metropolitan institutions, as well as the registrar-general's returns, show that the mortality from 1890 to 1897 still remained over eighteen per cent.

Notwithstanding the recognition of Dr. Phillips that many of the symptoms of typhoid fever seem to be less severe at present than they were formerly, but, as he claims, without showing any improvement in the chances of recovery, I cannot but feel that a comparison of the clinical features of the cases with the picture given by medical writers thirty-five years ago, as in the works of Watson and of Bristowe, will have some bearing upon the question whether we have made any advances in treatment and that such a clinical comparison does offer more trustworthy data than the mere percentage of death rates. Because if methods or measures of treatment have any influence in modifying the course of such a long-continued fever as typhoid, they cannot do so at once in any stage of the disease, but rather in proportion to their being begun early in its course. Now it happens that hospital experience is often imperfect in this very particular, because only a minority of the patients are admitted at the inception of the fever, while most are not admitted until it is well advanced into the second week, and very many not until they have been twenty-one days sick. The effect of this fact upon the death rate itself is shown in my own experience as follows:

Whole number of typhoid-fever patients treated by me at the Roosevelt Hospital from September, 1889, to September, 1899, 368; males, 275; females, 93. Whole number of deaths, 25, or 6.8 per cent. Of these 19 were males and 6 females. Of those who died, however, 56 per cent., 8 males and 6 females, 14 in all, died within a week after admission. How far they were advanced in the fever may be judged from the fact that the average duration of the fever before admission for the whole 368 was 9.43 days. Many of them who died in the first week were in a hopeless state, if not actually moribund, on their reception. Among the 93 females there were no deaths after the first week following their admission, that is, in 87 of the 93. If, therefore, we counted those only who died after they had been a week or more in the hospital under treatment, they would number 11, or only 3 per cent. As the London hospitals, however, presumably report their entire death rate, our figures of 6.8 per cent. is to be offset against 18 per cent. in London.

But, as already remarked, the proportion of occurrence of the leading symptoms characteristic of this disease and their severity, as far as they can be derived from the clinical histories, furnishes a better criterion of the efficacy, or the reverse, of any methods of treatment than the mere percentage of deaths or of recoveries. Following, therefore, Bristowe's enumeration of symptoms, the first which we would advert to is diarrhœa. He speaks of it as generally associated with the initial symptoms, though sometimes absent then, to become, however, a striking feature of the disease and rarely absent from the second week on. He deprecates on this account the use of laxatives, unless perhaps a small dose of rhubarb or of castor oil during the first week, and he regards the recommendations of Trousseau and of George Johnson, that the diarrhœa should be allowed to run its course, as erroneous and dangerous, preferring to check it by the systematic administration of tannic acid, sulphuric acid, lead and opium, etc. In my own records, diarrhœa occurring after the first week following admission is reported in only thirty-two out of the three hundred and sixty-eight, or 8.7 per cent., and in the majority of them it was not severe, so that there are very few prescriptions recorded as administered specially for this symptom. On the contrary, constipation which had to be relieved by enemata was of very frequent occurrence, but the percentage unfortunately has not been made out. The absence of diarrhœa in typhoid fever is not confined to my own hospital experience, but has been reported of late years as common in American hospitals generally, and is noted, though to a less extent, in the English reports. I would ascribe this change in large measure to a change in the feeding of fever patients. Thirty years ago the use of beef tea in typhoid fever was almost universal. I believe that hardly any articles are so prone to fermentation in the alimentary canal, and to induce tympanites, as the continuous ad-

ministration, day and night, of meat broths in febrile conditions. Tympanites thirty years ago was so constant a symptom that it was rated as a diagnostic feature of the disease. As Watson says, "if you make pressure on the abdomen you will find it unnaturally hard and resisting, as though its walls were much distended; but, whether large or not, Dr. Jenner states that its shape is invariably the same and peculiar. The patient is never pot-bellied, but tub-shaped."

As I have always placed a good deal of store upon this symptom, I have had its occurrence noted in every case, with the result that even its temporary presence was not overlooked. So infrequently had it been a marked symptom, according to my recollection, in any but the fatal cases, that I was surprised to find that it had been recorded as present in eighty-four patients, or 20.2 per cent. On reviewing this record, however, it was found that nearly one-half the whole number of instances of tympanites occurred in September and October, 1898, and was noted in thirty-nine soldiers admitted for typhoid fever contracted at various camps in our own country and in Cuba. Of these, six had also a mixed infection of typhoid fever and of malaria, in four of whom the plasmodium malariæ permanently disappeared after the typhoid fever ran its course, while in two others chills and fever, with a reappearance of the plasmodium in the blood, took place after they had fairly convalesced from typhoid. It was probably owing to the reduced constitutional condition of these soldiers from the poor food and other hardships of camp life that they so generally presented this symptom on admission. Deducting, therefore, these soldiers, the occurrence of tympanites at all is recorded in only about forty-five patients, or about eleven per cent. at most. Its presence in the records is generally in those who were admitted late in the disease, and in the majority of them it disappeared soon afterward under treatment. The prevention of this particular symptom I believe to be not without bearing upon the question whether we can favorably modify the course of the fever, for tympanites is both a sign and a complication. It is a sign of weakened innervation and of loss of normal antiseptic power in the gastro-intestinal secretions on the one hand, and a direct cause of cardiac and of pulmonary enfeeblement on the other, while it cannot be without some effect in increasing the tendency to accidents at the seats of intestinal ulceration. I always regard a persistent tympanites in a typhoid patient with uneasiness, and any method of treatment in which this symptom becomes a rarity I cannot but consider as materially beneficial.

The number of patients in whom hemorrhage from the bowels occurred was twenty-seven, or 7.3 per cent. In no instance was it directly fatal. When the bleeding was very profuse the hypodermic injection of ℥ viii. to xii. of decinormal saline solution, ℥ i. to O i. sterilized water, was markedly beneficial. The best site for this hypodermoclysis is in the lumbar region between the crest of the ilium and the twelfth rib. At this site no pain will follow upon any muscular movement of the patient. The temperature of the water should be about 110° F. An ordinary hypodermic needle may be used, attached to a fountain syringe.

Among the nineteen deaths of male patients, four succumbed to intestinal perforation. Two of these occurred among the soldiers admitted in 1898, and while they were convalescing. It was noteworthy that both of them had refused to enter their camp hospitals for a number of days after they were ill with the fever, and they continued to report for marching duty when they should have been in bed. In both of them laparotomy was performed by my colleague Dr. Robert Abbe as soon as possible after they showed symptoms of this accident, but to no avail, one dying on the day of the operation, while the other survived it five days.

To continue our comparison with the English experience: Dr. Bristowe proceeds to describe "the typhoid condition" into which he states that a large proportion of the cases pass in the second week. "The elevation of temperature continues, the rash still comes out, the diarrhœa still persists; the tongue becomes dry and brown and traversed by deep fissures; the lips and teeth are covered with sordes; the mind grows dull and apathetic; and delirium, sometimes violent, sometimes busy, sometimes muttering, supervenes: bed sores tend to form; tremors, subsultus, and involuntary passage of the evacuations take place," etc.

I may say that as a whole this picture is one of great rarity in my experience. Thus as to a delirium, it was noted in forty-seven, or 12.7 per cent. But of these fifteen, or thirty-two per cent. of them, were delirious on admission, four of whom died within that week, while the rest recovered from their delirium in a week or less. The total absence of delirium in the remaining three hundred and twenty-one patients, or 87.3 per cent. of the whole number, is at least an indication that they hardly passed into the typhoid condition pictured above at any time in the course of the disease. Some of them were drowsy, but tremors and subsultus were too rarely observed to figure among the clinical symptoms. The state of the tongue was always carefully noted, but fissures in it were not once recorded. Sordes on the lips and teeth were present in patients on admission, but in every case soon cleared up, and never were recorded as developing in patients after admission. Of this fact I feel quite sure, for it has seemed to me that a remedy to be mentioned soon is commonly quite efficacious in preventing general dryness of the tongue if administered at the first appearance of this symptom at the tip.

Of other complications in our series, pneumonia occurred in ten, or 2.7 per cent; bronchitis in twenty-nine or nearly eight per cent., but it was an initial symptom in more than forty per cent. of them, and was easily controlled.

Peripheral neuritis occurred in twenty-four, or not quite seven per cent., of the cases, and in each case was limited to the feet. The causation of this symptom in typhoid is apparently purely mechanical from the foot-drop induced by prolonged relaxation of the leg muscles. The peripheral neuritis of phthisis is probably partly, though not wholly, due to the same condition.

Phlebitis occurred in seven. In two of them it was very troublesome and much prolonged the convalescence.

Subcutaneous abscesses occurred in twenty-nine, or nearly eight per cent. This large number, however, for such a complication, occurred mainly in the form of a furuncular epidemic in the autumn of 1894 and 1895, in patients who took a large number of baths, while they rarely appeared in those who took but few baths. I learned that during those years a similar experience was encountered in other hospitals in this city, and I myself had the same proportion of such cases in the typhoid-fever patients in my wards at the Bellevue Hospital. I ascribed it then to the presence of an infectious organism in the Croton water. It constituted a serious complication, greatly retarding recovery, and in two cases it seemed to contribute to a fatal result.

Relapses occurred in fifty-five, or in no less than fifteen per cent. of all the cases; though some of them seemed to occur in near sequence to some imprudence in eating articles surreptitiously furnished by friends during the hungry period of beginning convalescence, yet in most instances no such cause could be assigned. Moreover, the tendency to relapses is much more marked in some years than in others, rising as high as thirty per cent. of all cases in one year, so that the eti-

ology of these recrudescences of this fever must be regarded as obscure. In London also it is noted that the three per cent. of relapses given by Murchison has now risen to thirteen per cent. As a rule the prognosis is not unfavorable except in those cases which begin the relapse with vomiting.

In one of the fatal cases (male) typhoid ulcers were found only in the large intestine, where they were very numerous. One case, of a man aged forty years, five years ago, ran through a course of typical typhoid fever clinically, but after he had so far convalesced as to be allowed to begin taking solid food he developed an abdominal pain and fever of a septic type, and died in ten days. At the autopsy extensive pelvic myositis was found, but no evidence was discernible of any antecedent ulceration whatever in the intestine or in the appendix. I greatly regret that no cultures were made from the pelvic exudate, for I have no doubt that his was a case of typhoid fever without implication of Peyer's patches.

My method of treatment of typhoid fever has been as follows: On admission, if at any time before the end of the second week, a mercurial purge of gr. v. of calomel and gr. xxxv. of compound jalap powder is administered, and this purgative is repeated every third night till the close of the second week. The presence of diarrhœa is no contraindication to its administration, for rather it seems to check it altogether, and to change the character of the movements in the majority of cases. It seems directly to lower the temperature as its first effect, and to moisten the tongue. My belief is decided that a mercurial cathartic acts as an effective gastro-intestinal antiseptic, and lessens the toxæmia. In many cases I have continued it well into the third week, ceasing its administration only when there was cause to fear the supervention of intestinal hemorrhage.

The exclusive diet until the fourth week is equal parts of milk and lime-water. Such a dilution of the milk, I think, is imperative, for the majority of even healthy adults cannot take large quantities of fresh milk continuously without inducing digestive disturbances, as is proven on a large scale by the invariable practice of all pastoral peoples, who have to live largely on milk, of fermenting the milk first so as to spare the stomach the preliminary task of curdling it. I prefer lime-water as the diluent on account of its decided antiseptic properties. In the fourth week, farinaceous gruels, preferably arrow-root, is added.

As typhoid fever has been shown to reduce the peptic secretions of the stomach more than any known disease, not excepting gastric cancer, I see no reason why we should not attempt to supplement the deficiency by administering pepsin. The theoretical objections adduced by some physiologists to pepsin preparations as both insufficient and inert, I reject altogether. In typhoid fever the stomach is reduced to the weakness of early infancy in digestive power; hence I would not give milk undiluted. But practically I have repeatedly seen, especially in consultation practice, gastric tympany speedily subside on the administration of pepsin. From the beginning to the end of the fever, gr. x. of pepsin and gr. x. of bismuth subcarbonate is ordered by me every three hours, so as to amount to gr. lxxx. of each in the twenty-four hours. In many cases the dose of bismuth is gr. xx. Bismuth I regard as much our most serviceable intestinal antiseptic, and experience leads me only to increasing rather than to decreasing doses of it. With this medicinal management of the alimentary canal not only are the tendency to dry tongue, stomatitis, pharyngitis, parotitis, otitis (I have never had a case of typhoid ulceration of the larynx in my wards), and diarrhœa notable by their absence, but the emaciation of this fever is equally prevented, in marked contrast to what I have witnessed in patients who had been otherwise treated. As soon as the tip of the tongue shows the first sign of dryness, ℥x.–xx. of spiritus terebinthinæ are given every four hours in emulsion.

This constitutes the stated medication of the case, for the indications presented by signs of circulatory weakness are met as they arise by the ordinary resources to alcoholic and other cardiac stimulants, with the exception of digitalis. To check intestinal hemorrhage, gr. ¼ of silver nitrate and gr ¼ of opium are enveloped, so to speak, in gr. ix. of resin of turpentine in three pills, and this dose is given every two to four hours. These pills are so slowly dissolved in the intestine that some may pass unacted upon, in which case ℥v. of liquor potassæ should be added.

Against the general toxæmia of typhoid fever there is in my opinion no measure which approaches the cold bath. I have had recourse to it in every case of typhoid fever under my treatment since the year 1874, and I order the patients to be put at once into the tub as soon as the temperature reaches 103° F. Active friction of the whole body is kept up by the attendants while the patient is in the water, and ℥i. of Hoffman's anodyne in camphor water is given as soon as he is taken out, to shorten the subsequent shivering In some weak patients this is also given before the bath. I think that the observation, now fully confirmed, that the cold bath doubles the toxicity of the urine, points to the eliminative action of this measure as a more likely explanation of its life-saving efficacy than its mere antipyretic effect. During my service in 1889, I had every other patient given their baths charged with the artificial Nauheim salts and carbonic acid. In comparison with patients treated with ordinary cold water, the depression following the Nauheim baths was undoubtedly less, while the antipyretic effect was more prolonged, probably from the general cutaneous stimulation of the salts and carbonic acid. On the account I have since freely recommended this modification in consulting-practice. The addition of a pound of common sodium carbonate to the Nauheim bath increases the effect.

Owing to my routine practice now to treat every case of nephritis with oliguria by rectal irrigations of from four to six gallons of decinormal saline solution, administered by Kemp's rectal irrigator, this measure is always adopted at the hospital in every case of typhoid fever with albuminuria, but I would recommend it also in all cases of this fever with severe toxic symptoms, on account of its effect in promoting renal elimination.

## ELECTRICITY IN RESPIRATORY AND CARDIAC FAILURE, WITH A CASE OF PARALYSIS OF THE DIAPHRAGM.[1]

By A. D. ROCKWELL, M.D.,
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Duchenne was, I believe, the first to demonstrate that the diaphragm, notwithstanding its supreme importance in the act of respiration, might be completely paralyzed with no fatal results, if uncomplicated with any serious pulmonary attack. Sudden death may indeed follow paralysis of the diaphragm, but in such a case there must also be coincident paralysis of the intercostal and other auxiliary muscles of respiration.

As Luschka has shown, the diaphragm possesses a double innervation: first, a principal and fundamental innervation furnished by the phrenic nerve; second, an accessory innervation, the source of which is in the last intercostal nerves. It is only through disease or injury of the spinal cord above the origin of

[1] Read before the American Electro-Therapeutic Association, September 19, 1899.

the third and fourth cervical nerves that all the muscles concerned in respiration are paralyzed. Disease of the phrenic nerve below its junction with the cervical nerves permits respiration without seeming effort notwithstanding the paralyzed diaphragm, so long as the patient remains quiescent. It is only when muscular effort is attempted that the breathing becomes greatly embarrassed.

The following case not only illustrates these statements and the value of electric excitation of the phrenic nerve, but is a fitting preliminary to a discussion of its relation to respiratory and cardiac failure.

John B——, a musician, aged thirty-eight years, consulted me on January 9, 1899, for a generally depressed vitality, and especially for an inability to "breathe properly," as he expressed it. Some three months before he had had an attack of la grippe, but of so slight a character as not to prevent his playing each night with the orchestra of which he was a part. The attack persisted for several weeks with increasing respiratory oppression, until finally he was compelled to abandon altogether the wind instrument which he played. He grew gradually worse, and when I saw him the effort of walking tasked his respiration greatly, while to ascend the stairs was an impossibility without two or three halts on the way. He suffered from transient aphonia, *i.e.*, after exertion he could with difficulty articulate, and his utterance would be in a whisper. As the dyspnœa subsided the voice grew stronger and became natural. His pulse was 68, and when in repose, sitting or reclining, his respiration seemed neither hurried nor unnatural, but its unusual frequency, 28 per minute, was readily detected by placing the hands on either side over the ribs, when the quick costal breathing was very apparent. An inspection of the bare chest and trunk revealed very distinctly the essential characteristics of paralysis of the diaphragm. When the patient was directed to attempt deep inspiration and to breathe rapidly, the epigastrium, instead of becoming more prominent, was depressed, with a distinct line of demarcation between the chest and abdominal cavity. During expiration, however, the epigastrium became full, instead of sinking as is the case in normal respiration.

An application of the faradic current to the phrenic nerve, one pole (the positive) at the outer border of the sternocleido just above the clavicle, resulted in a deeper inspiration and a very slight though appreciable bulging of the epigastrium. This treatment was repeated every day for one week, and after every séance the patient expressed himself as having experienced a certain sense of well-being, greater freedom in breathing, and a capacity for increased physical exertion. At the seventh visit I substituted for the faradic current the combined currents, or galvano-faradization.

If in your own person you will make a comparative trial of either the faradic or galvanic currents alone, and then the two currents in combination, you will be not at all surprised, if your experience is the same as mine, at the following statement as regards the effect of the latter method on my patient. Whereas by the use of either of the two currents alone there resulted only a comparatively slight bulging of the epigastrium, the currents in combination caused a greatly increased prominence both of the epigastrium and the hypochondria. It was very evident that this combination of mechanical and chemical effects stimulated the phrenic nerve more powerfully than either current alone. Even after the first application of the combined currents there resulted an ease of respiration not before experienced, and that did not altogether subside in the twenty-four hours elapsing before the next application. From this time the patient improved gradually but surely, and within a month regarded himself as again quite well.

The action of electricity on the pneumogastric and phrenic nerves is one of very considerable importance, and one, too, about which there has been more or less misapprehension. It is a very easy matter to influence the respiration through the phrenic nerve, but more difficult to illustrate its control over the action of the heart through the pneumogastric. Experiments on animals have, however, demonstrated this power very clearly, and I have in man witnessed several striking illustrations of its action, notably so in a case of cancer of the breast under treatment by electrolysis. The tumor had been removed with the knife, and the exposed tissue was subjected to the electrolytic action of a powerful current, resulting in an immediate and profound effect on the heart's action. Its beat became for the moment not perceptibly weaker, but alarmingly slow. On discontinuing the current the pulsation immediately became normal, only to slow up again on reapplying it. Thus we see that stimulation of the pneumogastric, either in physiological experiment or in the course of a surgical procedure, calls into increased activity the inhibitory function of this nerve, slows the action of the heart, and carried beyond a certain point may arrest its action altogether. Stimulation of the phrenic nerve, on the contrary, is followed by quite different effects on the great muscle which it supplies. A successful electrization of the phrenic nerve results in a marked increase in the activity of the diaphragm. The inspiration becomes deeper and stronger, the epigastrium bulges, and the contractions of the diaphragm can even be felt by pressing the hands firmly over the sides. Basing opinion solely on the results of physiological experiment and observation in surgical cases, the conclusion is not unnatural that while in respiratory failure electrization is of value, in cardiac failure this method is not only inefficacious, but may even endanger life. It is unnecessary then to dwell further on the benefit to be derived from electricity in respiratory failure. Whether it be threatening death from opium, aconite, or drowning, experience abundantly attests its value, and no one disputes it. A question here arises as to the relative merits of artificial respiration and electrization. It has been claimed that artificial respiration answers all the purposes of electrization in cases of opium poisoning, for example, besides being always and instantly available.

Unfortunately this simple and most valuable procedure would certainly fail in some cases in which the other succeeds. I can recall two cases of opium poisoning out of a number thus treated, in which life was saved by keeping up the respiration for many hours until the effects of the poison began to wear away and the phrenic nerve again resumed its function.

It is exceedingly doubtful if artificial respiration could succeed in such cases. In one case of this kind in which I continued the application for eight hours its remarkable effects were strikingly manifested. When found the patient was so profoundly narcotized that the respiration had fallen to five a minute. Stimulation of the phrenic nerve raised it to ten. After two hours of uninterrupted treatment it had sunk to eight, and if the application was suspended for a moment it fell to about three, showing that the full narcotic effect had not been reached when the treatment was begun. Immediately on resuming the current, the respiration would get up again to eight, and as the effects of the opium gradually wore away the frequency of the respiratory act increased until it reached its normal rate, and the patient was saved.

Now is it true that electrization, while of value in respiratory failure, is useless or even harmful in cardiac failure, more particularly when due to chloroform narcosis? To this question my own experimental observations as to the effects of electricity when applied

percutaneously to the living man, and an experience in two cases of profound chloroform narcosis, lead me to answer quite confidently in the negative. The vagus is the chief afferent nerve for the respiratory centre, as well as the inhibitory nerve of the heart, and while it contains both accelerating and inhibitory fibres for this centre, the former largely predominate. Division of the nerve in an animal decreases the frequency of the respiration, but at the same time deepens it, while stimulation of the central end quickens it; and even were it possible to influence the pneumogastric in any marked degree by percutaneous applications, the effect on the respiratory function at least would necessarily be stimulating rather than depressing. But it must be remembered that therapeutic applications of electricity, especially the faradic current, by any allowable strength of current, has but little appreciable effect on the function of the pneumogastric.

In the case referred to in which such a profound influence was exerted over cardiac action, the application was made directly to the muscular tissue through needles, the patient being anæsthetized, and with an enormous current strength.

Percutaneously, it is possible to use only a fraction of such a strength of current, altogether too slight appreciably to affect the pneumogastric, but quite enough to excite vigorously the functional activity of the phrenic. The benefit that often comes from the use of electricity in exophthalmic goitre has been adduced as evidence that therapeutic applications do appreciably affect the inhibitory action of the pneumogastric.

According to my experience, it is the galvanic rather than the faradic current that gives the best results in this disease, while in cardiac and respiratory failure it is the latter that is both most effective and safest. But whichever current is used, it is doubtful, in the light of more recent data relating to the function of the thyroid, whether the good effects of electricity in Basedow's disease depend so much on any direct action on the pneumogastric, as on the thyroid body itself, its stimulation acting as an antidote to the hyperthyroidation believed to be the toxic cause of the symptom complex of this disease. In its report on cardiac failure in chloroform poisoning, the Hyderabad commission said that it was of "primary importance to keep track of the respiration in administering chloroform; if this is kept up the heart will give no trouble."

Apropos of this statement, a very interesting and instructive case is related by Dr. D. H. Galloway, of Chicago.[1] He described it as a case of "respiratory paralysis." Under the influence of chloroform, the face of his patient became cyanotic, respiration entirely ceased, "but the pulse was fairly good and about 140." Artificial respiration dissipated the cyanosis in a few minutes, and the pulse became stronger, but on stopping the forced respiration, all the former symptoms again returned. Forced respiration was immediately resumed and continued for some thirty minutes, with an occasional momentary cessation, but always with the same result of respiratory and heart failure. Finally, however, the respiration became permanently stronger and the patient recovered. "In every case of this kind that has come under my observation," says the author, "the chloroform has paralyzed the respiration and not the heart." Carefully conducted experiments by means of cardiographic tracings have shown that induced currents have absolutely no influence on the frequency or force of the cardiac contractions. This would seem to be a sufficient demonstration that no possible harm can come from its use in heart failure, but it does not demonstrate that this current is valueless in threatening death from this cause, as has been claimed. The promptness and ease with which the induced current, by simple percutaneous applications to the phrenic nerve, quickens and strengthens respiration, while no appreciable influence is exerted over the function of the pneumogastric, render it a most valuable agent in chloroform narcosis, as well as for the poison of opium, aconite, and other toxic agents, supposed more directly to affect the respiration.

**Summary.**—1. Direct electrization of the pneumogastric and phrenic nerves calls into activity the physiological function of these nerves. In the case of the former the action of the heart is depressed; in the case of the latter respiration is accelerated and strengthened.

2. Percutaneous applications in therapeutic doses, especially with the faradic current, altogether fail to affect the pneumogastric appreciably, while the same method readily affects the respiration through the phrenic nerve.

3. In respiratory failure, therefore, whether due to the poison of opium, aconite, or in apparent death from drowning, electrization is a powerful antidote.

4. In heart failure from chloroform narcosis also the faradic current is a legitimate method of resuscitation, by keeping up the respiration without depressing the heart.

25 East Forty-fourth Street.

[1] Journal of the American Medical Association, February 4, 1899.

## THE ETIOLOGY OF SCARLET FEVER.

By HARRY O. HALL,

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In a paper upon the above subject published in the Medical Record of September 2d, the author, Dr. W. J. Class, refers to a report by Behla, which appeared in the *Centralblatt für Bakteriologie*, in which the writer speaks of a scarlet rash developing "in some pigs belonging to a peasant in whose family there were several typical cases of scarlatina. In order to see whether there was any connection between the scarlet fever in the peasant's family and the rash in the pigs, Behla took some blood from one of the children having scarlet fever and inoculated a healthy pig with it; after a few days a scarlet rash appeared around the edges of the inoculation wound, followed by desquamation."

Upon reading this quotation from Behla's paper, the question arose in my mind whether the scarlet rash which developed in the pigs was communicated to them from the infected children, or was not the disease more likely to have been communicated alike to the children and to the pigs through the medium of milk fed to them from diseased cows? It is a well-known fact that at various agricultural experiment stations milk from tuberculous cattle fed to hogs has produced tuberculosis in the hogs as revealed by post-mortem examination.

The etiology of scarlet fever is a subject which has long engaged the thought of the best minds in the medical profession, and I feel sure that anything which may throw light upon the vexed question or lead to a new line of investigation will be welcomed by medical men, even though it may come from a layman.

In the course of about twenty-five years' service in the library of the Surgeon-General's office, in connection with the compilation of the "Index Catalogue," and as custodian of the largest collection of medical journals in the world, many things have come to my observation which have started a train of thought that if followed up might have proved of value to medical science. One of the subjects which particularly attracted my attention was that of "milk as a cause of disease," and I was led to make a somewhat extensive research into the literature of the subject, which re-

sulted in revealing some very interesting if not startling facts. I learned, for example:

I. That, while scarlet fever occurs in epidemic form in all countries where cow's milk forms a staple article of food, especially among children, it does not occur in countries where cow's milk is not used as a food or where children are raised on mother's milk only.

II. That in Japan and China, where cow's milk is not used as a food, scarlet fever is unknown or very rare. (In a list of three hundred and ten different countries, cities, and towns in which epidemics of scarlet fever have occurred, Japan, China, and Corea do not appear.)

III. That in India, where cow's milk is used as a food, but where, as in Japan, children are nursed until three, four, and even six years of age, scarlet fever is rare, if not unknown.

IV. That in countries where goat's milk and ass's milk are used as a food scarlet fever is unknown.

V. That epidemics of scarlet fever in London and elsewhere have been traced directly to the use of milk from certain cows affected with the teat-and-udder disease, and that milk had not been infected by coming in contact with the disease in man.

VI. That certain diseases in the lower animals are coexistent with or precede or follow similar epidemics in the human race.

The research which brought out the above interesting facts was made several years ago after reading an account of an extensive epidemic of scarlet fever in London which was said to have been traced to milk from a certain dairy farm. Shortly after reading the account above mentioned, I came across a paper written by Dr. A. S. Ashmead, of New York, published in the *Journal of the American Medical Association*, on "The Beneficial Consequences of the Absence of Cow's Milk in Japan." This led me to wonder if in Japan scarlet fever was as prevalent as in countries where cow's milk is used as a food, and the result of my investigation showed the almost entire absence of scarlet fever from that country. So far as I have been able to ascertain, no one has heretofore connected the exemption from scarlet fever with the non-use of milk as a food. This is the point which I desire to emphasize and bring to the attention of the medical profession, especially those who are investigating the etiology of scarlet fever. To bring into apposition the several facts mentioned above I quote the following:

In December, 1885, an extensive epidemic of scarlet fever broke out in London. Upon investigation it was found that in every case the milk used by the patient came from a certain dairy farm. On further investigation it was found that certain cows in a certain shed from which the milk was supplied to the infected parties were suffering from a peculiar vesicular disease of the teats and udders. Upon the discontinuance of the sale of milk from this shed no new cases developed among the consumers; but, strange to say, upon its becoming known among the poor farmers in the neighborhood of the dairy that the milk was being thrown away, numbers of them surreptitiously obtained the milk from the cow-men, and within a short time an epidemic of scarlet fever broke out in the neighborhood, and many cases occurred. Subsequently another epidemic broke out in London among the consumers of milk from cows in a different shed of the same dairy. On investigation it was found that some new milch cows which had been kept in the quarantine shed the requisite time had on a certain date been admitted to this second shed of fifty cows. From the date of their admission the second epidemic occurred. Again the cows were submitted to examination, and certain ones were found to have discharging vesicles upon the teats and udders. Persons using milk from cows in still another shed were exempt until a certain date, when an outbreak of fever occurring among the consumers, it was found on examination that two cows in that shed were affected with the teat-and-udder disease in its early stage. Pus was taken from these vesicles and injected under the skin of healthy calves, and within a few days similar vesicles appeared upon the udders and teats of the calves, accompanied with high fever, sore throat, diarrhœa, running at the nose, and, in fact, all the symptoms of true scarlet fever.

Dr. Cameron, one of the physicians who investigated this strange epidemic, expressed his belief that the disease found to exist in the cows "was a specific disease capable of being communicated to healthy cows by direct inoculation of the teats and udders with virus conveyed by the milker from a diseased animal."

**Absence of Cow's Milk from Japan.**—In regard to the absence of cow's milk from Japan and its beneficial consequences Dr. A. S. Ashmead says:

"One of the most striking features of that most curious of countries, Japan, is the singular scarcity of domestic animals. Horses and cows are only seen in cities and on the roads as pack animals. The cow, in Japan, is not wanted for her milk. Being an animal product, milk falls under the general condemnation which excludes everything that has pertained to a living body from the alimentation of man. . . . Thus it happens that as Japan may not use cow's milk, the Japanese mothers are compelled by stress of circumstances to suckle their babes themselves. Artificial lactation is altogether unknown. The children are suckled until their sixth year. The great reward which Japan reaps from this meritorious care of motherhood is the absence of rachitism. All observers have referred to the fact, and to the absence of rachitic pelves. I think I am not wrong in affirming that the chief and central source of these great sanitary blessings is the absence of cow's milk."

**Absence of Scarlet Fever from Japan.**—Dr. Stuart Eldridge, one of the surgeons of the General Hospital of Yokohama, and secretary of the board of health of that city, in a paper published in the Medical Reports Imperial Customs of China, in 1878, says in regard to scarlet fever: "If this disease ever existed in Japan it has as yet made no appearance among foreign residents in anything approaching an epidemic form. Two cases are reported under the heading of scarlet fever as having been admitted to hospital in the years 1868 and 1870. No death from this cause is noted in the mortuary reports. The experience of the local practitioners includes but two other cases which were suspected to be scarlet fever, both occurring in the practice of the same physician, neither fatal, and both considered by the reporter as not beyond a doubt as to their character. I cannot learn that scarlatina has been met with among the natives by any prominent practitioner of medicine, either native or foreign. It is apparently but seldom met with in China. The cases above mentioned may have been scarlet fever, but it is by no means impossible that they may have been cases of any one of several other diseases known to occur here. The first case was that of an American sailor, recently arrived. Granting that this was one of scarlet fever, it is not unlikely, in view of the portability and persistency of scarlatinal contagion, that the infection was brought from home in the man's shore clothing, and that he himself fell the first and only victim. Of the second case mentioned in the hospital books, that of one of the few natives admitted for disease, the stay in hospital was so short as to prove that the disease, whatever it was, was mild, while it is very improbable that of the few cases of natives admitted to the hospital one should be that of the only known occurrence of a generally epidemic disease."

To show that Dr. Eldridge had no suspicion that the absence of cow's milk from Japan has any connection with the immunity of the Japanese from scarlatina I quote further from the same report:

"But that we have so far escaped the ravages of scarlet fever affords no certain assurance of immunity in the future. A disease of the nature of that in question, dependent upon a persistent, portable, and intense contagion, is almost certain to reach us sooner or later, while the rapid increase in the number of children in proportion to the adults of the foreign community is yearly rendering the circumstances more favorable for its propagation when once imported.

"If the theory of Dr. Carpenter is correct, and decomposing blood furnishes the origin or nidus of scarlatinal infection, the comparative rarity of collection of this form of garbage in China and Japan may be connected with the non-occurrence of this fever; or it may be possible that the existing influences of soil or climate are unfavorable to the development or propagation of the specific poison. But the relations of such conditions to the disease in question, if they exist, are so little understood that it will be the part of wisdom to treat any suspicious case with exceptional precautions against the propagation of the malady."

**Scarlet Fever Rare in India.**[1]—Surgeon-Major Murray, of Bengal, in an article in *The Lancet* for October 27, 1888, in discussing a case of sporadic scarlet fever originating *de novo* in India, says:

"Cases of scarlet fever are so extremely rare in India that the publication of the following case may be of interest. Chevers, in his last work (a commentary on the diseases of India), writes: 'I never saw any form of scarlatina in lower Bengal, or any disease which could be mistaken for it; neither has any medical man with whom I have discussed the subject met with a genuine and unmistakable case in that great province.'

"Writing in 1864, Dr. Peet, who had great experience in the Bombay Presidency, said: 'Scarlet fever is altogether unknown in Western India.' Deputy Surgeon-General G. Mackay, an officer of large experience, who spent all his term of service in the Madras Presidency, and was for several years civil surgeon of Ootacamund, never saw a case of the disease in India. A few cases have been reported as having occurred at military stations in the families of soldiers recently arrived from England—imported cases."

To what extent milk is used in India as a food I am not able to say, but it is not customary to feed it to infants or young children. In an article running through two volumes of the *Indian Medical Gazette*, on the infantile diseases of India, Dr. T. R. Hogg, the writer, says: "As families subsist on four rupees a month, the mother feeds on dal, chupatties, rice, rarely varied by the luxuries of sheep's head or goat's flesh. The child is kept at the breast without any other nourishment as long as possible; the period of lactation is prolonged three years or more, and so long as an infant thrives and gains weight on suitable breast milk only he is preserved from sickness or the dangers of dentition, and is less prone to contract worms or infectious fevers."

Even if it should be found that in countries where cow's milk is commonly used as food scarlet fever is rare or unknown, it would be interesting to know more about the cattle of the country, the character of their food, and the nature of their diseases, etc., before we arrive at any conclusions.

One fact is beyond any dispute; that is, that many diseases, and particularly tuberculosis and scarlet fever, have been traced directly to milk consumed. The questions to be decided is, Can these diseases, or do they, originate in the cows?

Writing on the subject of "the diseases of the cow by which infection is conveyed to the consumer of her milk," Dr. H. E. Armstrong says: "It has been clearly demonstrated that milk may of itself be diseased as the product of a diseased animal. Foot-and-mouth disease, as is well known, is transmissible from quadruped to man. So is tuberculosis. During recent years several outbreaks of human scarlet fever and diphtheria have been undoubtedly due to milk supply.

"In some dairy farms cows have been found to be ill, their most noteworthy symptoms being febrile disturbances, vesicular eruptions on the udder, scabbed teats, and a loss of hair in patches. The investigators report that these symptoms indicate a disease or diseases in the cow which are communicable, as scarlet fever or diphtheria, respectively, to the consumers of the milk."

In an epidemic of scarlatina occurring at Wimbledon, it was found that out of five hundred and forty-five cases of the disease four hundred and ninety-three occurred among a population of about fifteen hundred persons using milk from a certain suspected dairy, while but fifty-two cases out of a population of fifteen thousand persons using milk from other dairies occurred.

In another outbreak of scarlet fever three children in one family who were fed on a particular cow's milk caught the disease, and one died. The only other child in the family, supplied with milk from a different dairy, escaped entirely.

Very few persons whose attention has not been drawn specially to it have any conception of the enormous quantity of milk consumed in our large cities. When we look at the figures and compare them with the high death rate of children and infants, the importance of throwing every safeguard about this almost necessary article of food will be apparent. Averaging the daily consumption of milk per capita at two-thirds of a pint, the amount consumed in New York is one hundred and eighty million quarts at a cost of $13,500,000; in Philadelphia, seventy-five million quarts. In a total city population of a few principal cities of five million there are annually consumed over four hundred million quarts of milk, costing the consumers $32,000,000.

**Connection between the Diseases of Animals and Man.**—While it is true that the idea that cow's milk may become the vehicle of communicating disease to man is of recent origin, it has long been known that many of the diseases of animals bear a great similarity to certain diseases in man, and that many of the diseases with which we are now afflicted were originally peculiar to the lower animals. It has also been observed that epidemics of certain diseases in the lower animals are coexistent with or precede or follow similar epidemics of disease in the human species.

A reference to George Fleming's work on animal plagues from B.C. 1490 to A.D. 1800 reveals many very interesting facts in this connection.

The learned historiographer of Barbadoes, the Rev. Mr. Hughes, describes the disease scarlatina, and its

[1] Since the above was written the following paragraph in the MEDICAL RECORD of September 16, 1899, has come under my observation: "The *Journal of Tropical Medicine* says that the *Indian Medical Gazette* has since 1870, collected a considerable amount of information regarding the prevalence of scarlet fever in India. Up to that time it was believed that the disease was unknown in that country. Colonel Kenneth Macleod, writing to the *Journal of Tropical Medicine* on the matter, comes to these conclusions: (1) That scarlet fever has been frequently imported by troop ships and that small epidemics have thus arisen among Indian natives in children. (2) That these epidemics have always been of a limited kind and have speedily died out. (3) That they appear to be more substantial and protracted in hill stations than on the plains. (4) That cases and groups of cases have been observed, the origin of which could not be ascertained. (5) That the disease does not appear to prevail epidemically among indigenous races and populations."

conveyance to human beings "both by contact with the diseased animals and by eating their flesh and drinking their milk."

In 1778 scarlet fever and epidemic angina in mankind were very prevalent in many countries, but particularly in England and Holland, and an epizoötic among cattle, horses, asses, goats, pigs, etc., appeared.

In 1777 scarlet fever was epidemic in many countries, and in England and France was complicated with malignant sore throat and diphtheria. In March of that year angina gangrenosa developed among horses.

In 1514 Fruscator described a pestilential exanthematic or eruptive fever among animals somewhat like the measles or purpuric fever in man, but more particularly resembling the scarlet fever of Sydenham, or the malignant miliary fever as described by Hamilton and Alloni, but more exactly by Waltherius. An eruption appeared on the face, ears, neck, and forelegs, attended with sore throat. It was a kind of quinsy, followed by eruption. In 1735 angina ulcusculosa, or scarlet fever, prevailed for the first time in America. In 1734 scarlet fever was epidemic in England and Scotland, and nephritic colic among horses. There was also an epizoötic among horses in England and Scotland, which Hensinger thinks may have been scarlatina. In 1760, in the county of York, England, during February and March, scarlatina, sometimes complicated with malignant sore throat (diphtheria) was epidemic in the human species. At the same time an epizoötic manifested itself among horses, which affected every animal in the locality with symptoms very similar to those observed in mankind. One hundred died in a week.

In 1768–69 an epizoötic anthrax in animals was prevalent in Switzerland, coincidently with gangrenous sore throat; malignant pustule and epidemic diseases such as scarlet fever and angina were common in the human species.

In Copeland's "Encyclopedia of Medicine" we read: "I have lately had reasons, indeed evidence, for the following inferences: (1) That scarlatina was originally a disease of the horse, and that it formerly occurred, and has recently occurred epidemically, or as an epizoötic among horses. (2) That it was communicated in comparatively modern times from horses to man; (3) that it may be, and has been, communicated also to dogs."

Mr. Percival, veterinary surgeon to the First Regiment of Life Guards, in his work says: "Like smallpox, scarlet fever was first generated in the lower animals . . . and was then communicated to man."

In a paper entitled "Consumption Caused by Cow's Milk," published in the *Medical and Surgical Reporter*, April 29, 1893, Dr. McQueston, the writer, says: "Consumption is the result of drinking cow's milk, and where milk is not used the disease is said not to occur. I mean exactly what I say," he continues, "no more, no less. The primary cause of consumption is the drinking of cow's milk. I do not mean that every single case of phthisis is attributable directly to the patient's having imbibed infected cow's milk—though even so strong a statement as that is very nearly true—but I do mean to say that if the American people stopped using cow's milk, and butter and cheese made from cow's milk, tuberculous consumption would soon disappear. Let met put it in another way: In countries where cow's milk is not used tuberculous consumption is not known. In China there is no milk consumed, and consumption is almost an unknown quantity. Take the steppes of Asiatic Russia: only goat's milk and mare's milk is used there. Consequently there is no consumption. . . . The same condition is, or was until recently, true of the South Sea Islanders—no cows, no tuberculous diseases. Take the North American Indians before the white man brought his whiskey and his cows among them. They had no word in the Indian language that corresponded to consumption. A few cases may be produced by the person inhaling the dried sputa, and some may be inherited, but the great cause, and the first cause, is the use of cow's milk as a food."

The conclusions arrived at by Dr. McQueston in regard to consumption in its relation to cow's milk, from investigations made by him, are identical with those of the writer of this paper in regard to scarlet fever in its relation to cow's milk, arrived at after an entirely independent investigation.

If the facts cited above, and the suggestions thrown out shall result in a new line of investigation by medical men as to the etiology of scarlet fever, I shall feel fully repaid for the trouble I have taken in preparing this paper.

## IODIDE OF POTASSIUM IN THE TREATMENT OF ACNE.

By FRED. J. LEVISEUR, M.D.,
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It seems to be paradoxical to claim that iodide of potassium administered internally is useful in the treatment of acne vulgaris. The well-known fact that this drug is liable to produce papulo-pustular cutaneous manifestations closely resembling the lesions of acne apparently favors its avoidance rather than its use. Practical experience while treating a number of acne patients with iodide of potassium has convinced me that the action of the drug is in many regards quite different from what one is led to expect, and that it can be utilized very well in the treatment of this stubborn disease.

As is well known, the escape of free iodine through the skin has been observed by R. W. Taylor. It has been found in the blood, in pus, in pleuritic exudations, in the mucus of the bronchi, in the fluid of hydrocele and synovia, in the milk, the nasal mucus, in the tears, the sweat, the crystalline lens and vitreous humors, and, according to Howald, in the hair.[1] In the pus of acne pustules or tumors of iodic origin it was found by Guttmann and Adamkiewicz, while Ducrey's, Pellizary's, and Hyde's identical experiments were followed by negative results.

Spenzer,[2] of Cleveland, advanced the theory that hydriodic acid is formed primarily, and other writers state that more complicated chemical combinations occur in the sebaceous follicles on account of the presence of fatty acids. One author is, I think, carried away by his imagination when he says that these chemical reactions are sometimes so intense as to produce nascent oxygen (ozone), which, when set free, acts as a strong irritant. Even if the presence of iodine in some of the normal secretions and in the pus has been demonstrated, there is no foundation for the belief that the lesions of iodic acne are produced as if the iodine was injected into the follicle from the outside. Modern investigators like Thin, Colcott, Fox, Gibbes, and Unna have shown that a primary inflammation of the sebaceous glands does not exist, but that the papules and pustules must be considered as a superficial dermatitis together with the formation of minute abscesses in the cutis, all this being the result of the disorganization of small blood-vessels at special points through the iodine circulating in the blood.[3] Of interest in this connection is the well-known inflammatory reaction produced by dusting calomel into the eye of a patient who is taking some

[1] Inaugural Dissertation, Berlin, 1897.
[2] Cleveland Journal of Medicine, July, 1898, p. 207.
[3] Vorhandlung d. deutsch. derm. Gesch., vi. Congress, 1899.

iodide preparation internally.[1] Fricke[2] was the first to call attention to this phenomenon, which occurred in the cases of two patients who had been taking hydriodic potash, one for twenty-eight and the other for thirty-six days. He then made experiments on healthy persons, producing the same results. He was unable to prove the presence of iodine in the lacrymal secretions. Thirty years later Edmund Rose, Hennequin,[3] and Lagarde[4] took up the same subject. Hennequin's patient was given iodide of potassium in about gr. ix. daily doses for ten days; then calomel was insufflated into the eye, producing an effect as if some caustic chemical had been applied to the conjunctiva. Bellini, who was the first to make experiments with animals, found that if about nine grains of iodide of potassium was administered twice daily, the excretion of the iodine as shown by urinary analysis was constant. He also drew attention to the fact that calomel is ten times more soluble in a three- to four-per-cent. solution of salt than in ordinary water. He believes in the formation of a chemical combination of iodine and mercury. Glancing through a number of standard works on the eye,[5] selecting the chapter on phlyctenular ophthalmia, we find that some writers do not use mercurials in the eyes, and hence have no occasion to mention the phenomenon; others speak of calomel and Pagenstecher's ointment as useful, but give no caution as regards iodide of potassium. Some warn against calomel, but in the same paragraph recommend other mercurials, while others proscribe all mercurials. Many writers mention only iodide of potassium, while others include iodide of iron and in fact all iodine salts. Fuchs quotes Schlaefke as authority that the compound formed is mercuric iodide, while Mittendorf says that the irritating substance formed by the iodide is an oxide and not an iodide of mercury. It is quite important to note that many writers agree on two points, viz., that small doses of iodide of potassium may produce the phenomenon, and that it may occur comparatively soon after the beginning of the medication. Acute iodism also may appear soon after the administration of one or two small doses. I do not refer to the iodism occurring in patients with nephritis or heart lesions, for according to O. Reichel and J. Neumann[6] resorptive activity and consequently the vitality of the skin and mucous membranes are materially interfered with in these patients. Kessler[7] tells of a case caused by an iodide of potassium and glycerin vaginal tampon. A few moments after the introduction there were burning sensations with lancinating pains in the abdomen, iodine taste, and pains in the lateral aspect of the face and neck. He also quotes Fournier[8] as having seen three cases of œdema glottidis after small medicinal doses. Hewkley[9] reports a case of acute iodism, in which iodide of iron had been given in moderate doses, the characteristic symptoms soon following the exhibition of the drug. Similar cases are also mentioned by Briquet,[10] Russell,[11] and Finger.[12] I have observed that if patients with normal renal functions, having acne vulgaris, take gr. v. of iodide of potassium three times a day in a glass of milk, symptoms of what might be called acute iodism appear as early as after two or three doses, and not later than on the third day. The symptoms consist in the appearance of a metallic taste, running from the nose, and a feeling of pressure in the frontal region. Aside from the subjective symptoms, which being slight are noticed only by intelligent patients, nodules appear in the apparently healthy skin of the face, of the size of a pea. They are deeply embedded in the skin, somewhat but very slightly redder than the surrounding parts, and moderately painful on pressure. They resemble urticaria wheals,[1] or, better yet, a diminutive form of a lesion of erythema nodosum. At the same time acne lesions if present, especially the old indurated ones, show a sudden increased inflammatory reaction, resembling very much the reaction occurring in and around lupus nodules after the injection of tuberculin.

I shall not try to explain the appearance of this peculiar early iodism after small doses, but would like to point out that according to v. Cyon[2] the iodide salts circulating in the blood, after being transformed rapidly into an organic combination, are changed into iodothyrin by the action of the thyroid gland. This gland may, therefore, play an important part in this connection. If larger or very large doses ( ℥ i. to iss.) for psoriasis (Haslund[3]) are given, it is quite possible that through the action of the drug on the kidneys the iodine is eliminated more as an alkaline iodide, and not so much in organic combination.

In all the cases, numbering about fifty, treated by me with iodide of potassium, this drug was administered in milk. The therapeutic action of the iodide is in no way interfered with by giving it in this vehicle, but it is rendered more acceptable to the stomach; a considerable quantity of the iodine (0.17 to 100) becoming neutralized by the alkali and albuminates contained in the milk. The average dose was iodide of potassium gr. v. three times a day. In almost all cases the urine was tested for the presence of iodine. This test is, I have found, quite simple. Some urine poured into a test tube is mixed with one-third of its volume of ordinary corn starch. Then a drop of commercial nitric acid is allowed to run down inside the tube. The latter should not be held in the hand, but should be put into a glass standing on the table, so as to keep the tube perfectly quiet. If iodide is present in the urine the drop of acid, running down into the mixture, will form a streak bordered by a blue or violet color, which gradually disappears. The presence of one part of iodide of potassium in six thousand can easily be demonstrated. As a rule the iodide appeared in the urine after two or three doses on the second day, and had entirely disappeared about forty-eight hours after the medication had been discontinued.

The following case illustrates the manner of treatment.

Miss F. W——, eighteen years old, had been affected with acne of the face for a year and a half. The affection started with the formation of pustules on and around the nose, the region of the forehead and the chin becoming gradually involved. In spite of judicious and thorough treatment, both by external and internal remedies under the direction of the family physician, and later of several specialists, the patient's condition became worse. A number of tumors appeared, varying in size from a ten-cent piece to a quarter, protruding well above the surface of the skin, of a bluish-red color strongly contrasting with the somewhat sallow complexion of the patient. Here and there a number of ordinary acne pustules were inter-

[1] Alb. v. Graefe: Arch. f. Ophthalmologie, Bd. xxvii., p. 257.
[2] Hamb. Zeitschrift, v., 3, 1837.
[3] Hennequin: "Accidents provoqués par le calomel," etc. Gazette hebdomadaire, February 15, 1867.
[4] Gazette des Hôpitaux, 1867, p. 129.
[5] De Wecker, 1879: "Ocular Therapeutics." Wolfe, 1882. De Schweinitz, 1892, p. 235. Fuchs, 1892. Fick, 1896.
[6] Archiv f. Derm. u. Syph., xlviii., 3.
[7] "Ueber acuten Iodismus." St. Petersburg. Woch., 1891, viii., 23.
[8] Gaz. des Hôp., 1889, No. 21.
[9] Boston Medical Journal, 1880, p. 1160.
[10] "De l'iodisme." Lemaire méd., 1896, xvi., 13.
[11] Medical Record, 1893, xliv., p. 207.
[12] "Der acute Iodismus," etc. Wien. med. Woch., 1892, p. 1388.

[1] R. W. Taylor: Journ. Cut. and Ven. Diseases, November, 1886 (urticaria on the hands, face, and neck after four or five small doses of iodide of potassium).
[2] Centralblatt f. Physiologie, Nos. 8 and 11, 1897.
[3] Zeitsch. f. phys. Chemie, xxi., 5–7, p. 481.

spersed, and several unsightly scars were noticed marking the site of lesions which had been opened by the knife and emptied, according to the patient, of a considerable amount of pus. The patient was given gr. v. of iodide of potassium three times a day in a glass of milk after meals. The following day—after three doses—she complained of a slight headache, running from the nose, and a pronounced metallic taste. The urinary test for iodine was positive. On the third day the condition presented a decided change. All the larger tumors showed increased redness, swelling, and pain on pressure. There were also present a number of new lesions (four) consisting of small nodules deeply embedded in the skin, of the size of a small pea, almost normal as regards color, but decidedly painful on pressure; they were not capped by a pustule nor was there a central opening indicating their connection with a sebaceous gland. The iodide of potassium was now stopped, and the face treated locally with a mild sulphur salve and ichthyol soap ten per cent. At the end of the second week the patient's face had greatly improved. All the larger tumors were very much diminished in size; the smaller, due directly to the iodide, had entirely disappeared. There were no pustules present. The iodide of potassium was now given in the same doses and manner as before. Symptoms of early iodism again appeared on the second day, the urine containing traces of iodine. The local reaction concerning the lesions in the face was not so intense this time, still it was plainly visible. After three days a number of new pustules appeared. The iodide medication was now stopped, and under the influence of ordinary local treatment, which hitherto had been absolutely inefficient, the patient got perfectly well, and could be pronounced cured at the beginning of the fifth week. This case represents that type of acne for which iodide treatment is particularly well adapted. But the latter has also shown its value in other chronic cases of acne in which there exists less inflammation, but in which many comedones are present. In these cases it is necessary to stop the treatment promptly as soon as signs of a reaction have made their appearance. Patients, therefore, need careful watching, and should be required to report to the physician every three or four days. The urinary test for iodine, as described above, should always be made.

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## ENTRANCE OF AIR INTO THE CIRCULATION.

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How often air enters the circulation, or in what per cent. its presence there would cause a fatal issue, might be a matter for some experimenter to ascertain. That fatalities do occur from this cause in obstetrical and surgical cases is no doubt true. Many of the so-called cases of embolism in obstetrical practice are in reality due to the churning of air in the heart cavities instead of the lodgment of a clot as often supposed. Nicking of the external jugular, in which the blood pursues a downward course, has always been carefully avoided by surgeons to exclude the possible entrance of air which might be carried directly to the heart in its downward rush.

Every one is familiar with the action of a pump working smoothly and well. If a little air is admitted along the line of suction, what is the result? Instantly the valve forgets to work. The stream pours out in foam. Precisely this occurs upon the entrance of air into the circulation. The heart cavities become filled with foam, and instantly there is a case of the much-mooted but nevertheless genuine heart failure. Any one who has been unfortunate enough to witness such a case will never forget the awful agony depicted by a patient in such terrible condition as above described. The intent of this article is particularly to call the attention of post-mortem examiners to the necessity of examining for air in the cavities of the heart and coronary arteries in cases of sudden death, especially those in which an abortion may presumably have been attempted or performed. When the chest cavity is opened and the heart exposed the coronary arteries should be examined carefully for the presence of air. If present, a crackling sensation will be felt by the finger. It may also be seen to be present by the blood column being divided into sections. When the finger is drawn along the transparent walls of the artery, the blood may be seen to move in divided portions as above related. A further demonstration will be had when the heart cavities are opened, the foamy character of their contents being manifest.

A common method among the laity for the induction of abortion is to introduce the nozzle of a syringe, with perhaps a catheter attached, into the uterus, and to inject water, or what must be the inevitable result with the novice, air. These people are not discriminating as to technicalities; it is results they are after. Therefore should they choose a bulb syringe and not divest it of air by submersion previous to its introduction, as the nozzle completely blocks the os, the air must go somewhere, and that blast of air from the rear door will cause the recipient a cold which will send her travelling through the balmy altitudes of space in search of cure.

That these and like procedures are the causes of numberless cases of sudden demise I am convinced. There being no ostensible signs, often the case is passed upon as angina pectoris or some of the manifold heart lesions. Imagine the sigh of relief the operator must draw when he reads the autograph of the careful family physician attached to the legal certificate which forever hides from public inspection the real cause.

Think of the lifelong wonder it must be to the ignorant quack, husband, or other accessory (if there is any) why heart failure should set in at such an inopportune moment.

Typhoid and other cases of ulcerating diseases of the intestine often drop out suddenly from some mysterious cause. May not an explanation be found in the introduction of gases into the circulation through the medium of sappy ulcerations and open vessels which oftentimes exist in hemorrhagic cases? The pressure of gas in cases of great tympanites is sufficient to force air into the circulation and thus furnish us a clew to our patient's sudden collapse.

Physicians should use care, in giving hypodermic injections, to divest their syringes of air before use. This rule might safely be applied even to rectal enemata. Another more recent and equally dangerous practice, by which air might enter the circulatory system, is that arising from carelessness in throwing peroxide of hydrogen into a cavity like the bladder or uterus, or even a large abscess cavity, the danger accruing from the rapid development of gas by the action of the peroxide on pus or blood. There being only a small outflow, or none at all, pressure might become great enough to force air into the circulation.

**Posterior Urethritis.**—Irrigations with the recurrent catheter, of permanganate of potassium, followed by injections of protargol, will cure in a relatively short time a case of subacute posterior urethritis without complications.—A. Ravogli.

# Progress of Medical Science.

**Spontaneous Healing of Tuberculous Ulceration of the Larynx.**—Eiserbarth (*Deutsches Archiv fur klinische Medicin*, B. 65, H. 1 and 2, p. 205) has reported the case of a laborer, forty-seven years old, who first came under observation June 8, 1897, and again on August 8, 1898, principally on account of pulmonary tuberculosis. In the interval difficulty in swallowing developed, and the voice became hoarse. Laryngoscopic examination yielded negative results by reason of mechanical difficulties. On dismissal, toward the close of October, 1898, the symptoms were referable principally to the larynx. In the middle of January, 1899, the patient came under observation for the third time with severe pain in the larynx. Laryngoscopic examination was difficult, but finally a large cicatrix involving the right vocal band and ventricular band was brought into view. Treatment was directed against the principal disorder, the tuberculosis of the lungs and the intestine. Death took place on February 6, 1899, and on post-mortem examination the larynx presented evidences of previous extensive tuberculosis, which had undergone perfect and complete cicatrization.

**Paroxysmal Swelling of the Parotid Glands.**—Freudenthal (*Berliner klinische Wochenschrift*, October 2, 1899, p. 80) has reported the case of a woman, thirty-two years old, who as a child had suffered from glandular enlargement and between the age of thirteen and twenty-two years from anæmia. For ten or twelve years the patient was from time to time suddenly seized with itching in front of the ear, and more frequently upon the left side, this area in a short while becoming intensely red. At first swelling was absent, but within six years the slightest irritation of the itching area, as from scratching, was followed by the appearance of a swelling half as large as a goose egg. Without interference this condition subsided spontaneously in from ten to thirty minutes. At no time was the secretion of saliva excessive, and the saliva never contained pus. During the first pregnancy three years previously, as well as during the second, in the fourth month of which the patient came under observation, the condition, which ordinarily recurred daily, remained entirely in abeyance. The patient was anæmic and lymphatic, and somewhat adipose. The heart was slightly enlarged, and the stomach dilated and atonic. Some of the teeth were distinctly carious. Febrile symptoms were absent. No relation existed between the appearance of the swelling and menstruation. The condition was considered most probably hysterical. A further unique feature of the case is the circumstance that the husband of the patient on two occasions with an interval of six months was likewise seized with sudden swelling in the parotid region on both sides, preceded by itching and redness of the skin. The swelling persisted for about a day and a half and then disappeared spontaneously. This condition also was considered hysterical.

**A Case of Scarlet Fever Associated with Tetany in a Child.**—Kühn (*Berliner klinische Wochenschrift*, September 25, 1899, p. 855) reports the case of a boy, four and a half years old, in whom stiffness and impaired mobility of the lower extremities had been observed for five days. These symptoms gradually increased and slight fever appeared. The teeth were tightly clenched, the neck was rigid, and slight opisthotonos and rigidity of the extensors of the lower extremities were present. The arms were held close to the body by tonic contraction of the shoulder-muscles and of the flexors, while the hands were free and consciousness was preserved. The eyeballs also were freely movable. Upon the face and the anterior surface of the extremities were isolated red spots, from a millet-seed to a lentil in size. On the chest the skin presented a diffuse, dark, punctate, pale-red color, upon the abdomen with a yellowish-brown tint. The back, from the neck to the buttocks, presented a homogeneous, deeply scarlet-red, somewhat swollen surface, covered with numerous miliary vesicles. Miliaria were present also upon the neck and the abdomen. The urine was free from albumin and sugar, and the glands behind the jaw were not enlarged. The trismus and the rigidity of the neck remained unchanged during rest, while the stiffness of the remainder of the body yielded somewhat. Attempts at passive movement and pressure in the bicipital and crural sulci, however, increased the rigidity and transformed the tonic into clonic spasm. The mechanical irritability of individual nerves and muscles was greatly increased. No injury or recent cicatrix could be detected, and the possibility of intoxication with ergot or strychnine could be excluded. Desquamation set in at the end of a week, while the spasmodic phenomena persisted for six weeks.

**Cardiac Arrhythmia.**—As the result of an interesting clinical and anatomical study Ebstein (*Deutsches Archiv für klinische Medicin*, Nos. 1 and 2, vol. 65, 1899) concludes that all disturbances in the rhythmic activity of the heart, which so often come under clinical observation, may be explained in accordance with the results of experiments on animals. Arrhythmic cardiac activity in both human beings and animals is the expression of increased demands upon the activity of the heart when the cardiac cavities are overfilled with the blood, and when a disproportion exists between the circulatory resistances and the functional capability of the heart. These facts are of clinical significance, and often constitute important guides in prognosis and treatment. On the other hand, a trustworthy conclusion with regard to the influence disturbing the regularity of cardiac activity cannot be based upon the arrhythmia, of whatever character, intensity, and duration it may be. This is possible in many cases, but by no means in all, from a consideration of the etiological influences, upon careful and thorough investigation of the patient.

**Neurectomy as a Preventive of Masturbation.**—In *The Lancet* of September 23, 1899, A. C. and H. E. Clark report the case of an insane man, forty-nine years old, in whom the habit of masturbation was controlled by division of the afferent nerve of the reflex circuit, with the object of preventing erection and sensation. After careful antiseptic preparation an incision was made transversely across the dorsal surface, and about half an inch from the root of the penis. The skin here being elastic and flaccid it can be drawn into a longitudinal fold, and this is easily transfixed transversely by a sharp, narrow-bladed knife, without injury to the dorsal vein. The nerves, two in number, are not easy of identification or isolation, being intimately wrapped up in the loose superficial fascia. They must be sought for on the lateral margins of the dorsum of the penis, and they are in close relation to and generally to the outer side of the dorsal arteries. The arteries are more closely attached to the capsule of the corpus cavernosum, and they are not, therefore, liable to be injured. The nerves were raised by means of a blunt hook, and about half an inch of each was resected. The wound was closed by a continuous catgut suture, and, being made thoroughly dry by washing with ether, a layer of thin gauze was made to cover it by means of collodion. The healing

process occupied ten days, and the patient made a satisfactory recovery. The man was much depressed for some time after the operation, but he had given up his former habit, and he was much improved mentally. There was no atrophy of the testicles after the lapse of a year.

**Differential Diagnosis between Intermittent Fever and Acute Tuberculosis.**—At the meeting of the French Academy of Medicine, in September, 1899, Dr. Moncorvo, of Rio Janeiro, spoke of the value of guaiacol as an application in deciding between malarial fevers and acute or subacute forms of tuberculosis in early life, and presented the following conclusions: (1) The antithermic action of synthetic guaiacol (alpha) employed under the form of a cutaneous dressing is very active and very prompt in the fever due to tuberculosis, while it remains almost without exception negative in instances of malarial fever. (2) This diversity of action of guaiacol lends to it an incontestable value in clearing up the diagnosis between tuberculosis and acute malaria. (3) Guaiacol employed in the same manner also aids us in the diagnosis when these two affections coexist.

**A Convenient Test for the Presence of Acetone in the Urine and Other Animal Fluids.**—Oppenheimer (*Berliner klinische Wochenschrift*, September, 18, 1899) recommends the following test for the detection of the presence of acetone in the urine and other body fluids. First, a reagent of the following composition is prepared: Mercuric oxide 50, concentrated sulphuric acid 200, distilled water 1,000. The sulphuric acid is first added to the water, and then the mercuric oxide, and the whole is permitted to stand for twenty-four hours, when it is filtered. To 3 c.c. of urine the reagent is added drop by drop. In the presence of albumin a turbidity results at once, but in the absence of albumin only after addition of considerable quantities of the reagent. If the precipitate remains on shaking, a few drops more of reagent are added, when the mixture is set aside for two or three minutes until a viscid sediment forms. Next filtration is practised, and repeated if necessary, until the filtrate is clear. Then about 2 c.c. of the reagent is added, and 3 or 4 c.c. of thirty-per-cent. sulphuric acid, and heat is applied for one or two minutes, over a flame or over boiling water. If a dense white precipitate appears in the course of two or three minutes it may be concluded that acetone is present. If the amount be small, less than 1 in 50,000, the turbidity may not occur for three or four minutes. The precipitate is soluble in an excess of hydrochloric acid. The test can be performed in from five to seven minutes, and it requires no special apparatus. It must, however, be performed exactly in the manner described. The test is applicable also for quantitative analysis.

**Surgical Treatment of Gastric Ulcer.**—In the *Annals of Surgery* for October, 1899, Andrews and Eisendrath report two cases of gastric ulcer in which operation was performed, in the one with a successful and in the other with an unsuccessful result. As an outcome of this experience and of some experiments on animals, together with a consideration of the cases recorded in the literature, they reach the conclusion that the result of the practice of the best modern surgeons warrants the statement, previously made on theoretical grounds, that operative intervention only can save the lives of a certain proportion of the patients affected with bleeding ulcers of the stomach, viz., those not improved by internal medicine. Surgical intervention is to be recommended, first, in cases presenting small repeated hemorrhages; second, in cases of severe hemorrhage occurring more than once, especially if more than 500 c.c. is lost at each bleeding. A single copious hemorrhage is not necessarily an indication for operation. In cases with ulcers at or near the pylorus, pyloroplasty is an ideal operative procedure. It renders local treatment possible, and yields all of the benefits of and is safer than gastroenterostomy. Cauterization and curetting of the ulcer should give place to resection, whenever the stomach wall can be reached from without. If the stomach is adherent posteriorly or at either extremity cauterization, curettage, and ligature *en masse* are the best substitutes for excision. Ligature *en masse* has been shown experimentally to favor perforation, unless support is afforded by external sutures.

**Some Facts in Regard to Aneurism of the Aorta.**—H. A. Hare and C. A. Holder (*American Journal of the Medical Sciences*, October), in closing a paper on aneurism, have called attention to several facts which they thought to be noteworthy, as follows: First, the far greater frequency of this lesion of the aorta in males than in females; secondly, the far greater frequency in the involvement of the ascending portion of the arch than of the other portions; third, the fact that aneurisms of the transverse and of the descending portions of the arch seem to be about equally frequent; fourth, that in a large proportion of cases death did not ensue from rupture, but from pressure by the growth; fifth, that syphilis does not seem to play so large a part as an etiological factor as is supposed, although this evidence is negative rather than positive, since it is possible that many of the cases which were assigned to trauma as the cause are really dependent upon syphilis, in that this disease had primarily weakened the aortic wall so that injury readily brought about aneurism. The analysis included the histories of nine hundred and fifty-three cases taken at random from the reports of the clinicians in this country and abroad.

**Spasmodic Asthma.**—W. Blair Bell (*The Edinburgh Medical Journal*, October) considers briefly the causation of asthma as follows:

1. Direct Causes in the Lungs: (*a*) Mechanical and toxic irritation (external). This may be caused by inhalation of vapors, cold air, or dust (*i.e.*, solid irritants). The result is usually immediate, and may disappear when the cause is removed. (*b*) Mechanical and toxic irritation (internal), by elimination of retained or toxic compounds in the blood in cases of gout, rheumatism, Bright's disease, intestinal intoxication, and uterine disturbances, especially in pregnancy. (*c*) Pathological conditions of the lungs. Tubercle, bronchitis (acute and chronic), bronchopneumonia, etc., may all be accompanied by asthma.

2. Indirect Causes: These indirect causes convey their impressions to the lungs through the branches of the vagus nerve, which has a pulmonary plexus. The peripheral branches have widespread connections, and by far the most important in the causation of asthma is the gastric branch. (*a*) Gastric irritation. In a large proportion of the attacks of asthma in children here lies the cause. The reflex result takes place along the course of this gastric branch. (*b*) Nasopharyngeal and aural. These can be studied in any text-book on anatomy concerning the connections of the vagus with these regions. Polypi, adenoids, enlarged tonsils, catarrh, etc., are frequent causes of asthma. (*c*) Cardiac. It has been shown that "cardiac asthma" in a general way is not asthma at all, in the true sense of the word, but there is a true cardiac asthma which arises from the irritation of the cardiac termination of the vagus, and produces a reflex irritation of the pulmonary plexus. It is very rare, and it is the result of myocarditis and possibly pericarditis. (*d*) Central. Central irritation is caused through

the channels of the ordinary sense of touch, sight, hearing, smelling, or by mental impressions—fright, emotion, etc. Direct impulses are transmitted along the vagus to the lungs from the central nervous system.

**Beta-Eucaine as an Anæsthetic.**—William H. Poole (*Medical News*, October 21st) concludes that: (1) Eucaine is decidedly less toxic than cocaine, therefore superior to it. (2) Its aqueous solutions keep well and can be sterilized by boiling without destroying the activity of the drug. (3) It produces anæsthesia equally well and sometimes better than cocaine. (4) It is superior to cocaine in that it does not cause heart depression or other unpleasant effects. (5) It does not cause mydriasis or disturbances of accommodation, which is of advantage in some cases. (6) It is less dangerous to the cornea than cocaine, inasmuch as it does not cause desquamation of the superficial epithelium.

**Diagnostic Value of Radiography in Children.**—Escherich (*Centralblatt für die medicinischen Wissenschaften*, September 30th) says that radiography in children, on account of the extreme thinness of the tissues, is very satisfactory. The shadows which the bones produce are, however, less sharply defined than in adults, a condition which is explained by the fact that their bones contain less calcium than those of adults. In a rachitic child, an attempt was made to determine by means of the *x*-rays the effect of a phosphorus therapy. A change in the bone picture was not observed after a long-continued administration of the phosphorus, but the "bone-forming" zone of the forearm showed a somewhat less irregular course. The mediastinum did not furnish any useful pictures. On the other hand, the diaphragm gave sharply defined pictures, enabling one to follow the position and movement of the muscle. The heart gave very dark shadow pictures. By means of these, it was shown that in some children with post-diphtheritic paralysis a marked displacement of the heart exists; this is a sign which speaks for an unfavorable termination. The shadow picture of a normal heart stretches far wider than the zone of so-called relative cardiac dulness; the borders must be determined separately for the various ages. The dark cardiac shadow is in marked contrast to the light pictures which other muscles present. It is quite easily demonstrated that a heart emptied of its blood gives a light shadow. Therefore the fluid contents are the cause of the dark cardiac pictures. Further demonstrations showed that not the hæmoglobin but the fluid itself gave rise to the dark pictures. A heart filled with water gives the same dark shadow as a heart filled with blood. All other organs as well, once they contain a large quantity of water, give dark shadows; for instance, the lungs in pulmonary œdema.

**Pathology of Gout.**—Kionka (*Münchner medicinische Wochenschrift*, October 3d) draws the following conclusions: (1) Just as an excessive meat diet in human beings gives rise to gout, so in fowls that have been fed exclusively on meat do we observe an analogous clinical picture. (2) The gout of birds presents both clinically and pathologically the same symptoms as the uric-acid arthritis of human beings. (3) The uric-acid excretion in fowls that have been fed on an exclusive milk diet is markedly increased. (4) After the administration of calcium salts the uric-acid excretion in these fowls sinks fifty to sixty per cent., probably on account of the formation of carbaminic acid. (5) In human beings, carbaminic acid is also formed after continued administration of calcium; whether by this means the formation of uric acid is diminished, as in fowls, is very questionable, though numerous analyses by Strauss and Herxheimer seem to show a proportionate reduction of twelve to thirteen per cent. (6) The treatment of gout and the uric-acid diathesis with mineral spring waters is to a certain degree a calcium therapy, in that all the mineral water used for the purpose shows by chemical analysis a large percentage of calcium.

**Hysterical Skin Affections.**—Rasch reports an instance of factitious dermatitis with gangrene in a girl aged eighteen years (*Dermatol. Centralblatt*, August) which on close investigations turned out to have been caused by application of cantharides. Some lesions were followed by scar keloid. From the literature he gathers many instances of supposedly hysterical gangrene, etc., which subsequent investigation showed to be self-inflicted injuries, and he believes that in general an artificial origin cannot with certainty be excluded in these peculiar cases.

**Early Diagnosis in Pulmonary Tuberculosis.**—Dr. S. G. Bonney, of Denver, writing in the *Medical News* of September 30th, says the character of the cases sent to Colorado presents a striking commentary on the necessity of a more thorough appreciation of the principles capable of every-day application upon which to base an early diagnosis. After speaking of the significance of morning cough, daily rise of temperature, etc., he says: "The initial occurrence of hemorrhage without readily assignable cause should furnish, even in the absence of all clinical manifestations, all physical signs, a strong, suggestive indication of the existence of an already active though limited focus of tuberculosis infection." He condemns: (1) Delay in instituting any physical examination whatever until long after the development of pronounced constitutional and pulmonary impairment; (2) failure to examine upon the bare skin, the presence of clothing effectually preventing any approach to accurate results; (3) neglect to examine the entire chest; the bases, interscapular spaces, and axillary regions being frequently overlooked. He deplores particularly the existence of: (1) Erroneous conceptions concerning the significance of the absence of percussion-dulness at the apices, an active process often being capable of recognition by auscultation considerably before the evidences of consolidation are apparent; (2) the non-recognition, in the absence of râles, of the various modifications in disease of the normal respiratory sounds; (3) Inaccurate interpretation of localized diminished intensity of auscultatory sounds, elevation of pitch, harshness of quality, and prolongation of expiration. He severely criticises: (1) Failure to utilize cough preceding forced inspiration in eliciting the presence of slight moisture in the finer tubes; (2) the non-appreciation of the almost pathognomonic significance of a circumscribed bronchiolitis, even in the absence of dulness or other auscultatory signs.

**Chronic Urticaria.**—Dr. Karl Kreibich (*Deutsche Medizinal-Zeitung*, October 2d) says that urticaria is classified as a chronic skin affection when exacerbations of wheals occur repeatedly for a long time, thus producing what are known as urticaria recidiva and urticaria perstans. The urticaria recidiva of long duration seldom occurs in the form of large, intensely red wheals which rapidly disappear as in acute urticaria. Generally it is of another type, the lesions appearing as small, pale-red or dirty yellowish-red wheals, which soon become scratched and covered with a small blood crust; when the latter falls off there is left a yellowish-brown pigmentation. This disease is not identical with lichen urticatus (erythema papulatum), which has its typical seat on the extensor surfaces and is often accompanied by cinnamon-colored erythematous spots. In urticaria perstans there may

exist either urticarial wheals of weeks' duration (urticaria perstans simplex), or there appear pea-sized, hard, not sharply defined, pale-red, persistent papules, which consist anatomically of an infiltration of the cutis with leucocytes. If in addition to the latter there occurs an epithelial hyperplasia, then the papules and tubercles assume a warty appearance (urticaria perstans verrucosa).

**Echinococcus of Both Lungs and of the Liver.**—Steiner (*Berliner klinische Wochenschrift*, September 25, 1899) has reported the case of a girl, twenty years old, who for six months had noticed an induration in the region of the liver. She complained of dyspnœa, pain in the right side, cough, and expectoration. The anterior wall of the thorax was unduly convex. Dulness was detected posteriorly on the left side from the seventh dorsal vertebra downward, and in this area the vocal fremitus and the respiratory murmur were much enfeebled. In the same area, in the intervals of breathing, a blowing murmur synchronous with the systole was audible. The breathing was enfeebled at the base of the right chest. The heart was displaced somewhat downward and to the right. The first sound was dull, the second valvular. In close proximity to the mouth a loud, vibratile, sometimes whistling murmur could be heard, and with greater intensity when the mouth was open. The patient was herself conscious of this murmur, which could be heard also in the left lateral fossa of the neck, but not over the thorax. The left lobe of the liver extended to the level of the umbilicus. Its surface was nodular, but no thrill was appreciable. The right lobe of the liver was but little enlarged. The patient lived in the country with her father, and the household included two dogs. On exploratory puncture of the left lung over the area of dulness at the lower border of the eighth rib, echinococcus fluid was evacuated. The diagnosis being thus established, operation was decided upon, and the echinococcus of the left lung and of the liver was removed at one sitting. When the abdomen was opened, a large echinococcus sac was found in the left lobe of the liver, and which was attached by sutures to the abdominal wall in order to close off the peritoneal cavity. An incision was then made and a large amount of fluid evacuated. A communication with the subphrenic space was further found to exist. The entire wound cavity was now packed with gauze. Next, after resection of the seventh and eighth ribs on the left side, and suture of the pleura to the lung, between 300 and 400 c.c. of fluid was evacuated from an echinococcus cyst. This wound also was packed. After the lapse of some six weeks signs of involvement of the lower portion of the right lung became increasingly conspicuous, and exploratory puncture evacuated echinococcus fluid. Two weeks later between 15 and 20 c.c. of clear fluid were evacuated, and threatening symptoms followed, with the development of broncho-pneumonia. The patient was for some time quite ill, but she eventually recovered, gaining considerably in weight.

**The Study of the Nerve-Cell Changes of the Spinal Cord in Cases of Cerebro-Spinal Meningitis.**—Dr. Sidney I. Schwab, before the St. Louis Biological Society, June 13, 1899, read a paper on this subject, and believed the following conclusions seemed to be justified from the facts observed: (1) In epidemic cerebro-spinal meningitis we have to do with a process which affects the sensory cells. (2) The Clarke's system of cells shows greater tendency to the disease than any other system of cells. (3) This tendency cannot be explained by means of the effect of the mechanical pressure of the exudate. (4) The degeneration of these cells is caused by a toxin which originates from the specific agent of the disease, the micrococcus intracellularis meningitidis of Weichselbaum, which has a special affinity, first, for all sensory cells; secondly, particularly for the cells of Clarke's column, therein showing possible specific action toward these cells. (5) If the exudate does exert any pressure it is to be regarded as affecting the resistance of the cells which come within this line of its force, and the cells so acted upon react more easily to the toxic material than the others.

**Typhoid Fever of Unusual Duration, with Successful Operation for Perforation of the Cæcum and Peritonitis.**—Hawkins and Thurston (*Lancet*, October 14, 1899, p. 1004) report the case of a girl eleven years old, who had had some shivering five days before coming under observation, followed by a feeling of heat, with pains in the limbs, although she had been ailing for some days before this, with diarrhœa and a little nocturnal delirium. On admission the child appeared well nourished, with flushed cheeks. She was brighter and more cheerful than is commonly the case at the tenth day of typhoid fever. Widal's test yielded a negative reaction, and the diazo reaction was doubtful. The tongue, though not dry, was thickly furred, the abdomen was somewhat distended, and the spleen could be felt. No characteristic spots were seen. During the first five days of observation the temperature remained steady at between 102° and 103° F. It then began to fall, with a wide daily variation, but at the close of the second week the fall ceased and a fresh accession of fever set in. Widal's test still yielded a negative result. After a month the patient was in good condition, the bowels exhibiting a tendency toward constipation throughout, and enemata being necessary from time to time. The temperature, which often reached 104° F., and sometimes 105° F., showed a wide daily oscillation. The spleen was considerably enlarged; one doubtful spot was noted. The abdomen was slightly distended, and the tongue was thickly furred, but not dry. The pulse varied between 100 and 114. The patient was taking milk well, and no stimulant had thus far been necessary. Early in the morning on the forty-first day of the illness the patient was seized with pains in the abdomen, and was sick, while the bowels acted freely. The pulse was 108 and the temperature 103.4° F. Nothing abnormal was found on examination of the abdomen, and the patient fell asleep. After an interval of two and a half hours another attack of pain occurred, but there was no alteration in the condition of the abdomen beyond slight impairment of the respiratory movement, and there was no diminution in the area of hepatic dulness. Hot fomentations afforded great relief, but the pain soon recurred, the pulse rising to 120 and the temperature to 105° F. At midday vomiting set in; a little dulness appeared in the flanks, and the face began to alter. The pulse was 140, and the abdomen was more rigid, though not distended, while the hepatic dulness remained unaltered. Some delay was encountered in securing permission to operate, and this was done some fifteen hours after the occurrence of perforation. The patient was anæsthetized with chloroform, and a four-inch incision was made in the middle line below the umbilicus. On opening the peritoneal cavity a large quantity of seropurulent lymph escaped which had a faint fecal odor. The cæcum was brought to the surface with the idea of using it as a guide to the lower end of the ileum, the most frequent site of perforation, and a perforation was at once found on the anterior cæcal wall. The orifice was about one-eighth of an inch in diameter. It was surrounded by a zone of indurated tissue, and through it a little gas was escaping. A thin layer from the margin of the aperture was excised, and this

was then closed by a row of Lembert sutures, which produced good inversion of the edges, and a few reinforcing sutures were also introduced. The abdomen was thoroughly irrigated with sterilized water, and was then mopped out with marine sponges, especial care being taken to cleanse the pelvis and lumbar hollows. The intestines were slightly distended, but no thinned areas were seen, and it was not thought advisable to prolong the operation by a lengthy search for a possible second perforation. A rubber drainage-tube was inserted into the pelvis, and a similar one into the right loin, and a gauze-like drain was passed superficially upward. The wound was closed with silkworm-gut sutures. The duration of the operation was twenty-five minutes. The pulse failed slightly toward the end. The patient was given morphine subcutaneously and she slept throughout the night. Nutrient enemata, each containing a drachm of brandy, were administered every two hours. On the following day the general aspect of the patient appeared fairly good. The abdomen was flat and resonant, and respiratory movement seemed unimpaired. A fair quantity of seropurulent fluid had escaped and a gauze drain was introduced down the pelvic tube. Small quantities of milk and beef tea were given alternately by the mouth. On the following day the discharge was much less in amount, but more purulent and offensive. The abdomen remained unchanged, but the patient often vomited twice after taking milk. Two days later she suffered from paroxysmal attacks of abdominal pain, and the abdomen became somewhat distended above the umbilicus and moved less freely below. The amount of discharge was unaltered. The gauze drain was removed, the lumbar drainage tube was replaced by a strip of gauze, and the pelvic tube was changed for a smaller one. On the next day the abdominal pain became severe. The child was frequently sick; the abdomen became distended and tender; the discharge was serous and increased in amount; the pulse rate rose to 146; the bowels acted five times; and her general condition was grave. On two occasions 60 c.c. of decinormal saline solution were injected beneath the skin. By the following day the general and local conditions exhibited improvement. The pelvic tube was replaced by a gauze drain. A few days later all anxiety with regard to the peritoneal trouble was at an end. Rectal feeling was entirely discontinued, sufficient food being taken by the mouth. A parotid bubo now made its appearance on the right side, and an abscess developed in the buttock at the site of an injection of saline fluid. The abdominal wound gaped widely, and showed no sign of repair. The temperature was steady between 102° and 103° F., and the bowels were loose. After eight days the bubo and the abscess in the buttock were opened, and the abdominal wound resutured. Six days later the patient complained of pain and tenderness in the right femur, but no swelling could be detected. Two days subsequently bilateral otitis media supervened. After three days the pain in the thigh had ceased, but there was effusion in the left knee-joint, with pain and tenderness, followed on the next day by a similar condition of the right knee. A daily dose of 5 c.c. of antistreptococcic serum was injected for the next eleven days, and during this period there was great improvement in the general and local condition. The bubo and the abscess disappeared; the abdominal wound began to heal; the knee-jerks became normal; the discharge from the ears gradually ceased, and the temperature fell to normal. The knee-trouble was probably of septic origin, and was not an instance of specific typhoid arthritis. For twenty-three days the patient now slowly improved, and there was no ground for anxiety. The temperature, however, though always normal at some time of the day, was generally 99° or 100° F. in the evening, and the tongue never became quite clean. After the lapse of about three months a definite relapse set in, which lasted fourteen days. Widal's test now for the first time yielded a positive reaction, and the spleen again became enlarged. The abdomen was somewhat distended, the tongue was furred, and the temperature at the height of the relapse reached to from 103° to 104° F. A year after the onset of the illness the patient was robust and well, and presented no sign of abdominal disease.

**Treatment of Tuberculosis by the Landerer Method.**—At the meeting of the Association Française pour l'Avancement des Sciences, on September 14th–21st, Dr. Samuel Bernheim described this method, now in use for several years, which consists in injecting into the veins or into the muscles a solution of cinnamate of sodium. The conclusions which Landerer and Bernheim draw are: (1) Cinnamic acid and its compounds may be considered as absolutely inoffensive products, exerting no action upon the healthy organism in man. These agents have also no influence upon other diseases. (2) Their action is shown by the following manifestation: from the very first injection a hyperleucocytosis is established, and we find in the circulation especially a large number of polynuclear leucocytes and eosinophiles. Even around tuberculous foci an inflammatory process is set up which terminates in the production of connective tissue and of young vessels. This sclerous transformation extends by radiation through the tubercles, which soon present the appearance of cicatricial tissue. (3) These injections of cinnamate of sodium, which may be either intramuscular or intravenous, should always be begun with very small doses, starting with 1 mgm. and going up to 50 mgm., which dose need not be exceeded. We are guided in the increase of the dose by the patient's general condition, the temperature, the hæmoptysis, and finally the leucocytosis. According to the mildness or severity of the case the method is continued a longer or shorter time. We must, however, reckon upon a minimum of three months, and it may reach a year's duration. The patient should meanwhile be placed under the best hygienic conditions. (4) The authors have collected two hundred and eighty-four cases representing different forms of tuberculosis thus treated with good effects, often with success.—*La Méd. Moderne*, September 20th.

**Erythema Nodosum in the Course of Puerperal Infection.**—Dr. Brodier, writing in *La Médecine Moderne*, September 20th, refers to erythema nodosum in streptococcic septicæmia, of which he reported an instance in 1893. He now relates the history of a domestic, twenty years old, who aborted after an injury in the sixth month. Three days later there was severe pain in both legs, and the antero-external area of the left leg was the seat of an erythematous patch. A similar patch appeared within a few days upon the opposite leg. On the sixth day after confinement the diagnosis was undoubted. There was an abundant purulent discharge from the vagina, and there were superficial ulcerations about the vulva as though due to ruptured vesicles. The evening temperature was 39.6° C. The nodes upon the legs went through the typical course, but on the seventeenth day there were chills and a fever of 40° C. with abdominal tenderness, and the vaginal discharge began again; a swelling occurred in the popliteal space, and the nodes again became bright red, increased in size, and soon showed fluctuation. Puncture of the lesions resulted in the discharge of an abundance of thick, blood-stained pus. The fever persisted, and a large phlegmon of the left iliac fossa developed, and death

occurred on the fifty-fourth day from the abortion. Examination revealed nothing in the abscesses of the legs excepting streptococci. The author, therefore, believes that erythema nodosum may be the first manifestation of a septicæmia ending in death. [The term employed would here seem to be a misnomer, since erythema nodosum proper never results in suppuration.—Ed.]

**Dermatomyositis.**—Dr. Oppenheim (*Berlin. klin. Wochensch.*, September 11th) describes this affection as observed in a child nine years of age. There were pains in groups of muscles, difficulty of movement, redness and swelling in certain regions, pain about the pharynx and mouth, with difficulty in swallowing. There was also a certain amount of atrophy and paralysis in some muscles, which were hard and contracted. Some skin areas were red and appeared infiltrated. This rare affection may be confounded with muscular dystrophy or subacute rheumatism. The lesion is an infiltration of muscular tissue by small cells, enlargement of the internal perimysium, and partial destruction of muscular fibres.

**Treatment of Gonorrhœal Salpingitis.**—J. W. Taylor (*British Gynæcological Journal*, August) prepared a short abstract of the propositions he was disposed to maintain, as follows: (1) That a large proportion of women who are suffering from tubal disease have been, at some time or other, exposed to the infection of syphilis as well as of gonorrhœa; that these undoubtedly show marked improvement after a prolonged course of mercury and iodides, and in the course of this treatment, unless acute pyosalpingitis intervenes (in which medicine is useless), it is the rule rather than the exception for all gross physical signs of disease slowly and permanently to disappear. (2) That in many cases in which there is no history of syphilis, including cases in which there is an unmistakable history of gonorrhœa pure and simple as the sole cause and starting-point of tubal disease, the patients do similarly improve and get permanently well under the same course of treatment, provided always that the disease stops short of acute pyosalpinx. (3) That acute pyosalpinx is peculiarly liable to occur in the first place on the left side of the body, and its severity is probably due to secondary infection from the rectum; that cases of pyosalpinx, whenever possible, should be treated by free incision of the posterior vaginal fornix, by thorough exploration and emptying of all pus cavities from the pouch of Douglas, and by iodoform-gauze drainage; that this is far preferable to the older operations of removal of the appendages, which is not only much more dangerous, but is peculiarly liable to be followed by fecal fistula, an operation sequel sometimes worse than death itself. (4) That such cases of mixed infection and acute suppuration treated by operative evacuation do sometimes not only result in recovery, but remain permanently well without further treatment, the acuteness of the inflammation appearing to terminate the process of infection. In other cases, recovery is not so complete, and relapses are met with, and these cases should be followed up by a course of specific treatment, the beneficial results of this being often immediately manifest when the wound tissues are unhealthy, and the healing is delayed. (5) That occlusion of the tubes and peritubal adhesions consequent on gonorrhœal adhesions have no direct specific causation, and must be regarded rather as secondary mechanical results of the local peritonitis which has been caused by salpingitis. Their absorption and disappearance will not, therefore, be necessarily secured by cure of a gonorrhœa, and sterility may persist although the gonorrhœa is entirely eradicated from the system. (6) That in gonorrhœa of the pelvis there will probably remain a residuum of intractable cases, particularly cases of complication with other diseases, such as fibroids of the uterus; that in these cases operative removal of the organs affected will still be required, and that vaginal hysterectomy whenever possible, with or without extirpation of the uterine appendages, is not only the most rational operation in theory, but is productive of the best final results.

**Formalin in Tuberculosis.**—In joint tuberculosis and tuberculous abscesses Hahn (*Centralblatt für Chirurg.*) advises withdrawing the pus by aspiration and then injecting boric-acid solution, which is in turn withdrawn. Formalin-glycerin solution in the strength of one per cent. is then thrown in, and in the case of a joint the limb is fixed to a splint. There are fever, pain, and an increase in the fluid, but usually within two weeks absorption occurs, and recovery frequently follows.

**A New Granule Found in the Blood and Excretions.**—In the large round cells from the sputum, from purulent serous exudates of pleurisy and pericarditis, in ordinary pus, and in new non-inflammatory tissues, L. Grünewald, of Munich (*Centralblatt f. innere Medicin*, 1899, No. 30, p. 777) has found a new type of granule which he designates as the hypeosinophile granule. This stains by the ordinary eosin method a deep red, but the color is taken out by the application of either acids or alkalies; with the Ehrlich triacid mixture, the granules stain red like fuchsin, instead of orange as do the ordinary eosinophile granules. Preparations are best fixed by ordinary drying in the air or by slight heating. These granules are also found in the normal blood, usually situated in the mononuclear or polynuclear cells.

**Notes on Some of the Experiments on the Cure of Anthrax.**—J. McGarvie Smith and J. A. Gunn (*Australasian Medical Gazette*, August) state that the experiments, so far as they have gone, seem to indicate (1) That injection within eight hours of infection of an adequate dose of serum of an immune sheep—that is, one that has been vaccinated against anthrax, and the immunity of which has been subsequently proven by its perfect resistance to the injection of the virulent germ—is not capable of effecting a cure in sheep. (2) That the minimum dose requisite for sheep is 40 c.c. if used four hours after the injection of 0.1 c.c. of a cultivation of virulent anthrax, 150 c.c. if used six hours afterward, and 250 c.c. if used eight hours afterward. (3) That, if the initial dose is too small, after-injections are of little value unless used frequently, and in excessive quantities. (4) That, as the injection of large quantities of the serum appear to have no ill effect on the animal, the dose quoted above might with advantage be largely increased.

**Primary Epithelioma of the Uvula and Soft Palate.**—An instance of epithelial cancer, starting in the uvula, was published by Dr. Walker Downie in the January number of the *Scottish Medical and Surgical Journal*. In the March number of the same publication Dr. Lennox Browne reports a second case of this rare origin, and adds to the literature an equally rare case in which epithelioma was limited to the soft palate without involving the uvula or tonsil. There seems to be no good reason why these parts should escape malignant involvement, still but few instances have been recorded. The uvula case was operated upon, but the patient survived only nineteen months. Microscopical drawings accompany the article. In the second case, a man aged fifty-two years, had first experienced pain in swallowing, two months before. A small warty growth was seen at the free border of the left anterior faucial arch. A portion was removed, confirming the diagnosis, but the patient would not consent to operation.

# MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 51 Fifth Avenue.

New York, November 11, 1899.


## INFLUENZA IN THE UNITED STATES.

IN the recent bulletin of the department of health of Chicago are published the mortality statistics of influenza and its complications. It appears that since the last great pandemic of influenza, which occurred in Chicago as the epidemic of 1891–92, there has been no period altogether free from the disease, and it would seem to have become permanently domesticated. In 1891 there were 336 deaths from influenza reported to the department; in 1892 there were 103; 88 in 1893; 51 in 1894; 165 in 1895; 17 in 1896; 15 in 1897; 281 in 1898; and 304 up to the close of July, 1899.

The bulletin, commenting upon this state of affairs, says: "While these figures are not in themselves very alarming, they have a serious significance for the student and worker in preventive medicine. It is true that the influenza epidemic of 1891 added less than one and a quarter per cent. to the deaths from all other causes, and the 304 influenza deaths during the first six months of this year are only two and a quarter per cent. of the total deaths from all causes. But the indirect results of the epidemic diseases swelled the total mortality rate by seventeen per cent. over the average mortality rate of the previous five years during which there was no influenza. The increase of the death rate this year is not so marked, but it is still more than fourteen per cent. greater than the average of the previous five years, the lesser comparative increase being fairly attributable to the prevalence of influenza, in a minor degree, during the previous five-year period."

The experience of Chicago is similar in a greater or less degrees to other large centres of population in which influenza has set its foot. Dr. Foster Palmer, writing on the prevalence of influenza in the different countries of the world, says that although the epidemic respects neither race nor country, we find that Russia, France, and the United States suffered in far greater proportions than Great Britain. Some want of balance in the organic functions must be the cause of this excessive receptivity, but what the special condition is, it is hard to say, for those three nations have little in common. Ethnical idiosyncrasy may account for it in the case of Russia and France, but the inhabitants of New York, who are for the most part of the same race and presumably of similar constitution, also suffered far more severely than did the inhabitants of Great Britain. "For some reason, therefore, it would seem that men of the English race in America have less resisting-power than in England. This is quite consistent with the history of our race in that continent, which, although in some of the wilder prairie regions it has attained a high pitch of strength and cultivation of the senses, has in many parts, especially in the towns, undergone a certain degree of physical deterioration." With these conclusions of the English physician most American medical practitioners will take issue. Statistics do not show that even in the towns the death rate in the United States compares unfavorably on the whole with that of the towns in Great Britain, and where such is the case the cause is found in inferior sanitation and not the less resisting-power of the Americans. The greater mortality from influenza in this country is probably owing to the higher nervous organization of the inhabitants. Influenza is pre-eminently a disease affecting the nervous system, and given a people with highly strung nerves, it follows as a matter of course that they would suffer more than those of a phlegmatic temperament. The most valuable researches into the causation of influenza have been made by Dr. Wynkoop, who has succeeded by methods introduced by himself in bacterially verifying the presence of the influenza bacillus in a very large proportion of the cases diagnosed as such. The conclusions of Dr. Parsons, published in *The Lancet* in 1894, are that the epidemics come on at almost any time of the year, that they are not greatly influenced in their prevalence by the weather, but that their mortality is increased by cold weather; that an attack affords, if not complete protection against, at any rate a modification of, future attacks both in the individual and in the locality; that it affects different localities with different degrees of severity, its relative fatality depending chiefly on the average of the population, being most fatal to quite young infants and to old people. In fact, we can ascertain the number of fatal cases in proportion to the population, but not to the number of people attacked.

## THE BULLETS IN SOUTH AFRICA.

THE peace conference at The Hague does not seem to have effected much either in the prevention of war or in the interdiction of the use of the so-called inhuman weapons of war. True it is that notwithstanding the protests of the British delegates, backed up by the American peace commissioners, the much-talked-of "Dum-dum" bullet was by a majority of the members of the conference prohibited. It will be recollected that the question as to the inhumanity of the Dum-dum was first raised by Professor Bruns, who after experimenting with them on dead bodies declared that the results of their contact was fearful, and could not be exaggerated. The answer made to this charge by British army surgeons was that experiments on dead bodies were altogether misleading; that the Dum-dum was not explosive, but that its effects were much more

harmful than those of an ordinary bullet of the same bore; but at the same time the assertion was made that a bullet wound from the old-time Snider was much more destructive. However, this defence was of no avail, and the Dum-dum was ruled out of civilized warfare. The claim is now being made on the European continent, and especially in France, that the British are violating one of the provisions of the Hague conference by their use in South Africa of a bullet almost as destructive as the Dum-dum. The New York *Herald*, writing on the matter, thus describes the new British bullet: "It has a copper socket which contains a charge of smokeless powder, and at the end is a lead ball enclosed in a nickel envelope. Toward the head of the bullet there is a small opening in this envelope." The contention is that when this bullet touches a soft substance the opening is compressed, and the projectile is so enlarged that it mushrooms, and causes fearful wounds. Dr. Bruns has been experimenting with these bullets upon dead bodies, and declares that their effects are as bad as those of the Dum-dum. British experts, as before, point out that these experiments having been made upon dead bodies at short range, the conclusions deducted therefrom are of little value. The Boers are also accused of using in battle the half-mantle game bullets, which expand at exit, and make terrible wounds. Objection has been brought against the shells loaded with lyddite, which were fired with such surprising precision by the British sailors at Ladysmith upon the Boers, and which are reported to have caused fearful carnage among them. General Joubert protested to General White against them, but in this instance, at any rate, the British are clearly acting in accord with the provisions of the Hague conference, as no mention was made with respect to the description of explosive to be used within a shell. After all, the main object in war is to disable or kill the enemy, and if it is found that an ordinary bullet from a small bore will not do this, one can scarcely blame either Britisher or Boer from using one that will guarantee this result. The same remark applies to shells. Nevertheless, if the fact can be plainly proven that either side is using bullets or explosives that contravene the decisions of the Hague conference, there would appear to be excellent reasons for neutral nations to take steps to insist upon the belligerents obeying these rulings. One feature of the present war is particularly worthy of notice, that the treatment of the wounded enemy has been characterized by the greatest humanity, and reflects credit on the leaders of both forces.

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**A Patient Jumps through a Hospital Window.**—A young woman was found one evening last week trying to break her skull with a paving stone, and a policeman took her to the J. Hood Wright Memorial Hospital. The next day she broke away from her attendants and leaped through a plate-glass window to the ground below. The ward was in the second story, and the fall did not kill the woman, but broke her thigh and caused many contusions.

## THE "KISSING BUG" AND SPIDERS.

L. O. Howard, chief of the division of entomology of the United States department of agriculture, in a paper on the above subject read before the American Association for the Advancement of Science at Columbus, shows that the "kissing bugs" and death-dealing spiders, concerning which so much was written in the yellow journals during this summer, chiefly exist in the heated imagination of hysterical women, and the cases recorded are reported for the sake of sensation by mongering reporters. Mr. Howard gives a most interesting account of those spiders and insects whose bites are troublesome, but proves by most reliable testimony that their death-bearing qualities are non-existent. He concludes his article with these words: "Specimens of C. sanguineus received in July, 1899, from Marysville, Miss., were accompanied by the statement—which is appropriate in view of the fact that the newspapers have insisted that the 'kissing bug' prefers the lip—that a friend of the writer was bitten on the lip, and that the effect was a burning pain, intense itching, and much swelling. The writer of the letter had been bitten upon the leg and arm, and his brother was bitten upon both feet and legs, and on the arm, the symptoms being the same in all cases. The writer's conclusions are that a puncture by any one insect may be, and frequently has been, mistaken for a spider's bite, and that nearly all reported spider-bite cases have had in reality this cause; that the so-called 'kissing bug' scare has been based upon certain undoubted cases of the bite of one or the other of them, but that other bites including mosquitoes, with hysterical and nervous symptoms produced by the newspaper accounts, have aided in the general alarm."

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## THE ILL-PAID MEDICAL MAN.

The English *Spectator*, in one of its recent issues, has been taking up the cudgels on behalf of the underpaid and ill-treated medical man, and explains, to its own satisfaction at least, why this is the case. There has been of late much discussion in Great Britain as to the inferior class of men—that is, in a social sense—who enter the medical profession in that country. We fail to see why a man who has not been educated in one of the high-class schools—provided that he has received a sound education—should not be as successful and as able a medical practitioner as one who has had perhaps $1,000 or $1,500 a year spent on his schooling. In this country at any rate the opinion prevails that the boy who has been compelled to fight his way, and has learned to overcome difficulties in the bitter school of adversity, is more likely to make a name for himself and prosper, than he whose path has been strewn with rose-leaves. Perhaps for a practice among what is termed in Great Britain the upper classes, a certain amount of culture and "*savoir faire*" is an aid to success, but on the other hand some of the most distinguished physicians have been by no means remarkable for these acquirements. However, with the *Spectator's* view that doctors are inadequately

remunerated no one will disagree, and if that journal can suggest an effectual remedy for this disagreeable state of things the physicians throughout the United Kingdom and America will be greatly beholden to it. With respect to the unsatisfactory pecuniary position of medical practitioners, the *Spectator* says: "That doctors on the outskirts of cities, and too many country doctors, are infamously paid we readily and heartily admit, but one main reason of that is a certain want of consideration in the social sense which is in consequence of the ancient tradition that they were not quite gentlemen. No idea could, as regards the majority, be now more false, and it is rapidly dying away, but the doctor remains the only man who is habitually swindled, whose charges excite a preposterous amount of annoyance, and who is put upon by "clubs" in a way which, if they tried it upon tradesmen, would produce an angry strike." The *Spectator* concludes with these words: "We want the doctors even in the slums to be educated as barristers, as devoted as the clergy, and as well paid as publicans [saloon-keepers]; and if the profession will but struggle for that ideal it will come." In Great Britain, as in this country, it is the sharp competition, together with the lack of cohesion among medical men, that renders their lot perhaps on the whole less desirable than that of members of the other professions. Much may be effected by loyally working together. Nevertheless it is to be feared that the day is still far distant—in fact the prospect is too dazzling to be anticipated with hope—when medical men will be paid as well as saloon-keepers. We must be moderate in our desires.

## NURSING IN VIENNA.

THE news that cases of bubonic plague had occurred in the Allgemeines Krankenhaus at Vienna, through inoculation by bacilli collected there for experiment, attracted at the time universal attention to that institution. The fact has since been brought to light that the unfortunate accident happened owing to the careless manner in which the plague germs were guarded. It is stated that the porter who had charge of the bacilli was addicted to drink, and that the nurse who became inoculated with the disease had been a parlor-maid before she entered the institution. In the *Nineteenth Century* for October, Miss O'Connor Eccles gives a description of her visit to the Allgemeines Krankenhaus, and records her impressions of the way in which that vast establishment is conducted. Miss Eccles concerned herself principally with the methods of nursing in vogue there, and has no hesitation in declaring that its condition is scandalous. She says: "The nurses are recruited from the lowest class of domestic servants, women who because of incapacity, increasing years, or doubtful character find it difficult to get a situation elsewhere. Many look as if they had been accustomed to field-work. They come in for a time to suit their own convenience, fulfil or neglect their duties as the case may be, and when anything better offers drift out again. Training properly so called they get little except in the obstetric wards. Whatever they learn they pick up in haphazard fashion." Vienna as a school of medicine has a reputation second to none, but it seems that its fame has been gained at the expense of the patient. The difference between an American or British and Viennese hospitals is that in the hospitals of the first-named countries the care of the patient is the chief object, and the main efforts are directed toward relieving or curing him of his malady. The advancement of medical knowledge takes the second place. In Vienna the reverse is the case. The hospital there is in the first instance a medical school. The fate of the patient is little considered, and it is a matter of more or less indifference to the doctor whether the sick person is relieved or cured, so long as he is an interesting subject for experiment, and is likely to be the means of furthering the progress of medical science, and incidentally contributing to the glory of the school and of its individual members. The increase of medical knowledge is undoubtedly of benefit to humanity at large, but if all that Miss Eccles relates of the Allgemeines Krankenhaus and its management be true, this may be bought at too dear a price. The American interpretation of a hospital as an institution founded for the relief of suffering will rather commend itself to the inhabitants of this country.

## News of the Week.

**Hospital Thief Arrested.** — The thief who went through the Orange Memorial Hospital and the Orange Training-School for Nurses last week, under pretense of repairing the electric-light wires, has been arrested in Reading, Pa., where he attempted to work the same game.

**Transport Scandals in the Pacific.**—Those who remember the deplorable lack of medical service on several of the army transports bringing the sick and wounded to this port from Cuba in the summer of 1898, and the lame excuses offered by those who should have been held accountable for the occurrence, will not be surprised to learn of similar happenings on transports from the Philippines. According to the San Francisco *Examiner*, a most sensational report by a military board of inquiry has just been forwarded to Washington from the headquarters of Major-General Shafter. The document contains the severest kind of criticism of the methods employed by officers in charge of the sick soldiers who returned from the Philippines on the transports *Tartar* and *Newport* on October 10th. Upon the surgeon of the Twentieth Kansas Volunteers, who came back on the *Tartar*, the heaviest censure is laid. The colonel of the same regiment, who commanded the ship, is indirectly referred to, and many other officers receive a hard measure of criticism. The board of inquiry was appointed by General Shafter two weeks ago, at the suggestion of Colonel Alfred C. Girard, chief surgeon in the general hospital at the Presidio. Colonel Girard's desire for an investigation was occasioned by the de-

plorable condition in which he found the sick men from the transports *Tartar* and *Newport*. There are about forty of them, and nearly all were suffering from dysentery. Three men who came on those transports died a few days after their arrival.

**University of Virginia Hospital.**—A new hospital is to be built on the grounds of the University of Virginia, at a cost of $25,000, by the medical faculty of the university.

**Diphtheria** of a malignant type has broken out at Herkimer, N. Y., and an appeal has been made to the State board of health for assistance in stamping it out. It is thought that the disease was spread in the first instance through infection of school-books.

**Emigrant Quarantine in Europe.**—Dr. A. H. Doty, health officer of the port of New York, who recently went abroad in order to make arrangements for the detention, at the port of sailing, of emigrants from Russia until the period of incubation of smallpox had passed, after having visited Hamburg and Bremen and conferred with the steamship agents and port authorities, has gone to Russia in order to secure the co-operation of the frontier officers in that country if possible.

**The Effects of Modern Small Arms.**—Dr. Charles B. Nancrede, writing on the effects of modern small-arm projectiles from his experience during the Cuban war, says: "The 'explosive effects' of modern balls, at the distance at which most must strike in an actual engagement, will not produce such destruction of bone as often to demand amputation, if asepsis can be secured; hence, removal of limbs for extensive fracturing of the long bones was almost unknown. Indeed, I have seen perforation of a tibia without loss of continuity, notching of the condyloid ridge of the humerus with not even a fissure of the shaft, while other bones were merely guttered."

**The Sanatorium for Consumptive Soldiers** at Fort Bayard, N. M., was opened recently. Three of the barracks buildings and most of the quarters for officers are in use. The buildings are of brick, have wide verandas, an amusement room with billiard and card tables, and a library, with periodicals and newspapers. There are accommodations for one hundred patients, and next year room will be made for two hundred more. The invalids are required to spend the greater part of the day in the open air. Twenty patients had already arrived, and many more are on the way. The sanatorium is under the care of Dr. Daniel M. Appel, surgeon United States army, who has a staff of three nurses and thirteen assistants.

**Nursing the Wounded at Mafeking.**—In Mafeking, which, as is well known, is being so gallantly defended by Colonel Baden-Powell and his handful of British against a large Boer force, is a large Roman Catholic convent. The sisters of the convent, with that devotion to duty which has ever been one of the most striking characteristics of those women wedded to the Roman Catholic religion, although granted permission to leave the beleaguered town by the Roman Catholic bishop, have all elected to stay and render assistance in nursing the wounded. A number of ladies in Mafeking have also volunteered to remain and act as nurses.

**A Large Purchase of Quinine.**—The government recently placed with a wholesale drug house an order for 7,500,000 grains of quinine in five thousand bottles, each bottle containing five hundred three-grain pills. The bids ranged from 93 cents a bottle up to $1.30, the contract being awarded to the lowest bidder.

**Hospital Ships for the Boer War.**—The Princess of Wales has placed at the disposal of the Red Cross Society a considerable sum of money—the remainder of a fund collected at the time of the Soudan campaign in 1885—for the equipment of a hospital ship. The committee is making arrangements to secure the British steamer *Midnight Sun*, which will be renamed *Princess of Wales*. Her Royal Highness will personally contribute £1,000 ($5,000) toward the equipment. The movement recently started in London to raise a fund to equip the *Maine* of the Atlantic Transport line as an American hospital ship for service on the South African coast is meeting with great success. The treasurer had received up to November 3d the sum of £10,000 ($50,000) from Americans in England and this country in behalf of the fund.

**Medical and Nursing Staff of the British Army.**—The medical and nursing staff of the British army of invasion for South Africa, although the medical ranks have had to be reinforced by civil practitioners, would on the whole seem to be a strong one. The surgeon in chief, General T. D. Wilson, has seen service in various parts of the globe and is eminently fitted for the post he has been selected to fill. It is said too that Sir William MacCormac will proceed to the seat of war and aid with his valuable advice. Fortunately the climate of Natal, and in fact of the greater part of South Africa, is healthy, so that there will not be much cause to fear those complications of fever which are generally in war far more destructive to human life than the bullets of the enemy.

**English Medical Men in the Transvaal.**—The Boers, says *The Medical Press*, are no respecters of persons, and their treatment of medical practitioners, with whom they may happen to have a grievance, leaves a good deal to be desired, as the following example will show: A practitioner was summoned to attend the little child of a Boer, but refused to respond to the summons, inasmuch as another medical man had charge of the case. In consequence of this refusal the Boer lodged a complaint against the practitioner at the next meeting of the local governing-board of the district. Accordingly a resolution was passed by the latter pledging the members thereof to boycott the practitioner, and a young practitioner from a neighboring part was invited to settle in the district, and was promised the support of the local authorities. This perfectly unwarrantable step was taken merely because the medical man in question, by acting in accordance with professional usage, displeased a per-

son who was the patient of a confrère. Medical practice under such conditions could scarcely be enviable, but now the time seems to have arrived when old scores will have an opportunity of being paid off.

**The New York State Association of Railway Surgeons.**—The ninth annual meeting of this association will be held at the Academy of Medicine in this city on Thursday, November 16, 1899. The special topic for discussion will be "The Physical Fitness of Railway Employees." Papers will also be read by Dr. Robert T. Morris, on "Where Hydrogen Dioxide is Harmful"; by Dr. B. F. Curtis, on "Dislocation of the Shoulder with Fracture of the Neck of the Humerus"; by Dr. John L. Eddy, on "Emergent Surgery"; and one by Charles E. Townsend. The officers of the association are: *President*, Theodore D. Mills, of Middletown; *Vice-Presidents*, J. L. Eddy, of Olean, and G. N. Hall, of Binghamton; *Secretary*, C. B. Herrick, of Troy; *Treasurer*, H. P. Jack, of Canisteo.

**Boer Treachery.**—The following instance of Boer treachery was published as related by an English officer on the spot, in the *St. James's Gazette*. It appears that a civilian doctor was, with a surgeon major, despatched from Pretoria to the scene of the Brunkers Spruit massacre to succor the wounded prisoners. His uniform saved the military surgeon, but the other doctor, the Boers having decoyed him into a house on the pretence of giving him a drink of milk, was stripped to his nether garments and cowhided—yes, incredible as it may seem, actually cowhided—to within an inch of his life.

**Dr. Domingos Freire,** of Rio de Janeiro, is dead. He was one of the first to announce the discovery of the specific microbe of yellow fever, and he also made a prophylactic and curative serum for which he claimed great efficacy. Much heated controversy has arisen over his alleged discovery, and many most competent bacteriologists and students of yellow fever have denied the specificity of his microbe or the efficacy of his serum. Others, on the other hand, have asserted that his discoveries were of great value, and even that Sanarelli was indebted to him for his bacillus and serum. Dr. Freire was formerly professor of organic chemistry in the faculty of medicine in the University, and later director of the Bacteriological Institute at Rio.

**The Alvarenga Prize of the College of Physicians of Philadelphia** has been awarded to Dr. Robert L. Randolph, of Baltimore, Md., for his essay entitled: "The Regeneration of the Crystalline Lens—An Experimental Study." The next award of the Alvarenga prize, which is the income for one year of the bequest of the late Señor Alvarenga, and amounts to about $180, will be made on July 14, 1900, provided that an essay deemed by the committee of award to be worthy of the prize shall have been offered. Essays intended for competition may be upon any subject in medicine, but cannot have been published, and must be received by the secretary of the college on or before May 1, 1900. Each essay must be sent without signature, but must be plainly marked with a motto, and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author. It is a condition of competition that the successful essay or a copy of it shall remain in possession of the college; other essays will be returned upon application within three months after the award.

**Guarding against the Plague.**—Passed Assistant Surgeon James A. Nydegger and Assistant Surgeon John F. Anderson of the Marine-Hospital service have been ordered to Spain to assist the consuls at Cadiz and Barcelona to enforce the quarantine regulations of the Treasury Department regarding vessels bound for the United States. From these two ports, these officers will have surveillance over emigration from Spain and Portugal.

**A Memorial to the Late Dr. Rohé.**—The Maryland Public Health Association has voted to place a bronze portrait medallion in the Springfield Asylum for the Insane as a memorial to the late Dr. George H. Rohé, to whose labors the institution practically owes its existence. Some of the members of the memorial committee, however, prefer the hall of the Medical and Chirurgical Faculty as the place for the erection of the tablet, and it is possible that this will be finally selected.

**Trouble at a State Asylum.**—The board of managers of the State Custodial Asylum for Feeble-Minded Women, at a meeting held October 31st, passed a resolution asking for the resignation of Dr. Mary Alice Brownell, the resident physician. The reason given for this action is that there was trouble between the superintendent and Dr. Brownell. The latter, however, denies that there is any serious trouble between her and the superintendent, and declares that she will not resign until forced to do so by higher authority than the board of managers. Dr. Brownell is a graduate of the University of Michigan, and has been resident physician of the asylum for eight years.

**Yellow Fever.**—New cases of fever continue to be reported from Miami and Key West, but in other places in the South the epidemic has been extinguished by the frost. The embargo against the infected places has been raised, and interference with commerce and travel is at an end. The record of the epidemic at Jackson, Miss., is sixty cases and eleven deaths. At Key West there had been a total of twelve hundred and sixty cases and sixty-two deaths up to November 3d. In Miami, Fla., ten new cases were reported on November 2d and 3d. A man died of yellow fever on board the United States transport *Kilpatrick*, which arrived here last week from Havana. The yellow-fever statistics of Havana for October show that at the beginning of the month there were in the hospitals twelve patients who had been attacked by the disease in September. The new cases in October numbered 63; deaths, 25; recoveries, 26; under treatment, 24; Spanish cases, 36; deaths, 15; American cases, 20; deaths, 8. The total number of deaths for the year is 63. October was the worst month. The disease is

now decreasing. Dr. Herman Parker, surgeon of the Marine-Hospital service, stationed at Santiago, reported on November 4th that there had been no cases of yellow fever in that city for three weeks.

**Navy Department,** Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending November 3, 1899. October 27th.—Assistant Surgeon R. Spear detached from the *New York*, ordered home, and granted sick leave for two months. November 2d.—Assistant Surgeon R. K. McClanahan detached from the Naval Hospital, Key West, Fla., and ordered home and granted sick leave for two months.

**Obituary Notes.**—Edward Bleecker, M.D., died at his home in Whitestone, Borough of Queens, on Sunday, November 5, 1899. He had been in failing health for several months, and finally succumbed to an attack of pneumonia. Dr. Bleecker was born in Albany January 9, 1844, where his father, William E. Bleecker, was a prominent merchant for many years. He was a direct descendant of Yan Yancy, first recorder and second mayor of Albany. After graduating from the old Albany Academy, he completed his academic studies at Burlington, N. J., and entered as a medical student at the Albany Medical College, but subsequently matriculated at the College of Physicians and Surgeons in New York, where he graduated in 1865. He immediately received an appointment in the Albany State hospital for wounded soldiers under Dr. Swainburne, where the foundation of his surgical skill was laid. When Dr. Swainburne was appointed health officer of New York, Dr. Bleecker came to Staten Island with him. In October, 1866, he married Miss Ellen H. Barton, of Philadelphia, and in 1868 settled in Whitestone. He succeeded almost immediately to a large practice among a wealthy clientèle, whose confidence and affection he enjoyed to the end. Dr. Bleecker was a factor of weight and influence in all the public affairs of the community, having for nearly a score of years held the office of president of its board of trustees as well as of its board of education. In co-operation with Captain I. J. Meritt, he was a prime mover in all the public improvements which Whitestone enjoys. Especially was this true of the various measures for water supply, improved roads, and school administration, which were carried to a successful issue largely through his foresight and wise guidance. He was president of the water board and the leading spirit in the construction of artesian wells, from which Whitestone derives an unequalled and unfailing supply of pure water. But it is as a surgeon that Dr. Bleecker probably will be best remembered. His work in the Flushing Hospital was of a high order of excellence. Always resourceful and courageous as an operator, he shrank from no responsibility which seemed likely to enhance his patient's chances of recovery, yet he had rare qualities of conservatism which protected his patients from an operation merely for the sake of operating. He was for some years president of the board of trustees and of the medical staff of the Flushing Hospital, and was the chosen almoner of large sums of money which wealthy personal friends from time to time gave to the hospital for new buildings and equipment. He was also a fellow of the New York Academy of Medicine, a member of the Queens County Medical Society, of the Associated Physicians of Long Island, and of the Medical Association of the Greater City of New York. Dr. Bleecker's rare social qualities, genial temperament, and ready accessibility endeared him peculiarly to a wide circle of friends. Among rich and poor alike for over thirty years he had been a constant and unfailing resource in trouble and affliction. His strong personal individuality and identification with all that was progressive and best in the community awaken a sense of irreparable loss not alone among his professional associates but wherever his helpfulness and sympathies had comforted and relieved. Mrs. Bleecker, a daughter, Anna, and three sons, William, Rutgers, and Edward, survive him, all of whom reside in their home in Whitestone.—Dr. Luther Dana Woodbridge, professor of anatomy and physiology in Williams College, died suddenly of heart disease at Williamstown, Mass., on November 3d. He was born in Perth Amboy, N. J., December 27, 1850, and was graduated from Williams in the class of 1872 with the first philosophical oration. For two years he was a teacher at Roberts College, Constantinople, and then began the study of medicine, and was graduated from the College of Physicians and Surgeons of New York City, in the class of 1877, being one of the ten honor men. He served terms as interne at the Roosevelt and Chambers Street hospitals. After a year of study in the hospitals of Vienna and London he became assistant surgeon at the Manhattan Eye and Ear Hospital. From 1881 to 1884 he practised in New York City, and then went to Williams as professor of anatomy and physiology. Dr. Woodbridge was a member of the American Academy of Medicine, the American Medical Association, and the State Medical Society of Massachusetts, and was ex-president of the Berkshire Medical Society. He was also a lecturer on "The Nervous System and Its Diseases" in the Boston College of Physicians and Surgeons.—Dr. Charles Inslee Pardee died of heart disease on November 3d at his residence in this city. His death was wholly unexpected. Dr. Pardee was sixty-one years old. He served with distinction throughout the Civil War as a surgeon, and was a member of the Loyal Legion. He was for twenty-five years dean of the University Medical College. Dr. Pardee was graduated from the University of New York in the class of 1860. He was a member of the Academy of Medicine.—Dr. Charles H. Holzhausen died at his home in the city on November 5th, at the age of twenty-nine years. Death was due to typhoid fever with which he had been ill for about two weeks. He was a graduate of the Bellevue Hospital Medical College.—Dr. Samuel Q. Robinson, major and surgeon in the United States army, died at Hot Springs, Ark., on November 6th. He was born in Massachusetts, and was appointed an assistant surgeon on January 9, 1877, a captain assistant surgeon January 9, 1882, and a surgeon major May 2, 1896.

# Clinical Department.

## FRACTURE OF THE ARM IN A NEW-BORN CHILD.

By CHARLES H. HOLZHAUSEN, M.D.,
NEW YORK,
ASSISTANT SURGEON TO THE BELLEVUE HOSPITAL DISPENSARY.

On March 9, 1899, a male child was brought to the Bellevue Hospital dispensary by its grandmother, the child then being but one day old. The grandmother noticed, while bathing the child, that the right arm hung limp and helpless, and the child did not move it at all. On examination, I noticed that there was absence of swelling or ecchymoses, but found a fracture of the surgical neck of the humerus. The child was born, according to the grandmother's story, normally and without assistance. No physician or midwife was present because of the poverty of the parents. The fracture was treated the same as if it had occurred in an older child. In about three weeks there was union, and the child suffered no further incon nience.

352 West Twenty-first Street.

## STARVATION ŒDEMA.

By ANNIE H. PATTERSON, M.D.,
CHINKIANG, CHINA.

We have just passed through a famine season which brought to us a class of patients new to me, and I have not been able to find any literature on the subject.

The patients I speak of were ten in all, and had been eating wild plants, something like what we call "greens" in the South, with a very small percentage of grain. We named the affection "greens dropsy." The parts swollen were in the order named: hands, eyelids, face, scalp, and neck; and no other part of the body was swollen. They were all dispensary patients, and I failed to examine the urine. What they came for and the only symptoms complained of was the swelling. The first patient I saw was a girl of sixteen years; the eyelids were swollen beyond recognition, as were also the hands and neck. The mother said the girl had been in that condition only two days, and the swelling was beginning in herself also. I could detect a slight swelling of the eyelids and backs of the hands in the mother. I immediately thought there must be some local cause, and on inquiry found they were living largely on weeds, so I took that to be the cause.

The swelling in all the cases was peculiar in its appearance. The skin seemed swollen to its limit, and in various places it had a dusky hue that precedes gangrene, but in only one case did gangrene occur. This was in a woman who delayed coming for treatment until about eight days after the trouble began. She did not come again for a week, but sent for medicine. On her second visit the swelling had all disappeared, but the skin of the forehead, temples, eyelids, and scalp felt and looked like black leather. Slight pressure on it would make pus ooze out at various places where the skin had broken. The woman eventually made a good recovery.

One of the most interesting features was the quick response to treatment. One day's treatment reduced the swelling of the eyelids so that they could be opened, and in less than a week the worst cases were well except for the ulcers left by the gangrene mentioned above, which took some time to heal. The patients felt that they had been restored to life, and every one came back to show us she had recovered, something remarkable for the Chinese, who are very similar to the ten lepers in the Bible, one only of whom returned to give thanks. The treatment was quite simple—*i.e.*, full doses of chlorate of potassium and a pill composed of extract of gentian, rhubarb, and quinine. I recommended the patients to eat more grain, which I suppose they did, as to most of them money was given for the purpose of purchasing it.

## THE HAND AS AN OBSTETRICAL INSTRUMENT.

By J. HUNTER WELLS, M.D.,
PYENGYANG, KOREA.

During May some twenty-one hundred patients came to the dispensary in Pyengyang, and among this afflicted mass was much of interest and importance. One of the cases was that of a woman, aged twenty years, visited in town. She gave a history of nine lunar months' pregnancy, and of having been in bed for the last ten days and in labor pain. On examination I found the cervix soft, dilated to about the size of a dollar, while slightly protruding was a soft mass which I felt sure was the placenta. I could feel the veins, and I could push it aside. Chloroform was given at once, its further administration being entrusted to an unskilled native assistant who had never seen it given before. After washing the parts hurriedly but thoroughly with a rather strong solution of bichloride of mercury, and washing my hands likewise, I inserted one finger and proceeded to dilate the cervix that way, pushing the placenta aside as I did it. I had only the mercury tablets for solution with me, so I put the forceps in that, disregarding such a small thing as blackening of the instruments. Before trying to use the instruments I pulled the head down as far as possible, applied the forceps, and easily delivered a living and lively female child. I then inserted my hand to get the placenta, but found another baby, which was easily brought down by traction with the fingers under the chin, and as the forceps was at hand it was applied and the second child was delivered. The time occupied altogether was less than twenty minutes, and the point of this article is merely to emphasize the use of the hands as obstetrical forceps. Nearly all the obstetrical cases I have here are of the "surgical interference" kind, and this is the second twin case I have had to do with. In both I feel that I could have properly delivered without forceps and with the woman having no pains to assist the labor. Of course I want the forceps if I can get it, but no physician should sit and wring his hands and let a woman or a baby die because there are no instruments at hand. The human hand is fashioned to perform numerous functions, many of which we know little of as yet.

## SEPTIC INFECTION AND OBSTINATE HICCOUGH DURING THE PUERPERIUM.

By WILLIAM F. BARRY, M.D.,
WOONSOCKET, R. I.

The following case well illustrates the extremely low condition into which a patient may sink, the utter hopelessness of every phase of the case, and yet, withal, recovery may take place.

I was called in consultation to see Mrs. M——, who five days previously had been delivered of her third child. The first and second stages of labor passed without event. The physician in attendance informed me that the uterus then closed in hour-glass contraction, and that, the ordinary methods of expulsion fail-

ing, he introduced his hand into the uterine cavity, and brought the placenta away piecemeal. He told me, and I have every reason to believe his statement, that every precaution was taken to prevent infection. The patient soon had a high temperature, with very rapid pulse and severe chills. In five days the temperature had reached 105° F., and the pulse was 170. At this time I saw the patient. Here was a true picture of septic intoxication: extreme nausea, chills, high fever, rapid pulse and breathing, tympanitic and tender abdomen. The uterus was curetted and irrigated, bringing away a number of small pieces of retained placenta. Though this undoubtedly prevented further infection from this source, the damage had already been done. It was like shooting the dog after the child had been bitten; he surely would bite no more.

The patient was now so weak that every breath seemed to be her last, and a profuse and uncontrollable diarrhœa was added to our woes. But upon the eighth day, with all the above-enumerated symptoms growing rapidly worse, violent hiccoughing set in, and for three days resisted every form of treatment. Upon the third day of hiccoughing the patient was so near death that the family insisted that there was absolutely no use in further treatment; at this time "flowing" started quite profusely, and it was decided to tampon the vagina. Then followed the strangest point in the entire case. A small piece of iodoform gauze was inserted as a preliminary into the os. Simultaneously the hiccoughing stopped; the packing was finished, and the hemorrhage ceased. At the end of twenty-four hours I removed the packing, and strangely enough the hiccoughing returned at once. A fresh tampon was introduced, and again the trouble ceased. This same occurrence took place the following morning, but ceased entirely on the third day. The relief can be explained only on the theory of reflex action, and yet is so singular that I can find no parallel case. The patient was almost comatose at this time, and I commenced copious subcutaneous injections of decinormal saline solution, which gave immediate and lasting benefit. The injections were continued twice daily, and were a very important factor in the woman's recovery.

By this time general peritonitis had developed with dulness localized at and about the umbilicus. Her stomach was in such a condition that rectal alimentation was almost her sole means of sustenance, which together with the daily use of the decinormal saline solution barely kept her alive, with a pulse varying from 160 to 190. The dulness about the umbilicus became circumscribed, and the swelling at this point was great. About the fourth week a surgeon was called in, who said that if a laparotomy could be done some chance might yet be for the patient, but in her present condition it would be fatal. On the following day, with cocaine anæsthesia, I made an incision through the several coats of the abdominal wall and peritoneum, and immediately there flowed out with considerable force large quantities of pus mingled with fæces. The wound was drained with antiseptic gauze, and, strange to say, day by day the patient made an uninterrupted recovery; the fistula in the abdominal wall closed entirely in about two months, and she became strong and well again.

This case teaches one to persevere even in the face of death. It suggested to me that the violent cases of hiccoughing in women may derive lasting benefit from applications or tampons to the os, just as the extreme cases of vomiting of pregnancy do. It also shows the great value of the continued use of saline injections in septic cases.

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**Aneurism.**—Injections of gelatin have been found efficacious by Lancereaux and confirmed by Stoicesco.

# Society Reports.

## AMERICAN PUBLIC HEALTH ASSOCIATION.

*Proceedings of the Twenty-Seventh Annual Meeting, Held at Minneapolis, Minnesota, October 31, and November 1, 2, and 3, 1899.*

*First Day—Tuesday, October 31st—Morning Session.*

The Association met at the First Unitarian Church, and was called to order by the president, Dr. Henry Mitchell, of Newark, N. J., at 10 A.M.

One hundred and ten new members were elected to membership.

**Etiology of Yellow Fever.**—Dr. Henry B. Horlbeck, of Charleston, S. C., chairman, read the report of the committee on the etiology of yellow fever. He referred to a commission which consisted of Drs. E. Wasdin and H. D. Gedding, sent to Havana in 1897–98 by the Marine-Hospital service of the United States to study the cause of yellow fever. Under date of July 10, 1899, this commission reached the following conclusions:

(1) That the micro-organism discovered by Sanarelli, and by him named the bacillus icteroides, was the cause of yellow fever.

(2) That yellow fever was naturally infectious to certain animals; that in some rodents local infection was very quickly followed by blood infection, and that while in dogs and rabbits there was no evidence of this subsequent invasion of the blood, monkeys reacted to the infection the same as man.

(3) That infection took place by way of the respiratory tract, the primary colonization in this tract giving rise to the early manifestations of the disease.

(4) That in many cases of the disease, probably the majority, a primary infection or colonization in the lungs was followed by a secondary infection, or a second colonization, of this organism in the blood of the patient. This secondary infection might be complicated by the co-instantaneous passage of other organisms into the blood, or this complication might arise during the last hours of life.

(5) That there was no evidence to support the theory advanced by Professor Sanarelli, that this disease was primarily a septicæmia, inasmuch as cases did occur in which the bacillus icteroides could not be found in the blood or organs in which it might be deposited therefrom.

(6) That there existed no causal relationship between the bacillus X of Sternberg and this highly infectious disease, and that the bacillus X is frequently found in the intestinal contents of normal animals and of man, as well as in the bronchial secretion.

(7) That, so far as the commission was aware, the bacillus icteroides was never found in any body other than one infected with yellow fever, and that whatever might be the cultural similarities between it and other micro-organisms, it was characterized by a specificity which was distinctive.

(8) That the bacillus icteroides was very susceptable to the influences injurious to bacterial life, and that it was readily controlled by the processes of disinfection, chemical and mechanical, was assured.

(9) That the bacillus icteroides produced in vitro as well as in vita a toxin of the most marked potency, and that from our present knowledge there existed a reasonable possibility of the ultimate production of an antiserum more potent than that of Professor Sanarelli. As there was such a wide divergence of opinion with reference to the bacillus icteroides in its relation to yellow fever, the committee believed the organization of an able and full commission of bacteriologists,

fully equipped and provided with ample means, should be effected, which should be permanently located in one of the yellow-fever-infected cities. Sufficient remuneration should be provided, so that the highest talent in bacteriology might be engaged.

Dr. E. Licéaga, of the City of Mexico, Mexico, presented his eighth annual report of the committee on yellow fever of the cases observed in the Mexican Republic, from the date of his first report, September 12, 1898, to September 15, 1899. He also gave a description of the sanitary stations about to be established in the Mexican Republic to prevent the spread of yellow fever.

Dr. Ismael Prieto, of the City of Mexico, presented data for the bacteriological study of yellow fever.

Dr. Narciso del Rio, of Vera Cruz, Mexico, read a paper in which he pointed out the necessity of making complete and general disinfection of a vessel in order to make it efficacious, and advanced arguments to prove that partial disinfection was useless in cases of yellow fever.

In the discussion, Dr. Thomas J. Turner, of Cold Water, Mich., agreed with the essayist, and stated that disinfection to be useful should be general and thorough so far as cleanliness was concerned. He believed that the germs of yellow fever were carried by articles rather than by persons themselves.

Dr. Antonio Mantienzo, of Tampico, Mexico, followed with a paper in which he advanced considerable evidence to show that yellow fever was a preventable disease.

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*First Day—Afternoon Session.*

**Laboratories and Public Health.**—Prof. William H. Welch, of Baltimore, addressed the association on the relations of laboratories to public health. He said that laboratories devoted to the study of hygiene were of comparatively recent date, the first being started by von Pettenkofer, of Munich, in 1878. This laboratory contained hygienic, physical, chemical, and biological departments. The problems pertaining to the disposal of sewage, public water supplies, the prevalence of epidemic diseases, and more especially cholera and typhoid fever were dealt with, also the relation of typhoid fever to ground water. The results of the investigations conducted by this laboratory were of inestimable value to the inhabitants of Munich, a city which was once the very hot-bed of typhoid fever, but which was now so free from this disease that von Ziemssen said it was difficult to give practical demonstrations to medical students of the lesions of typhoid. It was about this time that Koch introduced his remarkably simple methods, which rendered possible the isolation of the bacteria of certain infectious diseases. The stimulus of these great discoveries led to the rapid foundation of hygienic laboratories in connection with universities and with boards of health, so that within a few years nearly all the great universities in Germany were provided with hygienic laboratories. Another factor which had exerted a great influence on the development of hygiene had been the occurrence of epidemic diseases, such as cholera, and in this country yellow fever, and possibly it may turn out in the East that the plague may have a similar influence upon public sanitation.

Mrs. Ellen H. Richards, of Boston, spoke of university laboratories in relation to the investigation of public-health problems and to commercial work. For the investigation of questions of great importance and wide bearing, the university laboratory was likely to be the best place just as soon as the university authorities realized its value as a factor in higher civilization. She said that the head of a sanitary laboratory should be a man of absolute probity. His opinions should not be purchasable at any price. He should have unbiassed judgment. He should be well versed in methods of research. He should be patient, quick in action, and well balanced.

**Personal Experience in Disinfection.**—Dr. Wyatt Johnston, of Montreal, narrated the results of his experience during the last three years with formaldehyde as a disinfectant. Steam, sulphur, and other methods of disinfection were tried. He believed there were relatively few conditions under which steam was now necessary for disinfection. Formaldehyde, properly employed, fulfilled all the requirements for municipal and household disinfection. There were, however, certain conditions under which steam seemed indispensable, particularly when considerable penetration was essential; when it was necessary to make rapid disinfection of clothing, bedding, etc., in a hospital, steam was preferable when the articles had to be used immediately afterward. Formaldehyde emitted certain odors afterward which rendered it unsuitable for rapid work. The penetrating qualities of sulphur vapors were deficient, unless the sulphur was used in such a large quantity as to cause serious damage. With formaldehyde he had never done serious damage to the articles that were disinfected by it, and he had no doubt that this was the experience of other observers.

In the discussion which followed, the general consensus of opinion was that formaldehyde was one of the best disinfectants, if not the best one, that had been brought before the profession in the last two or three years.

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*First Day—Evening Session.*

At this session, addresses of welcome were delivered on behalf of the city of Minneapolis by Honorable James Gray, mayor; on behalf of the State, by Dr. Samuel G. Smith, of the University of Minnesota; on behalf of the local medical profession, by Dr. H. B. Sweetser, president of the Hennepin County Medical Society, and by Cyrus Northrop, LL.D., president of the University of Minnesota.

**Sanitary Progress.**—The president, Dr. Henry Mitchell, of Asbury Park, N. J., then delivered his address. He selected for his subject, "A Review of the Sanitary Progress during the Year." He stated that public interest in all questions relating to the development of a working system for carrying into effect the rapidly unfolding truths of sanitary science had been one of the most prominent features of the period which had elapsed since the association was organized. During this period had occurred nearly all of the substantial improvements in municipal sanitary administration which at present stood engrafted upon our systems of government. He referred in general terms to recent sanitary progress, and spoke more specifically concerning a few of the details relating to the prevention of disease, including sanitary legislation, education of sanitary officers, decrease of infant mortality, vaccination, typhoid fever, tuberculosis, adulteration of foods, and local, state, and national sanitary administration. During the twenty-seven years which had passed since the organization of the association, legislation designed to protect and promote the public health had been obtained in almost all of the States within the territory represented in the membership, and efforts were now being made to secure a greater degree of uniformity in these enactments, and in the methods to be pursued in their enforcement, at least so far as they were related to interstate questions. The hygienic control of milk supplies had assumed a better working basis in numerous localities, and the popular demand for clean milk was beginning to meet with response from a few of the more progressive dairymen. The history of the morbidity in the military

camps of the United States during the recent war with Spain had demonstrated anew the truism that cleanliness of water and food was an indispensable condition to health, and typhoid fever by its prevalence in these camps had further justified its selection as a typical illustration of the value to the public health of a rigid application of the principles of hygiene. The reduction of the death rate in typhoid fever had been chiefly effected by the improved sanitary conditions in towns, and the relations formerly existing between urban and rural districts were now reversed, the proportion of cases of typhoid occuring in scantily populated regions being much larger than in towns. Further study of the methods by which the spread of tuberculosis may be restricted had also engaged much of the attention of local sanitary authorities during the past year, but no general agreement had yet been reached concerning the course to be pursued for the prevention of this disease. Conservative recommendations for checking the prevalence of tuberculosis included the inspection of all bovine animals, meat, dairy products, and dairy premises; the destruction of diseased animals, and the prohibition of the sale of diseased meat and milk; exclusion of diseased persons from markets, dairies, and other premises where food was prepared or sold; frequent and regular disinfection of public conveyances and places of public assembly; disinfection of all infected apartments after death or the removal of patients. Dr. Mitchell then dwelt upon the necessity for establishing in the United States a national department of public health, saying that its importance had been strengthened by recent events, the addition of tropical possessions having added new responsibilities to those already borne by the general government, requiring investigations concerning the distribution and character of preventable diseases occurring throughout the entire territory occupied by the nation.

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*Second Day—Morning Session.*

**Cause and Prevention of Infectious Diseases.**—Dr. Peter H. Bryce, of Toronto, presented the report of the committee on the cause and prevention of infectious diseases. He said that the past year had been fruitful in experimental work and discoveries in a field which, if not new, was one which had hitherto received but little attention. So early as 1870 Davaine attributed to flies an important part in the spread of anthrax from dead infected materials to living animals, and in the past five years positive experiments had added to the knowledge of the subject. It had been very well established that flies by sucking the blood of diseased persons could transmit disease. Localized epidemics of dysentery had been caused by flies carrying infection from fecal matter. The essayist referred to Simond's paper, which appeared in the *Annales de l'Institut Pasteur*, in which was reviewed the origin of the epidemics of the plague observed since 1898 in China and India, based on personal investigations in Tonkin and later in Bombay. In tracing its spread, abundant evidence was adduced to show that while man may be the occasional agent of the transmission of plague, he was only indirectly so; the author then pointed out the rôle played by rats as the principal source of its propagation. In general he stated that the epidemic of plague was preceded by an epidemic swarming of rats, and he showed from many illustrations that the first persons attacked with plague lived in those quarters where grain was stored up and who were actually employed in granaries and storehouses, as along the quays; and he further illustrated how, through rats in the holds of ships, the disease was carried from port to port. It was pointed out further that the contagion from person to person in hospitals was wholly exceptional, and many physicians in plague hospitals refused to admit the contagiousness of plague.

Dr. Bryce quoted from the marvellous series of reports by Dr. John Simond, the greatest of all sanitarians, who said, in 1874, in the prevention of disease we must "remove the cause of uncleanliness," that was, "remove filth." This eminent sanitarian then illustrated the varieties and degrees of filth as (*a*) putrescent refuse matter, solid and fluid, causing effluvia and pollution by soil soakage; (*b*) overcrowding, thus polluting the two sources of public health, air and water. Dr. Bryce concluded by saying (1) thus we might, as regards typhoid fever, arrange works for disposal of the garbage and sewage of houses, towns, camps, so as to make local accumulations of organic vegetable and animal pollution impossible, in which the typhoid germs might grow, and from which they might be carried to food and drink. (2) By drainage soil pollution by either vegetable or organic matters would be prevented, so that mosquitoes could not breed in the vicinity of habitations and so be in a position to become disseminators of the malarial parasite; and if they were present, houses should be protected against them, especially at night. (3) Houses should be so constructed as to render them not very accessible to rats, and such a condition of cleanliness of rooms, clothing, and persons should be maintained in these that infected matter would not be present, or, if it was introduced, there would not be flies to carry it. (4) As regards ships, the very means which were now in practical operation at well-equipped quarantine stations would amply serve to destroy rats, *i.e.*, sulphur and formol. (5) Passengers should be detained longer than is necessary for the disinfection of a ship and the elapse of the period of incubation of five days for plague, to which, in the presence of actual infection, might be added a protective inoculation.

**Prevention of Contagious Diseases.**—Dr. Frank W. Wright, of New Haven, Conn., read a paper on prevention of contagious diseases. To prevent the spread of contagious diseases, two objects must be accomplished: First, the destruction by disinfection of the poison given out from the sick person, and, second, the prevention of any poison that had escaped disinfection, from coming in contact with susceptible persons—isolation. Certain diseases might be limited by rendering persons immune to inoculation, as in smallpox or diphtheria, it being now practicably impossible for the former of these diseases to obtain a firm foothold in any well-vaccinated community. A good hospital for the accommodation of persons affected with contagious diseases should be maintained in every State. The writer found a short time ago, by inquiry, that of sixty-two principal cities in the United States and Canada, less than one-quarter were provided with decent hospitals for contagious diseases, some not even having a place for the care of smallpox patients. He believed many lives were sacrificed by contagious diseases annually that could be saved if all persons would conscientiously give attention to details and lend support both morally and financially.

Dr. J. E. Monjaras, of San Luis Potosi, Mexico, dwelt upon transmissible diseases in that city, and made some general remarks on their etiology and prevention.

In the discussion, Dr. Charles A. Lindsley, of New Haven, Conn., made the point that the work of enforcing health laws was much facilitated by placing the authority for prosecution directly in the hands of an attorney, rather than leaving it with a doctor, who knew nothing about law. He had found that this plan added much to the effectiveness of work in his State. Reports of infectious and contagious diseases had much improved there of late both in accuracy and promptitude.

Dr. Charles V. Chapin, of Providence, R. I., made an argument for thorough teaching of modern scientific hygiene in universities and medical schools.

Dr. Wyatt Johnston, of Montreal, said that the great trouble was that the time at the disposal of the professors in the schools was so limited as to prevent the introduction of adequate courses. He suggested that diploma courses in hygiene in the universities should be introduced, and advised the appointment of a committee to further his proposition.

Dr. Charles O. Probst, of Columbus, Ohio, related his experience along this line at the University of Ohio, where an attempt was made to hold a hygienic course, but which was defeated by the entire lack of interest upon the part of the class from which the students would be drawn.

Dr. Benjamin Lee, of Philadelphia, advocated the more general teaching of hygiene in colleges and universities.

**School Inspection in Boston.**—Dr. Samuel H. Durgin, of Boston, spoke on the system of school inspection in Boston. The schools were visited daily by physicians who examined any suspicious cases. These physicians were also charged with the duty of seeing that all cases of infectious diseases were properly isolated.

Dr. John N. Hurty, of Indianapolis, said that the jealousy of business men was an important factor in enforcing health laws, and he gave an account of a recent epidemic of smallpox in Valparaiso, Ind., which was reported as chicken-pox by the physicians in that city, supposedly because merchants said it would hurt business. The foolishness of such a course was pointed out. The Indiana State board of health purposed to require a certain standard of knowledge in its health officers.

**The Cause and Prevention of Infant Mortality.**—Dr. Ernest Wende, of Buffalo, presented a report on the cause and prevention of infant mortality. He paid particular attention to the subject of milk industry, which he said should be under both State and municipal control, operating in harmony under similar principles with the identical object in view, both acting together, forming a system of protection from dairy to consumer. The State should exercise its functions and control until the milk passed within the municipal limits and authority, and the control should include every feature and detail of protective sanitation. These features included briefly: (1) The license system, with fee, periodic systematic inspections with revoking power and penalties for dereliction. (2) The inspection system should include inspection of herds (tuberculin tests), food, animal care. (3) Demand for sanitary environment and buildings, correction of existing evils and examination and approval of plans, pending erection of new ones, which should comply with a standard of sanitary construction with special reference to specific requirements of the business—viz., separate milking and stabling quarters, proper cubic air space, non-absorbent material. (4) Scrutiny of water supply, standard feeding, health of employees, hygienic care of utensils and cans, cleanliness and protection in milking. (5) Definite rules governing all procedures, particularly as to the cooling process, preparation for market, and in relation to the varying seasons. (6) The differentiation of the various characters of milk by differently colored or shaped cans, which should be properly labelled with date of milking and time of shipment. (7) Prohibition of milk preservatives and coloring agents, of adulteration, and of the marketing of milk from diseased, sick, or parturient cows, or of the use of disinfectants, their necessity implying bad sanitation. (8) The prohibition, particularly, of refuse or swill food upon any dairy premises, of any food considered unhealthful by reasons of decomposition or fermentation, and of the association of other domesticated or housing animals with cows. (9) A standard of quality, with periodic testing and analysis. (10) Veterinary inspection with destruction and compensation within the State, and quarantine against the introduction of tuberculous cattle from without. (11) This should be as rigid as against pestilence in man, and it was only by this means that the malady could be circumscribed, and its bearing on human life favorably influenced. (12) With this standard of supervision by the State, the municipality should continue the supervision upon the same lines, which might be outlined as follows: (*a*) Continuation of the license system with penalties, together with stringent ordinances covering quality, adulteration, sanitary care, and relation to contagious-disease contamination; (*b*) milk should comply with the State standard as determined by lactometer tests, periodically instituted, as ascertained both in milk houses and on wagons; (*c*) sanitary non-absorbent milk-rooms, of determined size, air space, ventilation, and light; (*d*) specifically constructed, indirectly plumbed cooling and storage boxes, non-communicating with sleeping-rooms, privies, stables, or other influencing rooms; (*e*) wagons properly lettered and numbered, with protection from summer heat; (*f*) stringent prohibition regarding intercourse with houses containing contagious diseases, particularly relating to the exchange of milk bottles and the prohibition of refilling jars *en route;* (*g*) the constant surveillance of contagious disease in relation to milk routes by means of the "tell-tale" register; (*h*) obligatory cleansing of milk utensils by a uniform method, and of cans before returning to the dairy; (*i*) special supervision of and discouragement, if not abolishment, of selling in grocery stores, and milk sellers of similar character, where the business was subordinate to other interests, and there was consequent lack of protective facilities; (*j*) until State and city act in unison in this, where their interests were identical, the adoption of arbitrary interdiction or destruction at the city line of all milk coming from dairies whose conditions, or herds, might have a deleterious influence upon the milk; (*k*) systematic system of reports, with mutual warnings and notification of imperilling conditions.

**Formaldehyde as a Milk Preservative.**—Dr. A. G. Young, of Maine, contributed this paper. He said that the results of his examinations of all the available printed and other reports regarding the action of formaldehyde seemed to justify the following conclusions: (1) That used as a preservative, it tended at least to impair the nutritive value of milk. (2) Its tendency was also to interfere with the digestive processes. In either case it was only a question of dosage, and the limit of safety was difficult to determine. (3) That though the inhalation of formaldehyde gas was much less dangerous than the breathing of the other gaseous agents much used as disinfectants, the results of tests upon animals, and of one case of accidental poisoning of a human being, indicated that formaldehyde taken into the digestive system might produce dangerous and even fatal results. (4) It would be unwise and unsafe to encourage or to suffer the use of formaldehyde in the public milk supply, even under any possible restrictive regulations. (5) In every State, as is now the case in many, there should be a law prohibiting with effective penalties the use in milk of any chemical preservative whatsoever.

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*Second Day—Afternoon Session.*

**Typhoid Fever.**—Dr. John L. Leal, of Paterson, N. J., described an epidemic of typhoid fever in that

city which was traceable to an infected public water supply.

Dr. H. C. H. Herold, of Newark, N. J., spoke of the great decline in the mortality rate of typhoid fever since the improved water supply of that city.

Dr. Gardner T. Swarts, of Providence, R. I., made a favorable report of a four months' test of a mechanical filter plant at East Providence.

Mr. H. W. Clark, of Boston, dealt with the bacterial purification of sewage.

Dr. Charles V. Chapin, of Providence, presented the report of a committee to examine into the existing sanitary municipal organizations of the country which belonged to the association, with a view to report upon those that are most successful in practical results.

The session closed with a paper by Mr. W. H. Allen, of Philadelphia, on rural sanitation in England.

*(To be Continued.)*

## NEW YORK ACADEMY OF MEDICINE.

### SECTION ON OBSTETRICS AND GYNÆCOLOGY.

*Stated Meeting, October 26, 1899.*

Brooks H. Wells, M.D., Chairman.

**Persistent Urachus in an Adult Woman.**—Dr. H. J. Garrigues reported this case. He said that the extra-fœtal part of the allantois carried vessels to the villi of the chorion, and thus eventually served to form an important part of the placenta. The intra-fœtal part became, in time, the bladder, and the other part dwindled into a cord, called the urachus. In this cord was a long cavity subdivided by partitions and lined with epithelium like that of the bladder. Occasionally the cavity communicated with the bladder and formed a urinary fistula. Of fourteen cases described in the literature, twelve had formed in boys. The specimen presented differed in the fact that it was closed at the umbilicus and the bladder extended up to the umbilicus. It had been found in performing a hysterectomy for uterine fibroids on a single woman aged forty-five years. On the tenth day after the operation the patient had died of nephritis, thus giving him an opportunity for further study of the urachus. The bladder extended to the umbilicus, and was situated between the aponeurosis of the abdominal muscles and the transversalis fascia on one side and the peritoneum on the other.

**Pedunculated Fibroma with Twisted Pedicle and Impaction.**—Dr. Paul F. Mundé presented this specimen. The patient, a woman of twenty-seven years, married three months, had been seen by him last July. Three days previously she had been seized with severe pain in the pelvis and a desire to go to stool. Her physician had not been summoned until the following day, when a tender tumor had been found fixed behind the uterus. At that time there had been no fever and only slight nausea. Examination showed the uterus to be immovable and of irregular outline, but the consistence of the mass was rather soft. The pulse was 110 and the temperature 101.5° F. He had concluded that the case was one of ectopic pregnancy with rupture. Forty-eight hours later her pulse had been 120, and the family stated that she had vomited fecal matter. Her general appearance was bad. The woman had been removed to the Mount Sinai Hospital and the abdomen opened. General peritonitis was present, and the intestine was much distended with gas. The tumor arose from the right fundus of the uterus, and was very tightly wedged. The tumor was semi-gangrenous. The intestine was excised, and then gauze packing placed around it. Death had occurred from shock, a few hours later. The speaker said that this was the first case of the kind that he had encountered, but a search through the literature had shown that five cases were on record. In three of these the abdomen had been opened and enterostomy performed; all had proved fatal. In the other two the tumor had been dislodged and recovery had ensued.

**Other Fibroids.**—Dr. Mundé also presented a fibroid that he had delivered through a vaginal incision. It had grown gradually and had produced no symptoms until it had attained the weight of nearly one pound. On account of its size some difficulty had been experienced in delivering it through the incision.

Dr. E. J. Ill, of Newark, exhibited a fibroma illustrating the chronic form of the condition described by the last speaker, except that impaction had not occurred. The patient, a woman of thirty-three years, had been seen by him last November. There was a history of a sudden attack of peritonitis five months previously. Examination had shown what appeared to be a myoma reaching to the navel. When next seen, in September of the present year, she had become so much worse that operation had been demanded and had been performed. Broad adhesions had been found between the tumor and the bladder, and the lower portion of the bowel. It had been found that the tumor with its pedicle had made half a revolution in the abdomen. Three other fibromata, the size of a hen's egg, had been removed. The specimen was interesting because it showed the chronic form of torsion.

Dr. Brooks H. Wells presented a fibroid taken from a fleshy woman, thirty-seven years of age. There had been no symptoms of disease until about three months before, but since that time she had lost so much blood as to make her extremely anæmic. An abdominal hysterectomy had been performed. The main points of interest were the size of the tumor, its peculiar attachment, and the absence of symptoms until such a short time before operation. The tumor was an interstitial fibroid lying in the anterior surface of the uterus. The mass had been absolutely fixed in the pelvis. Both tubes had been occluded and filled with clear fluid. Recovery had been uneventful.

Dr. E. B. Cragin said that the series of specimens just presented fully emphasized that fibroids were not so harmless as many had been taught. This had been impressed upon him in a case seen a year or two ago. The tumor had been watched up to the menopause, and had been growing smaller, but after a while a fibrocyst had formed, which had increased rapidly from hemorrhages into it. The symptoms from pressure had been very serious. In Dr. Mundé's case there had been no special indication for operation at first, and hence the course pursued was entirely justifiable.

Dr. R. L. Dickinson referred to a case in which a fibroid of moderate size had been found attached to the uterus. The patient had been seen by one or two physicians who had advised against operation because of the absence of symptoms. When admitted to hospital there was a six months' pregnancy above the tumor. The rapid growth of the tumor during the pregnancy had locked the tumor in the pelvis, making its removal quite difficult.

Dr. Andrew F. Currier said that the cause in such cases must have been entirely different from that form of torsion which was not very difficult in connection with certain cystic tumors. Where the tumor was so bound down the torsion must have been one of the accidents of growth of the tumor, the growth being such as to interfere with the circulation. He had recently seen a woman, seventy-four years old, who had reached the menopause at the age of thirty years. She had been a circus rider, yet she had had an impacted tumor in the pelvis, which had presented symptoms for only about one month.

Dr. Mundé, in closing, said that he had long held the view that fibroids existing without symptoms did not require removal. The case had led him to feel that in another one of the kind, if the intra-abdominal fibroid had a long slender pedicle he should remove it and so forestall impaction in the pelvis.

**Ovarian Cystoma Complicating Pregnancy.**—Dr. William S. Stone reported this case. A woman of twenty-two, pregnant for the first time, had called on him with reference to her approaching confinement. When seventeen years of age she had had a severe attack of abdominal pain. Her last menstruation had occurred on December 12th. She had been seen by him last July, and at that time the size of the uterus had corresponded to that of one at full term. The fœtal movements were strong. A tumor of regular and smooth outline had been felt behind the cervix, and almost completely filled the pelvis. On July 26th an exploration had been made through a posterior vaginal incision, and the cyst evacuated. The cyst was unilocular, but could not be completely delivered because of the pregnancy. Uterine contractions had set in on the third day after operation, and on the fifth day a small premature child had been delivered by the breech. In the effort at delivery the left thigh of the fœtus had been fractured. The mother had made a good recovery. One week after the birth of the child it had weighed three and a half pounds. It had been kept in an improvised incubator for one month, and fed on modified milk. There were three papillomata on the interior surface of the tumor. The tumor was really a papilloma-cystadenoma of the ovary. A favorable prognosis seemed warranted.

Dr. S. Marx thought it would have been much better to remove the tumor by the abdominal route, under the circumstances, as it would have entailed less traumatism to the uterus. It was this handling of the uterus that seemed to predispose to premature abortion. He had adopted this plan in several cases, and in all of these pregnancy had gone on to full term. A case was cited in which he had been called in at the time of confinement, and had found a large intraligamentous tumor. He had advised abdominal section, but the ignorant husband had refused. He had then rapidly completed labor and delivered the child, but the cyst had ruptured, discharging the fluid into the peritoneal cavity. Even then operation had been refused, but in spite of this the woman had made an uninterrupted recovery. A short time afterward, the cyst having filled up again, she had been operated on at the Presbyterian Hospital and the cyst extirpated.

Dr. Mundé said that if the pedicle was at all long uterine action was not liable to be set up by the removal of the tumor before the period of viability. After viability, if the tumor was small and not growing rapidly, it might be well to wait until delivery had been effected. A month or two after parturition the tumor could be removed. Of course if the tumor had reached an inconvenient size it would not be well to postpone operative interference. It seemed to him a great mistake to operate upon an intraligamentous cyst, whether the woman was pregnant or not, provided it did not extend up very high. During labor the sac could be evacuated, and, in all probability, the child delivered.

Dr. G. W. Jarman said that in the case reported by Dr. Stone the tumor had been thoroughly engaged in the pelvic outlet, and the cervix so high up behind the symphysis that it had been impossible to reach it with the finger. The selection of the vaginal route seemed to him to have been justified. The patient was a frail subject that would not have stood much shock, and hence the proposition had been made to open the cyst from below and evacuate it—not remove it. Finding, however, that the tumor could be brought down so easily, the effort had been made to remove the cyst.

Dr. Cragin said that in an early pregnancy with a small cyst there might reasonably be a difference of opinion regarding the advisability of operating. If it was a small cyst he would probably not operate; if it was large enough to obstruct labor or be pressed and bruised during labor, he would probably operate from above. If, however, the woman had advanced to the eighth month it seemed to him that the problem presented was entirely different. If the cyst was adherent low down in the pelvis and the woman far advanced he would prefer to operate through the vagina, but if too high up in the abdomen it was a debatable question, though most surgeons would probably select the abdominal route. If the larger part of the sac wall was removed and it was then packed with gauze, the chances of recovery without recurrence were good. For this reason he indorsed the course of treatment followed in Dr. Stone's case. The speaker said that he had had three classes of cases of cysts obstructing delivery. One was at the fourth month—a dermoid adherent in the pelvis. He had removed the tumor through the vagina, and at full term the woman had been delivered of a live child. His own feeling was that it was dangerous to leave dermoids in the pelvis and subject them to bruising. As a rule, dermoids when bruised were very apt to slough and give rise to sepsis. In another case, not seen until labor had set in, a cyst had been found bulging into the vagina. He had opened the cyst through the vagina, and had effected delivery without difficulty, and there had been no further trouble. In still another case of cyst with pregnancy he had removed the cyst through the vagina. After its removal he had found, to his surprise, that it was not an ovarian cyst but a cystic kidney. The kidney had, of course, been fixed in the pelvis, and could not have been properly removed except from below. Movable tumors high up were best attacked from above.

Dr. R. L. Dickinson referred to the cyst of Gaertner's duct, running up from the lateral vaginal wall into the broad ligament. He had seen one such case, which had simply required to be drained and packed, and pregnancy had then gone on without further incident.

**Non-Malignant Papilloma of the Vulva.**—Dr. E. J. Ill, of Newark, presented this specimen, which had been taken from a woman aged fifty-eight years, first seen by him two years ago. There had been no vaginal discharge, and no difficulty with urination. For a year previously she had noticed some growth about the vulva. Examination had shown that both the inner surfaces of the vulva were thickened and horn-like in places. The disease had extended from the beginning of the vulva above down to the posterior commissure. The diagnosis of non-malignant papilloma of the vulva had been made. After two years she had returned and demanded removal of the diseased portion. He had, therefore, removed the whole of the vulva, and it was surprising how little loss of contour had been produced. This was the second case of the kind that he had seen. Both the labia on the right side were covered with a horny thickening. The microscope showed this to be a chronic hypertrophy of the papillary layer of the true derma.

**Broken-Down Fibroid—Exstrophy of the Bladder.**—Dr. Philander A. Harris presented a tumor that he had removed, believing it to be a carcinoma that was breaking down. The patient, a woman aged about forty-five years, had been in bad condition and more or less septic. The tumor had been removed from the anterior wall of the uterus. There had been progressive loss of flesh, metrorrhagia, and menorrhagia in spite of two curettings. Microscopical examination

of the growth showed the prominence of fibrous and muscular tissue, and nothing else; it was apparently a broken-down fibroid. Dr. Harris also exhibited photographs of a woman who had been previously subjected to some form of operation. The patient stated that for some time previously there had been no urine coming from the left kidney, and that she knew this because formerly she had been able to force out urine by pressure on that side with her hand. The case was one of exstrophy of the bladder.

Dr. Jarman said that he had had under observation for nine years a case almost the exact counterpart of the one just reported by Dr. Ill. He had operated on her quite extensively, but the disease had recurred. He would like to hear more in regard to the etiology. In his own case there had been a distinct history of syphilis. Each time the excised nodules had been subjected to a competent pathologist, Dr. George C. Freeborn, and the growth had been reported to be a carcinoma.

**The Umbilicus; Its Development and Deformities.**—Dr. A. Ernest Gallant read a paper with this title. He stated that out of forty-eight hundred and thirty-two children seen at the Good Samaritan Dispensary in the service of the late Dr. Van Arsdale, hernia of the cord had been met with in one case at six months, and acquired hernia in two hundred and sixteen. Of these hernia cases one hundred and forty-four had been under one year of age. Deformities of the umbilicus might arise from retrograde changes in the umbilical vesicles and omphalomesenteric duct. There might be incomplete retraction of the abdominal viscera into the abdomen, arrest of development of the abdominal plates, or abnormal attachment of the cord to the umbilical ring. The omphalomesenteric duct might remain patent in any portion of its length. It was a portion of the original umbilical vesicle extending from the skin to the intestine. It might be present as a blind sac—a true Meckel's diverticulum. The duct might remain open, discharging mucus from a sinus of varying depth. When the intestinal end was closed and the end at the skin was open, there would be only a discharge of mucus; when both ends were open the fæces would be discharged at the umbilicus. One author had stated that in the majority of males the urachus was partially open. The part most likely to dilate was that near the bladder, because this was the portion which was the last to lose its function. Ring fistula at the umbilicus was the result of applying a ligature too close to the abdomen. Urachal fistula might arise from some obstruction to the usual and natural channel for the escape of the urine. In one case cited a marked phimosis had been the cause, as proved by the fact that shortly after the performance of circumcision the urachal fistula had closed. The fistula had been satisfactorily closed by the use of a subcutaneous ligature and the subsequent paring and uniting of the edges. A distended urachus not communicating with the bladder might open and discharge from the umbilicus. An extremely rare form of deformity had been described under the name of "amniotic umbilicus." It was characterized by the absence of skin around the umbilicus, its place being taken by the sheath of the cord. The most common variety of urachal deformity was that known as urachal cyst, or the tubulo-cyst of Bland Sutton. Such cysts might remain throughout life without giving rise to any symptoms. They might remain at the vesical end. Last, but not least, was umbilical hernia. This might be either congenital or acquired. In the newly born herniotomy should be performed as soon as possible. Adherent, irreducible, congenital hernia was sometimes met with soon after birth. As soon as the diagnosis had been made laparotomy should be done if taxis failed. The acquired form arose from the giving way of the parts subsequent to the healing of the umbilicus. The tumor was covered with peritoneum and skin. Coughing and straining efforts of other kinds were quite commonly responsible for its development. When mechanical means failed, radical operation was demanded.

**Dressing for Umbilical Hernia.**—The contents of the sac should be reduced, the umbilicus inverted, and then a pad applied. This pad should be made of a flat piece of pasteboard covered with adhesive plaster, and it should be retained in place by plaster strapping. The most important point in the application of this dressing was to bring together the integument over the inverted umbilicus and hold it there by covering the pasteboard pad with plaster, the sticky side of the latter being next the skin. The dressing should be renewed every two or three months.

**Dressing the Umbilicus of the Newly Born.**—Dr. Dickinson said that he had reviewed the entire literature of the last twenty years regarding this subject, or rather the treatment of the cord at the time of birth and for the ensuing few weeks. The treatment of a hernia of the inguinal canal by any operation producing a scar by granulation was now looked upon as bad surgery, and yet since prehistoric times the umbilicus had been treated in this same unsurgical manner. It had not been until 1893 that the suggestion had been made that the hernial opening at the umbilicus should be treated as were other hernial openings. As a matter of fact, though but little known, 3.2 per cent. of all children had infection due to the present method of allowing the cord to slough off. In these cases the sepsis was slight, being only a sapræmia as a rule, but in 5.25 per cent. the sepsis was severe, and in one per cent. proved fatal. This condition of umbilical sepsis was commonly overlooked, a diagnosis of pneumonia, or something of the kind, being made. The hernia commonly occurred at the upper edge. Below was the strong urachus, with its thick covering, and the arteries. A more surgical treatment of the umbilicus would probably banish most of these cases of acquired umbilical hernia. On the inside of the cord was a very strong ring of elastic fibres, as well as of white fibrous tissue, and Morris, the anatomist, was positive that there existed a real sphincter. The existence of a normal apparatus for closure seemed to the speaker almost certain. The only objection to the method of treating acquired hernia advised in the paper was, that the rubber plaster almost always irritated the skin. If the common yellow adhesive plaster were substituted it would answer equally well the purpose for which it was used, and would not cause such irritation.

Dr. C. G. Kerley said that he had used this mechanical treatment for umbilical hernia, and had not observed any trouble from the rubber plaster irritating the skin. The probable reason was that he changed the plaster rather frequently. If the folds of the skin were well brought together there did not seem to him to be any need for a pad of any kind. He had traced many cases of furunculosis and septic dermatitis to a suppurative condition of the umbilicus. In his experience the quickest and best method of healing this suppurative condition of the umbilicus was to fill the opening with a powder consisting of equal parts of starch and subcarbonate of bismuth. It must be renewed every two hours. Mucous polyps of the umbilicus were very commonly met with, and these could be treated very satisfactorily by the application of a ligature, allowing the mass to fall off.

Dr. Gallant closed the discussion. He stated his belief that Dr. Dickinson's surgical dressing of the cord was sound in theory, but he would recommend that Dr. Dickinson should make use of the balsam of Peru and castor-oil dressing as being exceedingly convenient and reliable for this class of cases.

# Correspondence.

## OUR LONDON LETTER.

(From our Special Correspondent.)

THE HARVEIAN ORATION—PATHOLOGICAL SOCIETY; PRESIDENT'S ADDRESS, NEW ARRANGEMENTS—CLINICAL SOCIETY OPENS—OBSTETRICAL SOCIETY—THE RETURN OF MAJOR ROSS FROM THE MALARIAL EXPEDITION—RECENT DEATHS: BISHOP HICKS, M.D., DRS. MOULD, WALLACE, AND BARNES.

LONDON, October 20, 1899.

THE day before yesterday, being St. Luke's Day, the Harveian oration was delivered at the College of Physicians. This was the one hundred and eighty-first oration, and Dr. Poore was the orator. He began, as in duty bound, by commemorating the benefactors of the college during the past year, noticed the condition of medicine in the time of St. Luke, "the beloved physician," and on to the time of Harvey, whose life and work were then briefly reviewed. This brought him to Harvey's direction to "search out the secrets of nature," and in doing so he held that we have made great advances, not only in knowledge but even in manners and morals. Our increased knowledge of the laws of the visible universe he declared "has increased our living faith and added to the glory of God." As there have always been two schools in regard to scientific inquiry, so now there are those who would hinder the search for the secrets of nature. "There have always been," he said, "trustful souls to whom mental progress is painful, who see sin where none is, and who find blasphemy in the simplest acts." He instanced the poor nuns, whose frenzy could not be quieted until the body of Tagliocozzi was removed to unconsecrated ground because he had dared to alter the human form, and the denunciations of anæsthetics barely half a century ago as contrary to Scripture. So now, he said, there are those "who apparently hold that a guinea-pig is of more value than many babies," and that operations on the lower animals, no matter how carefully done, if done for the purposes of research, diagnosis, or relief, and not with the object of making mutton tender, pigs fat, or horses quiet, are to be denounced as atrocities.

The session of the Pathological Society was opened on Tuesday with an address by the new president, Mr. Watson Cheyne, in which he gave a sketch of the history of the society founded fifty-three years ago, at a time when speculation was rife with a view of devoting its attention to the bare facts of morbid anatomy. With the advance of knowledge it became necessary to enlarge the scope of the society, and the rules were modified in 1893. It was now proposed to advance further. To that end the council had decided to make known that the society is open to every kind of pathology, bacteriology, morbid anatomy, experimental pathology, and pathological chemistry. Secondly, to encourage the study of special branches, the subjects will be grouped, each having preference on one evening. Thirdly, four meetings of the session will be held in laboratories. This will give opportunities for criticism and demonstration, and for bringing forward unfinished researches. These four meetings will not be open to the press. Fourthly, authors may, if they wish, publish their papers in *The Journal of Pathology*.

The Clinical Society began work on the 13th instant, the date of my last letter. A rare case of streptococcal meningitis supervening on chronic nephritis was first related by Dr. Rolleston. A man aged twenty-two years was admitted on the eighth day of his illness, with a temperature of 103° F., and rather indefinite symptoms. Next day he had two fits and died in twenty-four hours. At the post-mortem purulent meningitis, due to streptococcal infection, was found and acute nephritis which seemed to have come on in the course of chronic nephritis. No streptococci were visible in sections from the kidney. Unfortunately no cultures were made from the spleen or heart's blood, so it could not be asserted that the infection was confined to the meninges of the brain.

Dr. F. J. Smith said he had not met with such a case in the post-mortem room, and remarked how rarely purulent meningitis followed renal disease, although pericarditis or pleurisy often did.

Dr. Churton, of Leeds, related a case of aneurism of the first part of the arch of the aorta projecting into the right axilla, in a man aged fifty-three years, who was admitted with a painful pulsating swelling on the right side of the chest, half the size of a cocoanut. An aortic regurgitant murmur was heard over the fourth cartilage. The heart's impulse was in the sixth space, one and three-fourths inches external to the left nipple line. The bruit was fine and whiffing, not suggesting large regurgitations. The patient died of internal hemorrhage, and details of the post-mortem were given. The most interesting question suggested by the case was raised by Dr. F. J. Smith, viz., whether the amount of regurgitation could be estimated by a bruit. As the result of his clinical and post-mortem work he concluded that only clinical symptoms afforded any help.

Dr. Chapman quoted Gross to the effect that if the second sound greatly exceeded the first in aortic cases it would indicate extensive regurgitation, but this did not hold good for mitral cases.

Dr. Rolleston thought in aortic cases there was a fair relation between the distinctness of the murmur and the character of the lesions, though he admitted that there were notable exceptions to this. On the other hand, in mitral regurgitation there was but little relation between the loudness of the murmur and the extent of the lesion.

Dr. P. Kidd agreed as to this, but said the amount of regurgitation could be judged by the pulse and the presence or absence of the second sound over the aorta and carotids.

The president, Sir D. Powell, agreed that a bruit gave comparatively little information unless taken in conjunction with valve function.

Dr. F. J. Smith showed a curious case of a girl, aged nineteen years, treated with iron for anæmia in 1895, and improved. Next year, still taking iron, she showed symptoms of peripheral neuritis. In 1898 she had on one hand warts which showed peculiar phenomena of growth and decay. This year she was admitted with grave anæmia, and while in hospital developed nervous symptoms, consisting of (1) prolonged serious interference with respiration, with periods of hours of rapid breathing (sixty-six or more) alternating with hours of very slow breathing; (2) intermittent fits of unconsciousness, with convulsive movements of face, right arm, and leg. No treatment seemed of avail, but she gradually improved, until headache and pain in the legs were the only symptoms. Incisions down to the bone of both tibiæ relieved the latter, but nothing touched the former. The extreme intractability of the case, and the nervous phenomena, apparently central and peripheral, were the chief points insisted on.

Dr. Norman Dalton said until lately he had regarded thrombosis in anæmia as rare, but in December last he found it at a post-mortem extensive in all the sinuses; the patient had died with cerebral symptoms during anæmia. He had since met with some cases of the kind, and one this week which much resembled Dr. Smith's. He said in this, as in so many

other cases of anæmia that did not yield to treatment, inherited syphilis might be suspected.

Dr. Savill recalled a case of a boy, aged fifteen years, who died with extreme anæmia, and at the post-mortem gummata were found.

Dr. Box mentioned another case in which recovery took place under iodide of potassium.

Dr. Rolleston thought that in some points Dr. Smith's remarkable case read like Stokes-Adams' disease.

Dr. Smith, in reply, said, the question of syphilis should be carefully inquired into.

At the Obstetrical Society Dr. Herbert Williamson read a rather elaborate paper on "The Pathology and Symptoms of Hydatidiform Degeneration of the Chorion." Having considered earlier views, he described the development of the chorionic villi and the changes which occurred in them when undergoing myxomatous degeneration. The relation of hydatid moles to deciduoma malignum was considered. The mortality of ten consecutive cases at St. Bartholomew's Hospital had been thirty per cent., and that of twenty-five cases was twenty per cent.

Dr. Herman expressed surprise at the mortality, and thought it had been much less at the London Hospital. In his experience, when the cervix was dilated and ergot given, the mole was usually expelled and the patient got well. He did not remember having to perform any intra-uterine manipulation to remove such a mole.

Several of the fellows referred to the great difficulties of diagnosis, and then Dr. Ludwig Fraenkel, of Breslau, who was a visitor, spoke. He objected to the view, expressed by the society four years ago, that deciduoma malignum was a sarcoma, and said German writers held it certain that the disease arose from the epithelium of the chorionic villi. Hydatidiform mole they regarded as chorio-epithelioma benignum which might become malignum.

The return in good health of the expedition under Major Ross is an event giving great satisfaction not only to the Liverpool School of Tropical Medicine but throughout the profession. I hear that only one member contracted malaria, and he is well again. The experience gained by the expedition promises much. It seems to show that the mosquito is the important link in the chain which had been conjectured; that the genus Anopheles is the chief culprit; that it cannot travel far; that it breeds in small puddles in the vicinity of human habitations, no larvæ having been found in puddles more than forty yards from a native hut; and that such puddles could be easily destroyed.

Among recent deaths that of the Bishop of Bloemfontein may be mentioned, the Rt. Rev. John Wale Hicks, M.D., D.D., etc. He was a graduate in arts and medicine of the London University. Afterward he went to Cambridge and took the tripos in three faculties, medicine, science, and theology. He was then made lecturer in chemistry, on which he wrote a text-book. Afterward he took orders, and eventually was appointed to the bishopric, in which he labored until his death, on the 11th inst. He was not the only medical bishop, those of Rangoon and Likoma both holding the degree of M.D.

Mr. J. T. Mould, F.R.C.S., died on the 10th, in his eighty-second year, after a long and successful career. He took a great interest in all our medical charities, and in the volunteer movement, which he entered at the beginning.

Dr. Alexander Wallace was an M.D. Oxon., and for thirty years physician to the Colchester Hospital. He was a good naturalist, with special knowledge of certain plants and insects. His medical observations were mostly in St. Bartholomew's Hospital reports.

Mr. Wickham Barnes, F.R.C.S., many years secretary of the Poor Law Medical Association, and much esteemed for his work as such, died on the 12th inst.

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## "STATE CARE OF THE CONSUMPTIVE."

To the Editor of the Medical Record.

Sir: In the Medical Record of October 28th, containing reports of the discussion on "State Care of the Consumptive," two statements inadvertently attributed to me are inaccurate and misleading. In view of my warm interest in the projects will you kindly allow me to correct two errors? I am made to say (p. 648) that, should the increase in the death rate from consumption continue through the year, "there would be over one thousand deaths from consumption, probably the highest death rate ever known." I stated in substance that the returns to the State board of health for the first eight months of this year showed an increase of six hundred and sixty-nine over the same period for 1898, and that should this rate of increase be preserved through the remaining months of this year there will be an increase of about one thousand deaths, or fourteen thousand for the year. This will be the highest death rate from pulmonary tuberculosis ever known in this State.

Again (p. 648) I am reported as saying: "If the State spent $10,000.000 a year it would be spending only a small fraction of what it should spend—indeed, it was only a question of shifting the expenditure from one place to another." This statement is so extravagant and obscure, that I must disclaim any responsibility for its appearance. I have favored most earnestly the appropriation of $200,000 by the legislature for the purpose of establishing a State sanatorium for incipient consumptives, believing that such action would inaugurate and promote rational relief for these unfortunates, who have too long been neglected. How far the State shall move in this direction the future must decide, but personally strong convictions make me hope that results will justify gradually increasing expenditure and more extensive care of the early consumptive by the State. *I believe in caring for the consumptive at the proper place at the proper time until he is well or improved, not at the wrong place at the wrong time until he is dead.* Many times the question of expense is raised in opposition to State care. My answer has been: If the State should spend the vast sum of $5,000,000 or $10,000,000 annually, *that would represent only a small fraction of the annual loss to the State* by unnecessary deaths, lessened years of labor and earning capacity, cost of caring for the victims while ill, aid for dependents, and cost of degeneracy in offspring.

Those familiar with the introduction of sanatorium treatment in Europe know that many in moderate circumstances have found a boon within their means, and philanthropy and common-sense benevolent associations have assisted the State more and more each year. The adoption of State care will not create a new expense or additional tax. The *expenditure will be shifted from town, city, and county*, where it is now ignorantly employed and largely wasted so far as results are concerned.

Now the consumptive is a unique, pathetic victim of a stupid method of charitable relief. Every other sufferer is provided for in accordance with medical knowledge. He alone has no chance for recovery if poor, and no alternative but to struggle along until he is unable to work or obtain it. We are educating the public, but making it harder for the unlucky by teaching others to fear him often needlessly. After he has had long, abundant opportunity to infect others, beget progeny, and his condition is hopeless, he enters

a hospital if rules have not been passed forbidding it. The Henry law passed by the last legislature gives cities of the first class power to erect and maintain special hospitals for consumptives outside of the city limits. A wise and beneficent step; but will prevention, which is the primary object of the measure, ever be effective to any large degree when isolation or segregation is not compulsory, and circumstances alone will force the late or advanced case to seek admission? Very few have the hardihood to support the radical measure of compulsory isolation, and while the care of advanced cases in special hospitals is most desirable, the benefits to be derived must be slow, partial, and inefficient. The sanatorium treatment of the incipient case will encourage early diagnosis, recovery or improvement, education, ideal isolation before the case becomes a source of danger, and will prevent progeny during the improvement period. The method is scientific, economical, and above all humane, because the sufferer's right to regain health and strength is recognized. It is more like justice than misdirected charity at the wrong end of a problem, and appeals to "the logic of feeling" rather than late sentimental pity. The average costs and the results will pay. To-day money is wasted because the care of the poor consumptive is a series of blunders from beginning to end. Time and a combination of methods are required in the crusade against tuberculosis. They need not conflict. Probably no one act would hurry the adoption of broad, comprehensive measures of prevention—*i.e.*, the germ, the soil, and the influencing condition—so much as State aid.

The physician knows how to attack the scourge of consumption along many lines, but he is powerless. Leaders in charitable work admit that they cannot grapple with the problem of dealing with its victims, and its frightful results. The last appeal is to the State, as there are many reasons why the city or county cannot undertake the work, and whether the State shall act soon or wisely rests with the medical profession as the rightful guardian of the public health.

John H. Pryor, M.D.

Buffalo, N. Y.

## LETTER FROM BEYROUT, SYRIA.

(From our Special Correspondent.)

SUMMERING IN SYRIA—CLIMATE—INSANITARY ACCOMMODATIONS—SMALLPOX.

Syria, October 3, 1899

The summer has come and gone with us. For the last three months all our friends, relations, and foes—all of them that could—have been sojourning on "the mountains."

In temperate spots of the earth everybody goes downward to the sea in his summer; in our subtropical clime all trend upward to the highlands. It is "good-by, winter!" with us; "good-by, summer!" with the others. From our experience we cannot tell of a purer air than we have found on the Syrian hills. The sunlight is intense, sometimes cruel, in its heating in these Eastern lands. This can be guarded against, as any Bedouin will tell you, or concerning which he will instruct you. But there is always here—I speak of our sojourn—sunlight and fresh air. We leave sunlight and fetid air in the lowlands and escape from an atmosphere that, combined with dust and its accompaniments, would breed anything from the genial fungus of sour milk to the frilled "drumstick-headed" microbe of tetanus.

In an hour and a half we go from one climate to another—from a London fog to the Riviera—from the turmoil of New York to the tranquil beauty of the "Thousand Islands." And then our train is so very slow we can pluck flowers and buy grapes as we go along—grapes, and delicious grapes, too, at a half-penny (one cent) a pound. So we reach Aléy, twenty-one kilometres up, by distance, from the seaport. It is not our purport to detail the variations of the scenery in our crawling through and up by our olives, our cedars, and our palm-trees, and—we almost forgot to mention—the sweeping areas of mathematically planted mulberry-trees and the terraces of vines.

We started with "very damp" (our hygrometer is our witness), and got through various stages of dampness. At Aléy (or Aleigh, as some people spell it) it was "damp" and cloudy, with a mist coming up from the valleys every evening and overshadowing the little village with its teeming summer population.

Now let us digress a bit. This village, or town, is not under the control of His Imperial Majesty. Six great nations—no less—look after the interests of "The Lebanon"—properly so called. From an executive point of view, it goes without saying, they do their duty well. You can leave your hat-box open, and nobody will steal your top hat or even your "billy-cock." You may leave some heavy but humble coins of the realm lying on your dressing-room table, and no one will purloin them; if they fall on the floor they will be replaced; if you go so far as to cast anything objectionable on the street or in your neighbor's garden, you will be promptly reprimanded or fined. Your landlord, nevertheless, is permitted to provide you with accommodations consisting at times of an oblong hole, dug out somewhere in his "garden" or his grounds—underground sometimes—in which, or on which, you can neither stand up nor sit down. This "pit" is usually some eighteen inches long by seven inches wide and thirty inches deep. There is no outlet, and the "matter" is removed when there is "no more room." Where "it" is buried we cannot tell; but we have waked up betimes to find the receptaculum—it is not worthy of the word—empty.

The Druses, whose cleanliness is a part and parcel of their religion, are indigenous to the place, and it is practically owned by them. When taxed on the subject of these cess-pits, they complain of the scarcity of water, and of doing as their "fathers" did before them. They don't believe in innovations. They are not so far off, after all, these would-be cleanly Eastern tribes. They don't know what "they know"; and they want to be taught.

The dry-earth system is evidently their standpoint; but they are at a loss as to its relationship with its liability to failure as contrasted with other more advanced methods than their own. For the present we shall leave our friend the Druse to his own devices.

Why these mountain villages should be attacked one at a time by certain zymotic diseases—should be sporadic in their selection—is as puzzling as are the diseases themselves. Water, climate, population, bad hygiene (a very wide term), want of proper precautions (a wider term still), and then—"we cannot tell!" Typhoid had its dole here during the winter of 1895, when it killed some four thousand people in about six weeks. Then came smallpox, beginning at our village of Aléy. Poor Gordon, the American consul here, was the first to bring the news, dying in the hospital in Beyrout. A tomb was erected to his memory the other day, and I cannot close better than by using his words, prophetic as regarded himself. He wrote them, we are told, on his arrival here a year or so before his death, and they seem an inspiration. Here they are, as well as I can recollect them as I saw them on the tombstone over his grave:

"And here he lies
In some lone Syrian town;
While from the alien skies,
With far-off eyes,
The Syrian stars look down."

So he wrote about himself, and so he died; killed by a disease that we all thought was all but extinct at the time. Then came the scourge; but it was anticipated here by the authorities. They cannot keep their streets or houses clean; but they can at least keep their bodies clean, and they can and do insist on vaccination when the enemy appears. And we may add, so far as we have seen, they are successful, these followers of the Prophet, in repelling our filthiest and most easily repulsed disease.

So say not our friends at Leicester in England, it seems — genial but dangerous idiots that they are. They wait for "something to turn up"; but when the "ghost walks" be assured they will be the first to "fly screeching away."

We have had an exceedingly mild summer here—an average of 82° F. in the shade night and day for the last four months. The birth and death rates we cannot give, as no register is kept. Apparently there has been little illness. It has been an exceptionally healthy spring and summer. What the winter season may bring forth we shall let you know later on, with perhaps other details which for lack of time and space must be omitted for the present.

## THE MANURE NUISANCE IN CENTRAL PARK.

To the Editor of the Medical Record

Sir: For your most excellent article on "The Fertilizing of Central Park" you deserve the thanks of every one who walks, rides, or drives there. We who daily enjoy the beauties of Central Park, and who know the similar resorts abroad, will agree there is no place like it so beautiful and so well kept as during seven or eight months of the year, but during the remainder unfortunately we can enjoy it only with mouth open and nose closed. You did not, of course, expect to influence the Park board at once by your clever article—great bodies move very slowly—but you effected more than you probably expected. *The Rider and Driver* has copied and duly credited the whole article, the board of health has taken notice of it, in all riding academies it has been approvingly discussed, and most likely the bicyclists have done the same. Your idea has taken root and shape; it will germinate notwithstanding the Central Park fertilizer.

There is another malodorous object of still greater importance, as it concerns every one of us, and we have to handle it, although it is offensive to the nose, eye, and touch. None is so will suited as yourself with your caustic pen to start a reform and deserve the gratitude of all by protesting against the issuing of dirty greenbacks by the banks. Nowhere in the world would refined people accept such dirty bills as some of the banks give out to their depositors.

Joseph Kucher, M.D.

32 East Sixtieth Street.

**A Plague-Stricken City.**—A correspondent of *The Scotsman* gives a vivid account of the plague at Poona. The scenes to be witnessed in that disease-stricken town almost beggar description. The correspondent referred to says that to De Foe's realistic pictures of the plague in London must be added the Asiatic peculiarities. There is the funeral pyre of the Hindoo for ghastly cremation, deserted the moment it is lit, and then abandoned to the jackals and vultures. There is the ghoulish Mohammedan cemetery, where the bodies are tossed or dragged, and not one foot of earth covers them. So few of the living are left to remove the dead that, as was the case in London, the death cart goes its round and disposes of the victims wholesale.

# Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending November 4, 1899:

| | Cases. | Deaths. |
|---|---|---|
| Tuberculosis | 139 | 135 |
| Typhoid fever | 75 | 18 |
| Scarlet fever | 108 | 8 |
| Smallpox | 0 | 1 |
| Measles | 180 | 9 |
| Diphtheria | 224 | 24 |
| Laryngeal diphtheria (croup) | 3 | 5 |
| Cerebro-spinal meningitis | 0 | 6 |
| Chicken-pox | 17 | 0 |

**The Health of Kashmir.**—Dr. E. A. Neve writes in the *Indian Medical Gazette* that during the year 1898 there were twenty-nine hundred and eighteen surgical operations in the Kashmir hospital. Kashmir is, on the whole, wonderfully free from sickness dependent on climate. Great tracts of country lie permanently under water, and many large areas are exposed to annual floods. During the summer months, the valley is little more than an alluvial plain covered with rice-fields and swamps. Mosquitoes abound. And yet, owing to the altitude, malarial disease is quite rare. The Kashmiris hardly suffer from it at all. Diseases of the eye are, however, very numerous, especially ophthalmia and entropion. Cataract is much less common than in the plains. Diseases of the skin, especially those which are parasitic, simply abound. Scabies, for instance, is universal. Digestive affections are extremely common and are often due to the great excess of starch contained in the diet, which consists so largely of rice. Dilated stomach is of frequent occurrence. In the winter, respiratory complaints, especially bronchitis, abound, and rheumatism is very prevalent. There is a fairly representative series of the general diseases observed in Europe, but the variety is more limited, and some affections are conspicuous by their absence, *e.g.*, scarlet fever and diphtheria.

**Dr. Tanner on Diet.**—Dr. Tanner, who some years ago was the hero of a fasting feat prolonged for forty days and nights, is still alive and well at the age of sixty-seven years. The prediction was made by some medical men that his digestive organs would be irretrievably injured by his lengthy abstention from food, and Dr. Tanner prides himself considerably on the fact that despite these gloomy forebodings his health continues good. He is a strict vegetarian, and thinks that a man can live comfortably on the modest sum of twelve and one-half cents per day. Much of the ill health from which many people suffer he puts down to the consumption of pork and badly cooked food. He also wholly disagrees with the manner in which hotel and restaurant managers cater for their patrons, and is of the opinion that the true idea of cooking is to retain the natural flavor of the viands, and not, as seems to be the aim of the modern cuisine, to disguise it.

**Occurrence and Distribution of Influenza.**—Influenza appears usually in an epidemic form, having its origin in some one locality or another, and travelling with great rapidity, often as a true pandemic, over the major part of the inhabited earth's surface. According to Hirsch, the first trustworthy literary records of the disease date from the early part of the twelfth century. Between 1173 and 1874 it made its appearance on eighty-six different occasions. Its first recorded

occurrence in the United States was in Massachusetts in the summer of 1627; since that time it has visited this country with varying degrees of severity twenty-two times. The last pandemic, that of 1889-90, appears to have originated in Central Asia and to have spread thence to Russia, Germany, France, England, and finally to North America. Its occurrence does not seem to be influenced by climate, season, geological or geographical conditions. The ideas regarding the periodicity of its visitations and those relating to the fixity of its spread from east to west receive no support from Hirsch's analysis of the various epidemics. Neither race, nor sex, nor age appears to serve as an important predisposing factor.—A. C. Abbott.

**Scarlatina in India.**—It has been claimed that scarlet fever does not occur among the natives in India. A special interest therefore attaches to an article in the August number of the *Indian Medical Gazette* by Drs. Cook and Caddy, in which it seems to have been demonstrated that the disease does exist independently of outside or foreign infection. Bacteriological experiments tend to confirm this opinion.

**Deal with the Inebriate** as you have successfully dealt with the maniac. Frown not on him as a hardened criminal. Remember he has fallen by the power of a physical agency which has crushed to earth some of the noblest and most gifted. Treat him as a patient laboring under a baffling and inveterate disease and amid many discouragements. Such a measure of success will follow your true curative treatment as will gladden your hearts as men, while it will attest your skill as physicians.—Norman Kerr.

**Origin of the Plague.**—An English weekly journal has the following exquisite theory in regard to the causation of the plague: "Various scientific theorists have suggested what they conceive to have been the origin of the plague in India, but a native official in the western Presidency, who was called upon for a report, evidently thought little of the learned specialists and their ingenious surmises, for his official return was that, having made the most careful inquiries as to how the plague had come into the villages under his charge, he had the honor to state that in his humble opinion the epidemic had arrived incog."

**Parasites in Malaria.**—Investigation has shown that the types of parasite undergo phases which correspond with the cycle of malaria. When a parasite occupies the whole corpuscle an attack of ague is imminent. When the spherules are found a rigor is present. The smaller unpigmented parasites are present during or at the end of the pyrexial stage; the larger pigmented ones being found during the apyrexial interval. In some cases there is a double crop, as it were, of these parasites, which become mature at different hours, and give rise to double quartan, tertian, etc., of this fever.—F. H. Whitsitt.

**The Human Odor.**—The fact that certain animals, and especially the dog, will recognize the propinquity of their masters or friends, although it may have been impossible for them to have seen them or heard their voices, has long since suggested to physiologists and others the idea that every human being has a distinctive odor, peculiar to himself, and which remains more or less constant. Otherwise how would it be possible for the bloodhound, for instance, to take the trail of an individual and follow it for miles through crowded thoroughfares as well as through open country, and unerringly pick out the individual from among hundreds of others? This idea has recently received a signal verification, as we are told by Dr. Bett in the *Archiv der gesammten Physiologie*. The doctor states that a friend of his, with bandaged eyes and every precaution against collusion, was enabled by the sense of smell alone to recognize persons with whom he was acquainted, and to call their names the moment that they came into the room and at the distance of several paces. The experiments were varied in a number of ways, but with the unerring faculty of the bloodhound this man detected the identity of every individual presented. Other instances of a similar keenness are cited by Dr. Bett. According to the man who gave the exhibition, every family has a characteristic odor common to all the members thereof, but the intensity of which usually varies sufficiently among the various members to enable him to distinguish each individual.—*Indian Lancet.*

**Tuberculosis among Natives of India.**—Major W. J. Buchanan writes in the *Journal of Tropical Medicine* as follows: "We now come to a consideration of the prevalence of tuberculous affections in the natives of India. My own experience leads me to believe that tubercle of the lungs is more common in natives than is generally supposed, and that many cases are overlooked in out-patient practice. The patient generally complains only of 'fever.' Emaciation has not the same significance in an Indian hospital as it would have in England. Cough is much less commonly a prominent symptom of phthisis in India. I pointed this out six years ago in an article on tuberculosis in Bengal jails. I have recently come across the following remarks on phthisis in India in an old article in the long-extinct *Indian Annals of Medicine*, by Dr. Hoore, who wrote: 'Phthisis, formerly supposed to be so rare among the natives of India, is now admitted to be a frequent affection, and particularly so among inhabitants of the upper provinces. The disease is frequently somewhat different to what has been observed in England. The extent to which tuberculous disease occurs in colored races has become evident from post-mortem rather than direct diagnosis.'"

**Fresh Air and Women.**—Women, as they grow older, are apt to live much indoors. I believe the fat, flabby, paunchy woman, whether purple or pale, with feeble, irritable heart and "inadequate" kidneys, is usually the victim of rebreathed air. It must, I think, sooner or later be recognized that many of the increasing ills which it has been the fashion to charge on the "hurry and brain fag," incidental to the high state of civilization and the large population, are in reality due to the greater contamination of the air we breathe by the waste products of that population, and that toxins excreted by the lungs will in time take high rank among these as both potent and insidious. If this should come to pass, the present ideas anent ventilation must be abandoned as utterly futile, and the need will be felt, not of letting a little air in, but of letting waste products out.—John Hartley.

**Posture in the Puerperium.**—Dr. W. D. Sutherland, in an article on the puerperium in the tropics, says the three ancient obstetric obiter dicta, "perfect rest," "tight binder," "antiseptic douche," are not by any means the articles of faith they used to be. Discussing as to whether rest in the horizontal position is of benefit, he says: "This is, of course, a great desideratum for the patient; but surely some form of it may be permitted which does not entail her lying absolutely motionless on her back. This is a most irksome position even for one seriously ill, and it favors stagnation and consequently decomposition of the lochia. That the dorsal decubitus does not favor the emptying of the vaginal canal we see every time that we give a vaginal injection. As soon as the woman turns round or gets up, there is a gush of fluid, after all had apparently been drained away. As to this po-

sition being irksome, we need only ask the patient whether she would not like to lie on her side, and hear her eager 'Oh, yes,' to make up our minds on this point."

**No Lepers in Denmark.**—The kingdom of Denmark proper is not known to have any lepers, although it is not impossible that Copenhagen, as all larger cities in Europe, has a few who have contracted the disease abroad. Dr. Ehlers, who is the greatest authority in Denmark, and whose name is known throughout the world for his great work in the interest of the unfortunate lepers, divides the disease into two classes: (1) tubercular and mixed leprosy; and (2) pure anæsthetic leprosy. The latter is not considered contagious, as the bacilli of this disease are not found in any tissues except the nerves. It is therefore the intention to isolate first the patients suffering from tubercular and mixed leprosy.—*Annual Report of the Marine-Hospital Service.*

**A Simple Method of Magnifying Tremors.**—Dr. William P. Spratling, of Sonyea, N. Y., sends the following description of an ingenious method of magnifying tremors: "Fill a plain, round, clear glass bowl, such as a finger-bowl, with perfectly clear water, and place it on a table free from motion or vibration. Insert the finger to be tested into the water near one side of the glass. The motion in the finger imparted to the water will cause concentric waves to flow in rhythmic action to the opposite side of the glass. It is best to make such a test in a dark room, or at night, when a light may be so placed as to pass rays through the water, and which rays will be focussed on the table near the glass. This will magnify the tremors many times. Unless too rapid, they may be easily counted, and if too rapid, a much better idea of the rapidity and intensity of the tremor may be obtained than by simple inspection of the shaking finger."

**Health Reports.**—The following cases of smallpox, yellow fever, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended November 3, 1899:

| | | Cases. | Deaths. |
|---|---|---|---|
| **Smallpox—United States.** | | | |
| Arkansas, Batesville | October 26th | 1 | |
| Little Rock | October 26th | 10 | |
| Mananna | October 26th | 1 | |
| Newport | October 26th | 2 | |
| Russellville | October 26th | 1 | |
| Tuckerman | October 26th | 2 | |
| District of Columbia, Washington | October 21st to 28th | 2 | |
| Georgia, Lumpkin | October 22d | Present. | |
| Richland | October 22d | Present. | |
| Illinois, Chicago | October 21st to 28th | 1 | |
| Louisiana, Concordia Parish | October 11th | 1 | |
| New Orleans | October 14th to 28th | 1 | |
| Massachusetts, Chelsea | October 21st to 28th | 2 | 3 |
| Michigan, Benton Harbor | October 28th | 10 | |
| Grand Rapids | October 21st to 28th | 1 | |
| New York, New York | October 21st to 28th | 4 | |
| Ohio, Cincinnati | October 21st to 28th | 3 | |
| Cleveland | October 21st to 28th | 7 | |
| Tennessee and Virginia, Bristol | October 1st to 13th | 30 | |
| Virginia, Portsmouth | October 21st to 28th | 9 | 1 |
| **Smallpox—Foreign.** | | | |
| Argentina, Buenos Ayres | August 1st to 31st | 1 | 1 |
| Austria-Bohemia, Prague | October 7th to 14th | 1 | |
| Straits Settlements, Singapore | September 16th to 23d | .. | 1 |
| Turkey, Erzeroum | September 23d to 30th | 3 | |
| **Yellow Fever—United States.** | | | |
| Florida, Key West | October 28th to November 1st | 9 | 2 |
| Miami | October 26th to 31st | 14 | |
| Louisiana, New Orleans | October 14th to 28th | 12 | 4 |
| Mississippi, Jackson | November 1st | 6 | 1 |
| **Yellow Fever—Foreign.** | | | |
| Argentina, Buenos Ayres | August 1st to 31st | 1 | 1 |
| West Indies, Curaçoa | October 7th to 21st | 2 | 1 |
| Mexico, Vera Cruz | October 13th to 26th | 6 | 2 |
| **Plague.** | | | |
| China, Hongkong | September 9th to 16th | 18 | 20 |
| Niuchwang | September 30th | * | |
| Portugal, Oporto | August 16th to October 15th | 160 | 55 |

* Present in epidemic form.

## Books Received.

*While the* MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

TRANSACTIONS MICHIGAN STATE MEDICAL SOCIETY FOR THE YEAR 1899. 8vo, 461 pages. Illustrated. M. S. M. Society.

THE USE OF OPIUM IN CHINA. By William Hector Park, M.D. 8vo, 88 pages. American Presbyterian Mission Press, Shanghai. Price, 30 cents.

THE LOGIC OF FIGURES. By Thomas Lindsley Bradford, M.D. 8vo, 203 pages. Boericke & Tafel, Philadelphia. Price, $1.25.

DISEASES OF CHILDREN. By George M. Tuttle, M.D. 8vo, 367 pages. Lea Brothers & Co., New York and Philadelphia.

MEDICAL DIRECTORY OF NEW YORK, NEW JERSEY, AND CONNECTICUT, 1899. 8vo, 880 pages. Trow Directory, Printing and Bookbinding Company, New York.

INTERNATIONAL CLINICS. By Dr. Judson Daland. 8vo, 290 pages. J. B. Lippincott Company, Philadelphia.

PRACTICE OF MEDICINE. By Dr. George E. Malsbury. 8vo, 388 pages. Lea Brothers & Co., Philadelphia and New York.

THE PRINCIPLES OF DIFFERENTIAL DIAGNOSIS. By Dr. Fred J. Smith. 8vo, 341 pages. The Macmillan Company, New York.

TEXT-BOOK OF EMBRYOLOGY. Parts II. and III. By Dr. E. Korschelt and Dr. K. Heider. 8vo, 430 pages. Illustrated. The Macmillan Company, New York.

FRENCH METHOD. By F. Berger. 12mo, 171 pages.

BEE LINE THERAPIA AND REPERTORY. By Dr. Stacy Jones. 12mo, 323 pages. Boericke & Tafel, Philadelphia.

SYSTEM OF DISEASES OF THE EYE. By Dr. William F. Norris and Dr. Charles A. Oliver. Royal 8vo, 919 pages. Illustrated. J. B. Lippincott Company, Philadelphia and London.

INTERNATIONAL TEXT-BOOK OF SURGERY. Edited by Dr. J. Collins Warren. Royal 8vo, 918 pages. Illustrated. W. B. Saunders, Philadelphia.

BACTERIA. By Dr. George Newman. 8vo, 341 pages. Illustrated. G. P. Putnam's Sons, New York.

TRANSACTIONS OF THE ASSOCIATION OF AMERICAN PHYSICIANS. Vol. XIV. Illustrated. 8vo, 362 pages.

LEHRBUCH DER KINDERKRANKHEITEN. By Dr. Adolf Baginsky. Vols. I. and II. 8vo, 1,068 pages. Friedrich Wreden, Brunswick, Germany.

SURGICAL ANATOMY. Vol. I. By Dr. John B. Deaver. Royal 8vo, 599 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.

A SYSTEM OF MEDICINE. Edited by Thomas Clifford Allbutt. 8vo, 911 pages. The Macmillan Company, New York.

MANUAL OF PHYSIOLOGICAL CHEMISTRY. By Dr. E. W. Rockwood. 12mo, 198 pages. The F. A. Davis Company, New York, Chicago, and Philadelphia.

THE VAGINA AND PERINEUM AND HOW TO MEND THEM. By Dr. Byron Robinson. Illustrated. 12mo, 134 pages. The Clinic Publishing Company, Chicago.

TEXT-BOOK OF PHYSIOLOGY. By Dr. Winfield S. Hall. Royal 8vo, 650 pages. Illustrated. Lea Brothers & Co., Philadelphia and New York.

UNITED STATES DISPENSATORY. Eighteenth edition. By Dr. H. C. Wood, Dr. Joseph P. Remington, and Dr. Samuel P. Sadtler. Royal 8vo, 1,899 pages. Illustrated. J. B. Lippincott Company, Philadelphia.

ESSENTIALS OF DISEASES OF THE SKIN. By Dr. Henry W. Stelwagon. Illustrated. 12mo, 267 pages. W. B. Saunders, Philadelphia.

ESSENTIALS OF MEDICAL CHEMISTRY. By Dr. Lawrence Wolff. 12mo, 214 pages. W. B. Saunders, Philadelphia.

FRACTURES AND DISLOCATIONS OF THE UPPER EXTREMITY. By Dr. J. E. Platt. 8vo, 217 pages. Illustrated. H. K. Lewis, London.

TEXT-BOOK OF MATERIA MEDICA, THERAPEUTICS, AND PHARMACOLOGY. By Dr. George Frank Butler. Royal 8vo, 826 pages. Illustrated. W. B. Saunders, Philadelphia.

PRACTICE OF MEDICINE. By Dr. James M. Anders. Royal 8vo, 1,263 pages. Illustrated. W. B. Saunders, Philadelphia.

WATER PURIFICATION AT LOUISVILLE. By Dr. George W. Fuller. Folio, 444 pages. D. Van Nostrand Company, New York.

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 56, No. 21. Whole No. 1515. NEW YORK, NOVEMBER 18, 1899. $5.00 Per Annum. Single Copies, 10c.

## Original Articles.

### TABES DORSALIS—ITS PATHOLOGY, DIAGNOSIS, AND TREATMENT.[1]

BY CHARLES L. DANA, M.D.,

NEW YORK

I DO not understand that I am expected to make any original contribution to the subject of tabes, but rather to present the results of my personal studies and experience. I shall be forgiven, therefore, I trust, if what I say seems to be somewhat lacking in novelty.

**Nature of Disease.**—Tabes is a systemic disease, picking out certain parts of the spinal cord and its roots and certain cranial nerves. It is not a constitutional trouble, but is sharply limited to the nervous system. Its effects, outside of the nervous system, are secondary. It attacks first the posterior spinal roots and their termination in the posterior spinal column. The fibres of these roots arise from the posterior spinal ganglia. One part of these fibres passes into the posterior column and makes up the greater part of it; the other part passes outward and forms the sensory nerves. The spinal ganglionic cell with its central and peripheral processes forms a nerve unit or neuron and is called the peripheral sensory neuron. It is this neuron which is the original and main seat of the disease. It may, in the advanced stage, be entirely destroyed. The fibres or neurons of the spinal ganglia develop at different periods of fœtal life; probably those for touch and temperature first, those for muscle sense, equilibrium, and the reflexes later. The later ones are more sensitive to decay, hence in tabes we see first one part, then another of the root fibres and posterior column picked out and destroyed; and correspondingly we find ataxia, loss of reflexes; later, anæsthesia, visceral troubles, etc., in the patient. The typical process is an "elective" degeneration. The pathological change in tabes is also termed "segmental." It affects serially certain segments of the cord, usually at first the lumbar and lower dorsal; at other times it affects dorsal or cervical segments, or the retinal cells and nerve of the eye, which are analogous to the posterior spinal ganglionic cells or peripheral sensory neurons. In accordance with the segments attacked we have different seats of initial symptoms belonging to the legs, trunk, arms, or brain. Tabes sometimes attacks the peripheral motor neurons, causing ocular palsies and muscular atrophies. The same process attacking the cortical cells of the brain with its psychical (association and central) motor neurons, causes paresis; and the exaltation and delusions of grandeur of the paretic are strictly comparable to the hyperæsthesia and pains of the tabetic.

**Nature of the Process.**—Tabes is not an inflammation or the result of an inflammation. It is a primary atrophy or decay attacking the master tissue itself. It is not due to a syphilitic or any other kind of meningitis compressing the roots. Such views are to me so *a priori* impossible that I cannot patiently present them, although I know that a tremendous amount of time, investigation, and learning has been spent in trying to prove a primary syphilitic meningitis. But a chain is no stronger than its weakest link. There is not always a root meningitis, and if so it would not explain an Argyll-Robertson pupil.

We do not know what the nature of this primary and steady decay is. It is probably an early senility attacking these systems of sensory neurons, and this premature old age is due in part to a congenital or acquired weakness of these parts and in part to a toxin acting upon them.

**Etiology.**—This leads me to the well-worn topic of the etiology of tabes. It is practically agreed, I think, to-day that tabes is generally due to luetic infection. If there was no syphilis there would probably be no tabes (or, I may add, paresis). I admit that this is not entirely proven by statistics, but this conviction comes to all as a result of clinical study. American statistics give about seventy-five per cent. of cases with a luetic history of some kind. However, tabes is not syphilis, either primary or secondary or tertiary, and the disease which causes tabes is not often the lues of the syphilographers. For example, a man came to me suffering from tabes in the second stage. He had contracted a supposed primary lesion ten years before. He was treated by two of the best-known and admittedly skilful specialists for this trouble. He received mercury, iodide, baths; he went to hot springs repeatedly. He never had secondary or tertiary symptoms of any kind, but it was his ambition and almost mania to get his system rid of syphilis. His treatment continued at intervals for four or five years, he meanwhile leading a model life; then he developed tabes.

A man came to see me with tabes in its first stage. Nine years before he had had relations with a woman who he learned had syphilis. He went at once to a leading surgeon of Philadelphia, who found a small abrasion which he said was not a chancre. Dr. X—— refused to treat the patient, but the man called two or three times a week for five months, for he was intensely anxious. He was continually examined, but not the slightest evidence of syphilis was ever found, and Dr. X—— refused to treat him for syphilis. He was often examined later, but never had secondary or tertiary symptoms, though always intelligently on the watch. Eight years later he developed tabes. I believe this man received an infection, but how different the clinical picture from that of syphilis as described! There is a something which gets into the system, runs a course unaffected by mercury and iodide, shows absolutely no detectable symptoms, and ends finally in causing a systemic degeneration of the nervous system. During its progress the patient does not give syphilis to others, and if he marries he may have healthy children. Modern syphilitic literature recognizes latent syphilis with final tertiary symptoms, but the progressive degeneration of nervous centres is not tertiary syphilis and is not influenced by it. This fact is not sufficiently recognized. Modern syphilitic treatment does not in the least affect it, still we call it syphilis. Is there not a by-product or a double infection?

[1] Read at a meeting of the New York Academy of Medicine, October 19, 1899.

There are two other factors, and two only, in the causation of tabes: one is heredity, the other over-use or abuse of the spinal cord.

In my experience a large percentage of tabetics are neuropathic or in some way defective as to their neuro-muscular systems. There is no direct heredity, perhaps no striking family neurosis or psychosis; but there is some congenital weakness or embryonic defect. These people are born with badly developed sensory neurons. Tabes is thus in a sense a teratological defect like its cousin, hereditary ataxia. A person with sound and long-lived posterior ganglionic cells may have syphilis a dozen times, but he will not get tabes. This, it seems to me, is the only way to explain its curious vagaries of development. However, it is possible that in exceptional cases a combination of infection with abuse of an organ may so poison and weaken it that degenerative tendency may be acquired, just as any function may be chronically weakened by over-use. So I find that a number of tabetics have been commercial travellers or salesmen who have been a great deal on their feet, men who have greatly overworked or who have indulged in excessive muscular exercise. Sailors, who walk little, rarely have tabes. The importance of this point has been brought out by Edinger, who experimentally produced lesions in the posterior columns of rats by forcing them, when made anæmic by drugs, to exercise inordinately.

I place little importance upon alcohol as a factor in tabes. Drinking does not cause it, nor does moderate drinking modify the course of the disease. Sexual excess, smoking, traumatism are also factors of small account. The same may be said of exposure to cold and a horde of other supposed causes.

**Diagnosis.**—Tabes, when developing in its usual and classical way, is easily recognized. The cardinal symptoms are lightning pains, loss of knee jerk, Argyll-Robertson pupil, ataxic gait, bladder disturbances, and paræsthesia of the extremities. Of these the pupillary symptom is the most important, and it, with one of the other symptoms, is sufficient for a diagnosis in ninety-five per cent. of the cases. The stiff pupil is practically found only in tabes, paresis, cerebral syphilis, and local troubles. When found with cerebral syphilis it usually means that tabes or paresis will develop later.

Loss of knee jerk with one other symptom is usually sufficient for a probable diagnosis. Every healthy person has a knee jerk, and it is lost only in tabes and after certain infectious diseases like diphtheria, in profound stages of alcoholism, and in neuritis, diabetes, and, of course, in crural palsies.

**Unusual Modes of Onset.**—It is not my purpose, however, to dilate on the subject of recognizing classical tabes. In about ten per cent. of cases the disease has an anomalous beginning. The anomalies are due to the fact that the disease is very slow in onset or attacks some unusual segment of the cord. Some of those types are very puzzling and interesting.

Rectal crises. Tabes may, for example, begin with rectal neuralgias and paræsthesias. The patients suffer excruciatingly, and it is usually and naturally supposed that they have fissures, hemorrhoids, or some other local trouble. Very likely some such trouble is present. I have had patients who have had severe operations done on the rectum by surgeons, and, I will add, sometimes with partial relief. At this stage the patient does not always present any other cardinal symptoms, though I believe a very close examination would show the real trouble, for either the pupillary symptom, the lost knee jerk, the slight ataxia, sexual weakness, or luetic history is present.

Neuralgic crises. A most puzzling type of cases is the neuralgic. I have had a patient who had lightning pains for fifteen years and no other tabetic symptoms, except an early ocular palsy and later a loss of knee jerk; then some ataxia and vesical weakness came on. Another patient was treated for malarial and gouty and rectal neuralgias for four years. When seen by me he had normal pupils, no ataxia, normal reflexes, and absolutely no tabetic symptoms; yet a year later some began to develop. It is indeed not very rare that a diagnosis must be made on the pains alone. There is no other malady that gives such extensive severe and intractable pain without objective symptoms.

Gastric crises. Another mode of onset that may obscure the malady is by gastric crises. I do not wish to exploit myself by citing too much the mistakes of predecessors, but one occasionally reaps the fruit of their experience. A patient under my care was treated for two years for dyspepsia and dilated stomach. He had violent attacks of gastric pain with vomiting, and would be for a week or more unable to retain any but the simplest food. He was washed out, dieted, peptonized, and finally given the morphine habit. He had, when brought to my attention, a distinct band of anæsthesia around the waist, and later he showed Argyll-Robertson pupil, loss of knee jerk, and ataxia. These forms of stomach trouble can usually be recognized by the violence of the pains, the absence of evidence of gastric inflammation, ulcer, tumor, or local irritation, the sudden unaccountable onset, and the presence usually of some cardinal symptom of tabes, if it is looked for carefully. The crises last usually several days and suddenly disappear, the patient feeling at once hungry.

Arthropatic type. Occasionally tabes begins with, or is noticed first in consequence of, a sudden painless swelling of the knee or ankle, or an unaccountably easy fracture of a long bone. Such accidents occurring in syphilitics must be carefully examined; their past history, the evidence of bony involvement, the subluxations, the absence of pain comparable to the lesion, and the obstinacy are the factors that are suspicious.

Optic type. Sometimes tabes begins with a slow progressive atrophy of the optic nerve without preceding neuritis. These patients usually show later a loss of knee jerk and a little ataxia; occasionally a few pains. Otherwise their symptoms are slight, and the eventual blindness seems practically to stop the course of the disease.

Syphilitic type. Not infrequently tabes is complicated with manifestations of secondary syphilis. This is shown by headaches, cranial nerve palsies, cerebral thrombosis or hemorrhage, and meningomyelitis with paraplegia. We must bear in mind when nervous syphilis is found that it may pass into tabes or paresis. I cannot, however, undertake to discuss this very fertile field. Exudative or secondary syphilis I believe to be an entirely different thing from tabes, though rather often associated with it. By proper treatment the syphilis can be relieved; then the patient may go on developing tabes or paresis, or he may get well.

Laryngeal crises. Laryngeal crises may be early symptoms, but they are certainly very rare. In the mild cases the patient has a feeling of tickling and choking in the throat followed by spasmodic coughing like that of whooping-cough. In severer cases there is a feeling of suffocation and dyspnœa, followed by loss of consciousness; the face becomes cyanosed, the patient falls to the ground and may have an epileptic convulsion. The trouble can be surely recognized only by the finding of some stigma of tabes.

**Some Early Symptoms.**—Among the early symptoms of tabes which occasionally assist in diagnosis are the areas of unsuspected anæsthesia upon the trunk or limbs. These areas do not often follow the distribution of the peripheral nerves, except those of the

trunk. They are somewhat variable in character, and tactile anæsthesia is more common than that for pain or temperature. Sensitiveness to cold with lack of sensitiveness to heat is a rather characteristic phenomenon.

The symptom of Biernacki is found in about three-fourths of early cases. This is a lack of pain when compression is made over the ulnar nerve at the elbow. It is not of much value.

Another minor early symptom is a deficient sensitiveness of the popliteal nerves when they are pressed or pounded (Bechterew).

Stress has been laid upon the fact that while the knee jerks are absent the abdominal reflexes are usually exaggerated.

Sometimes an ataxia can be found early by measuring the patient's swaying movements with an ataxiagraph. I have found that in early cases the swaying movements are most irregular and jerky, covering not only a larger space but a wider area in every direction, while those of a normal man range in the main anteroposteriorly. Standing on the toes with the eyes closed is the ultimate test of good muscular sense. Tabetics cannot do it even early in the disease.

**Treatment.**—What may be called the present canonical practice in the treatment of tabes is the following: The patient, if in the first or early second stage of the disease, is placed upon a rigorous anti-syphilitic treatment for six to eight weeks. This is followed by a tonic treatment and a course of thermal baths. The treatment is repeated in a year or less. In the intervals the patient is given small doses of iodide and mercury, and is in general treated medicinally as if he had some arterial sclerosis. He receives also courses of electricity, massage, exercises, cord-stretching, spinal counter-irritation, and various supplementary and symptomatic drugs suc'l as ergot, arsenic, aluminum chloride, iron, and the phosphates, in accordance with the choice or experience of the physician.

Can these measures be improved upon? The efficacy of anti-syphilitic treatment is based not on assured personal experience, but on the general fact or alleged fact that tabes nowadays is less severe and rapid than it used to be, and also on the belief that syphilis is the original cause of the disease. It is probable that this treatment does good in some cases, and rarely does harm. I do not know of any neurologist who is able to affirm that it has in his experience surely modified the course of the degenerative process, but many of us have seen it improve the incidental symptoms due to syphilitic exudation, and we have not had the courage often to refuse the treatment in the purely degenerative cases. But in my opinion it is time to change the canonical practice somewhat, and I practise and advise the following:

In the first and second stages all cases with a distinct history of primary and secondary syphilis, either cutaneous or in the nerve centres, should receive rigorous courses of mercury and iodide. In many such patients the tabetic trouble comes on rather suddenly with rapid development of weakness in the legs, amounting perhaps to paraplegia, or with attacks of hemiplegia, or with severe headache, ocular or other cranial nerve palsies, and neuralgias; in other cases there is simply a good history of primary and secondary syphilis. Such patients are in the minority, but they are not rare, and they should receive the canonical therapeusis.

Mercury should be first given. For this purpose the patient should be kept at home if possible and in bed. The best way to give the mercury is by hypodermic injections of corrosive sublimate in doses of gr. $\frac{1}{20}$ once a day, or twice if the symptoms are urgent. The injections are rather painful and require care. The mercury is dissolved in ℥ xxx. of water, to which gr. $\frac{1}{4}$ of cocaine is added. They should be given for two to four weeks, according as constitutional symptoms appear. The patient takes about gr. xxx. of iodide of potassium daily during this time. After the mercurial course the iodide is rapidly followed, 300 grains a day being given if possible. No advantage is gained by larger doses. This medication is continued for about four weeks, so that the patient is under treatment for six to eight weeks. He should have, during all this time, a warm bath twice a week, and oftener if he desires it. If the hypodermics are not well borne the patient should receive inunctions of about ʒ i. of mercurial ointment for six successive days and a hot bath on the seventh, this being repeated for three or four weeks. Mouth washes should, of course, be used. After this course the patient receives the tonic treatment, and here the best medicinal measures are the tincture of iron and some preparation of phosphorus, preferably dilute phosphoric acid, ℥ xxx. daily, or the glycero-phosphate of lime or soda, gr. xl. daily. Such measures must be kept up for two months. During this tonic treatment the patient should receive twenty-four lukewarm baths (one daily) at 94° to 96° F. for eight to ten minutes, followed sometimes by a cool affusion. Some additional comfort and perhaps benefit come from adding salt, soda, carbonic acid, or pine-needle extract to the baths. Instead of the baths at home, he may be sent to some thermal springs.

During this tonic period counter-irritation to the spine may be made by the cautery, or small blisters, and the former should be applied twice a week if there is much pain.

Patients should be made to rest as much as possible all this time, which altogether covers about three months; going to bed early, sleeping late, lying down in the middle of the day for an hour. Driving is a good exercise, walking a poor one, for them.

The diet should be moderate in quantity and simple in character, but nothing is gained by rigid meat diets or rigid vegetable diets. Fattening foods, malt, cream, and oil are to be recommended, however.

The patient has a hard enough time anyway, and it does no good to deprive him of his tobacco or a moderate amount of alcohol, unless there is some individual peculiarity requiring it. So far as possible, the patient should be allowed to look after his business affairs and to take his share in the enjoyments of life.

This anti-syphilitic and bath treatment should be repeated at least once a year. In the interval the patient is given tonic medication and mechanical treatment of various kinds.

If the patient, as is so often the case, comes to me without any history of secondary or tertiary syphilis and without the slightest sign of nervous syphilis, it is utterly useless to put him through the mercury and iodide treatment. At the most we can say, perhaps it does no harm, though I am not so sure of that.

These purely degenerative cases must be treated at once as though they were getting prematurely old, as is the fact they are *quoad* the spinal sensory neuron. They must be put at once on the two months' rest, tonic, and bath regimen just described. The question is, whether we have any specific measures in addition by which the progressive decay can be more surely stopped or slowed up. Such specific is in a measure constituted by an absolutely regular, quiet, institutional life, such as is found in hospitals, and such as cannot always be easily imitated at home. For this reason the poor man who comes into a hospital is more surely helped than the rich man who has the luxuries and anxieties of a home and a family. Institutional life is approximately a specific, but this cannot often be given in early tabes and often not at all; and there is one method of treatment which is on the whole more successful than any other single one, and it

may be looked upon also as measurably specific. It consists in putting the patient to bed and giving him large doses of strychnine and small doses of morphine by hypodermic injection. The doses should be at first very small and should be very cautiously and slowly increased. For example, twice a day I give at first gr. $\frac{1}{60}$ of strychnine and gr. $\frac{1}{60}$ of morphine. At the end of the week these doses are increased to gr. $\frac{1}{30}$; at the end of three weeks to gr. $\frac{1}{20}$, and at the end of five weeks to gr. $\frac{1}{15}$. This latter dose I sometimes increase to gr. $\frac{1}{10}$, but never more. These doses are then decreased gradually to gr. $\frac{1}{20}$ at the end of the sixth week. Phosphates and iron may be given at the same time.

Strychnine is a useful drug in tabes, but also a dangerous one. I have seen it produce pains and even a kind of general collapse of the patient, as though the motor cells were exhausted. Guarded by rest and small amounts of morphine, however, I have never seen any harm and almost always much benefit. After a course of this kind the patient is placed on the two months' tonic treatment as above outlined and given with it small doses of iodide of potassium, *i.e.*, gr. xx. to xxx. a day. This tonic rest treatment, if it proves satisfactory, must be repeated once or twice a year if possible, as is also the iodide treatment in cases in which this is indicated. Sometimes the two can be alternated. There should always be periods of rest when the patient takes nothing. This application of periodic rest and tonic treatment with intermission must, I insist, be persistently kept up.

I do not know of any drugs that are of much benefit to the disease other than those already mentioned. I have seen no reason to believe that silver, arsenic, aluminum, ergot, barium, or gold are any good. Ergot is useful in vesical weakness, but not as a constitutional remedy. Hot baths are dangerous. The medicinal springs, such as those of Hot Springs of Virginia and Arkansas, and Lamalou and Nauheim, no doubt have some favorable influence, but the same, barring the psychical effects and the rest, can often be got at home. Some patients are distinctly improved by careful courses of electrical treatment, including galvanization of the spine and general faradization of the muscles. I do not expect so much from this as from the other measures, but the personal equation is a curious factor in therapeutics, and some persons enjoy and respond to electrical treatment while others are annoyed and irritated by it. The benefit must, of course, be partly psychical and partly due to effects on metabolism and cutaneous and muscular stimulation. Nerve and cord stretching sometimes helps vesical and sexual weakness and pains, and improves the gait. Nothing more than symptom improvement could be expected. The special method of cord stretching, devised by Tourette and Chipault, I have had no satisfactory experience with.

**Fraenkel's Method.**—The treatment of tabes by means of systematic exercises for training the limbs sometimes produces very satisfactory results. The method was elaborated by Dr. Fraenkel,[1] though in its simpler forms it has been applied for many years. It consists in giving the patient a series of exercises arranged so as to train and re-educate the muscular sense. These exercises are to be taken two or even three or more times a day, and last from a few minutes to half an hour. The patient, for example, is made to rise from a chair slowly and carefully, and then sit down; this is done three times. He is made to walk a line on the floor; to step over obstacles; to place the feet on definite spots on the floor at regular and irregular distances. He is trained to overdo in a sense the cerebral and conscious part of ordinary automatic acts, until these acts become automatically easy.

[1] Münch. med. Woch., No. 52, 1890.

A series of exercises is given in an article published by me in *The Post-Graduate* of June, 1896, and republished in the fourth edition of my "Text-Book of Nervous Diseases."

Fraenkel's method accomplishes more if it is done at first under the direct observation of the physician or a trained masseur. It does not cure or change the course of the disease, and is adapted especially to those cases in the first or second stage which have ceased progressing and in which there is some muscular power. It sometimes causes pains and should be carried out with great care.

For the patient who is in the third stage of tabes and lies bedridden, only symptomatic treatment is indicated. The pains and visceral troubles are to be controlled as much as possible. There are a few cases, however, in which the Fraenkel method of muscular training may be tried. These are patients with whom the disease is practically arrested, who are intelligent and still willing to do something, and who have a fair degree of muscular strength.

Let me say in conclusion a word about the general subject of the therapeusis of tabes. We see every now and then cases which force us to think that this disease begins, runs its course, and ends as though driven on by an inexorable fate. It comes despite all precautions, and progresses, remits, and relapses despite all our therapeutics, we stand helplessly by watching this phenomenon of the rule of absolute law. There are some such cases. They belong to patients with particularly unstable neurons or infected with a particularly malignant virus.

There are other cases in which the patients' vitality is great and the infection mild, the disease stops of its own accord for many years. They do not need treatment. But in the majority of cases the balance between health and disease, between the neuron and the poison is more delicately adjusted, and it swings up or down according as the patient is skilfully managed or not. Hence there is a field for wise and cautious therapeutic endeavor. We cannot do marvels; the disease in most cases steadily though perhaps almost imperceptibly progresses, but we can see it arrested sometimes and relieved often, so that the patient leads a long, useful, and comparatively comfortable life.

**Bibliographical.**—The bibliography of tabes dorsalis is extremely rich, there being over a hundred articles contributed to the subject yearly. A large proportion are devoted to symptomatology. In recent years the questions of pathology and pathogeny have been those to which the more serious work has been devoted.

A very complete review of the pathology of tabes is given by Dr. William G. Spiller (*International Medical Magazine*, June, 1897). A most important original contribution as well as critical review is that by Dr. Emil Redlich ("Die Pathologie der tabischen Hinterstrangerkrankung," June, 1897). A smaller but excellent monograph has been written by Dr. Cl. Philippe ("Contribution à l'étude anatomique et clinique du tabes dorsalis," Paris, 1897).

Most of the therapeutical articles have been devoted to reports upon the exercise treatment. This is well presented in Goldscheider's monograph ("Anleitung zur Uebungs-Behandlung der Ataxie," Leipzig, 1898), and in P. Jacobi's article on the same subject (*Deutsche med. Wochenschrift*, 1898, Nos. 8, 9, and 10).

A paper on tabes by Dr. M. Allen Starr, and a discussion mainly on therapeutics appear in the Transactions of the Association of American Physicians, vol. xiv., 1899. Articles by Patrick (*New York Medical Journal*, February 6, 1897) and Bonar (MEDICAL RECORD, May, 1897) in this country have brought out some interesting facts regarding the anæsthesia of tabes.

# THE PATHOGENESIS OF FUNCTIONAL NERVOUS DISEASES AND THEIR PROPHYLACTIC INDICATION.[1]

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GENTLEMEN: In scientific research the closing days of the nineteenth century present a scene of unusual feverish activity, unsurpassed in any period of the world's history. The demands of the present age are so peculiar and exacting that each branch of science endeavors to outstrip the other in enterprise and novelty. In the chase for something new and novel to create a sensation or attract attenion, the votaries of medicine form no exception, and many a well-established scientific medical fact is ruthlessly thrust aside to give place to some new fad or novel experiment. It is clear to all that much of the work now being done under the guise of medical science is largely in the direction of selfish personal interest, and chiefly pertains to the commercial rather than the truly scientific aspect of medicine. Without any desire to underestimate the labor and value of many worthy members of our profession in their efforts to furnish us with means and measures to combat disease, it is certain that the burden of their desire would far better subserve the needs of the age if it were applied to prophylaxis rather than therapeusis. The adage, "Prevention is greater than cure," is as old as the Decalogue, yet there never was a time when its tenets were more seriously disregarded by the profession, as well as the masses, than the present. Proof of this assertion is unnecessary, for every thoughtful physician recognizes it, yet if there is one truth more than another that is clearly emphasized by the more recent advances in medical knowledge it is the great need of a general practical application of this ancient medical axiom. Honesty compels us to admit that the science of prophylaxis has not kept pace with the needs and demands of the age, and that there is a great lack of interest as well as marked indifference on the part of our profession in promulgating and enforcing its principles. The consequences entailed by such neglect furnish a fruitful source of supply for our theme, and afford abundant material for the pathogenesis of nervous affections. As physicians we recognize that certain causes produce certain effects, and observe on every hand unmistakable evidence of the baleful influence of certain factors, which, when allowed full sway, become of necessity potent noxious agents in the pathogeny of neurotic disorders. Too many physicians conceive that the full function of their mission is simply to minister to disease, while the great and overwhelming importance of its prevention is by them entirely ignored. It is the purpose of this paper, therefore, to call attention to some of the more common elements which experience proves play the most prominent part in the pathogenesis of nervous affections, the pernicious influences of which to some degree, at least, come within the province of the family physician to correct, modify, and even overcome, but which so far have failed to receive the due attention they richly deserve.

All authorities agree that heredity plays the chief rôle in the pathogeny of nervous diseases, consequently its study becomes of the highest importance. As physicians we do not presume to explain all the intricate details concerned in the genesis belonging to heredity, as the laws which govern the transmission of hereditary traits and characteristics are, generally speaking, unknown. But the number and diversity of inheritable deviation of structure and function are endless, and these are recognized and read by all men, and are those with which we as medical men have largely to deal. Such stigmata of inheritance are often the result of imperfect growth, defective nutrition, incorrect habits, injudicious education, and modes of life of the parents, the general effects of which tend to produce histological changes in the blood which morbidly react upon the general development of the nervous system in both parent and offspring. The morbid products resulting from such blood deterioration are readily transmissible, and furnish the germs, or seeds if you please, which establish the neurotic diathesis or nervous constitution. Experience proves that these inherited pathogenic neurotic elements may or may not remain latent for years, but when subject to the evolutionary changes incident to the physiological crises or the stimulating processes of educational, business, social, or professional life, they rapidly mature and strengthen until they manifest themselves in some form of serious nervous disease. The same causes that produce such deterioration in the parent are often allowed to have full sway in the child, already predisposed, and then a still greater neurotic change is liable to occur. That a certain predisposition or tendency to nervous disease is transmitted from parent to child, all are agreed, and in its incipient essence it constitutes that which we term the neurotic diathesis or nervous constitution. This manifests itself by nervous instability and defective innervation of the organic functions materially influencing the normal development of the nervous system of the offspring, and makes itself felt by a constant tendency to degenerative changes in the nerve elements, rendering the subjects of it peculiarly liable to break down under stress of circumstances that would not affect another person inheriting a different constitution. As before remarked, these abnormal conditions of inheritance are largely the result of injudicious and unphysiological modes of life of the parents, which in their essence produce a lesion of nutrition by contaminating the blood, which again produce metabolic changes in its constituents that materially influence and lessen its vitalizing power of the nerve centres. What these special blood changes are, histological, chemical, electrical, toxic, or otherwise, may at present be difficult to explain satisfactorily, but we all understand their effects on the somatic organism, and enough evidence can be produced to warrant the assumption that they underlie and form the basis of the neurotic diathesis. This then becomes one of the mightiest factors in the pathogenesis of nervous affections, and experience warrants the assertion that it is purely a physical defect, a lesion of nutrition, which can be remedied and even cured, and loses half its horror when this is fully realized and understood. This morbid inheritance that underlies the so-called nervous constitution is not therefore a necessarily fatal heirloom (as erroneously supposed), certain at some time or other to overwhelm its victim, but is subject, like all other impoverished blood states, to the laws and principles which govern the science of prophylaxis and therapeusis; and the family physician, in his dealing with the children born of neurotic parentage, cannot well afford to slight the importance of this fact.

The idea that the blood is responsible for much of the prevailing nervous disease is not a new one, nor should it be treated as such, for it has been hinted at all through the ages, but the forcefulness of its practical application by the family physician in its prophylactic aspect was never so apparent as it is the present time. This in large measure is due to improved methods of histological investigation and consequent enlargement of knowledge concerning the blood cell and its constituents. That the integrity of the nervous system depends largely upon its proper blood supply is a

[1] Read before the Mississippi Valley Medical Association at Chicago, Ill., October 5, 1899.

physiological axiom, and any interference with this normal correlation becomes at once a pathogenic factor. When we remember the marvellous blood supply of the nervous system, and how dependent the nerve elements are upon this for their physiological sustenance, we can readily understand the wonderful influence and power the blood exerts in sustaining the integrity of their functional activity. Moreover, we are all prepared to admit how easily the blood absorbs and assimilates all kinds of toxic agents, and the peculiar affinity that certain poisons possess when brought in contact with the delicate nerve tissues; consequently the character of the nutriment supplied to the nerve centres necessarily affects their powers and influence on the somatic organism. All authorities agree that the common neuroses are largely the result of a morbid inheritance, that the actual nervous disease which the physician is consulted for is engrafted upon a predisposing neurotic basis, and that this diathesis furnishes the most favorable soil for their growth and development. Hence the pathogeny of a large majority of functional neurotic affections is in a sense congenital in origin, while a comparatively lesser number are acquired.

We are all prepared to admit that neurasthenia and hysteria constitute two of the most common and widespread of all the functional neuroses, and recent experiments in the pathological laboratory go to prove that in both these disorders there is a rapid disintegration of the red blood corpuscles, resulting in the production of an abnormally large amount of the blood platelets. This causes toxic changes in the blood which have a very baleful influence on the functions of the nervous system. Indeed it matters but little what functional neurosis we analyze, the result in large measure is the same. For instance, in studying the pathogeny of epilepsy, hysteria, chorea, neurasthenia, neuralgia, and other allied affections, we are all compelled to recognize the inherited predisposing tendency that led to their development, and when these pathogenic factors are still further microscopically scrutinized the histological elements of the blood are often found to be the offending agents.

In thus recognizing the blood as the noxious agent in the pathogeny of the various neuroses it cannot be denied that environment, education, occupation, habits, marriage, physiological crises, and general careers in life are powerful adjuvants in favoring and promoting pathological changes in the blood which not only exaggerate the pernicious effects of the morbid inheritance, but react upon the nervous system in such a manner as to produce actual nervous disease. But all such agents are usually secondary to the primary cause, for it must be confessed that even in the acquired neuroses, much less the congenital, such factors spend their force first upon the blood and its circulating medium, which again reacts upon the nervous constitution of the individual. That the blood is the chief pathogenic factor in the production of the various functional neuroses is something more than theory can be firmly supported by a fourfold proof: First, by analysis of the family history; second, by actual demonstration in the histological laboratory; third, by clinical observation and experience; fourth, by actual results in their treatment.

All authorities agree that the vast majority of the functional neuroses are engrafted upon a neurotic constitution, which may be congenital or acquired, and it is known that it can be produced by changes in the blood incident to the causes already referred to. Recent experiments with human blood in the pathological laboratory go to prove that in certain forms of nervous disease the erythrocytes of the blood disintegrate, while the platelets undergo an abnormal multiplication resulting in pathological changes that can easily be demonstrated, and that these morbid products circulating in the blood have a very pernicious influence on the nerve elements, favoring the production of neurotic disorders. Those of us who are brought daily in contact with the various forms of nervous disease cannot fail to be impressed with the large number of neurotics who present undoubted clinical evidence of malnutrition and impoverished blood states which in itself suggests at least the blood as the chief pathogenic factor. Moreover, when the nutrition of such patients undergoes improvement by scientific methods of therapeutics and dieting, the nervous phenomena invariably give evidence of partial if not complete restoration. Even in those cases in which the clinical evidence is not so apparent, remedies that nourish the nerve elements and sustain their functional integrity are rewarded by changes for the better. If, therefore, it can be demonstrated by reference to a large number of family histories that the great majority of the neuroses are based upon an inherited or acquired predisposition or neurotic constitution, and that this again is recognized in the laboratory as a lesion of nutrition or change in the constituents of the blood, which receives further support clinically by the large number of neurotics suffering from malnutrition, and that when these conditions are remedied the nervous phenomena improve and often disappear, it would suggest at least the validity of the argument set forth that the blood is largely the responsible pathogenic factor in the production of the various functional neuroses.

If these premises are tenable, and certainly the trend of modern scientific research favors their validity, then it no longer remains a theory, but becomes an absolute scientific fact, and as such deserves the recognition it richly deserves. Moreover, if it is conceded that the functional neuroses are in their incipiency largely based upon a congenital or acquired neurotic soil that amounts to a lesion of nutrition, which again is subject to pathological exaggeration by the powerful influences of heredity, environment, education, occupation, habits, marriage, physiological crises, and general careers in life, then it would seem that their appropriate prophylactic and therapeutic indications are clearly defined. Family physicians who have the professional guardianship of persons, more especially children, known to possess this neurotic vulnerability should fully recognize the dangers accruing from its neglect, and prescribe for them the inexorable laws of prophylaxis, and therapeutic measures that tend to nourish and sustain the integrity of the nervous system. Pure blood should be the lofty ambition of every individual, and one way to secure this is by wisely regulating marriage, and by the adoption of all civil and legal measures that favor its production. The medical aspect of sociology, as embodied in the clinical study of heredity, environment, education, criminology, intemperance, marriage, and the special relation these bear to the pathogenesis of nervous affections, should certainly claim our most earnest attention. In poverty-stricken districts where the parents are too poor to provide the necessary means to guard against the inevitable results of transmitted taints or other injurious influences referred to, it is our business as physicians to appeal to the State legislature to make the necessary provision for their proper care and protection. That we as a profession are not sufficiently engrossed with the all-important problems of prevention as brought out by our present sociological studies is clear to all, for in the light of facts how can we sanction by our woeful indifference the continued abuse of certain influences which by their very nature tend to generate or develop a serious chronic neurotic invalidism that is wellnigh incurable? The duty of every physician who deals with his profession as a noble and humane science is to

point out the methods of preventing the occurrence of actual disease in latent constitutional defects or other individual vulnerable weakness, rather than to confine his sole attention to the treatment of their more active manifestations. The responsibility of the medical profession in relation to the coming manhood and womanhood of our race is too lightly regarded, and not until we as a unit arise from our indifference and deal positively with the medical sociological problems that confront us in a more practical manner, can we ever hope to stem the ever-increasing tide of neurotic disease, and thus fulfil the true function of our mission as guardians and conservators of public health.

## OPHTHALMIC CONTRIBUTIONS.

By DAVID WEBSTER, M.D.,
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Case I.—Episcleritis with kerato-iritis. Mrs. M. F. J——, aged forty-one years, was admitted to the Manhattan Eye and Ear Hospital, on May 22, 1888, with episcleritis and kerato-iritis of the left eye. The eye had been inflamed for fourteen weeks, and she had been under the care of a physician all the while. Her pupil was irregularly dilated by the atropine which she had been using; there were diffuse infiltration of the temporal portion of the cornea, general redness of the eyeball, some swelling of the lids, slight catarrhal secretion, and lacrymation, with photophobia. As she had had an attack of rheumatism and admitted that her hair had been falling out, it was at first thought that her eye-trouble might be of syphilitic origin. But further inspection showed a subconjunctival swelling upon the temporal side of the eyeball in juxtaposition with the area of corneal infiltration, and a diagnosis of episcleritis, or sclero-keratitis with iritis, was made. The vision was R. = $\frac{20}{20}$, L. = $\frac{20}{200}$. On May 26th the episcleral swelling was thoroughly cauterized with the platinum cautery, cocaine having been dropped into the eye to prevent pain. Three days later the vision of the affected eye had increased to $\frac{20}{40}$. The diminished swelling was cauterized again on June 2d, and again on June 7th. On June 9th the vision had improved to $\frac{20}{30}$. On the 11th the cautery was applied for the fourth and last time, and the patient was discharged on July 18th, with the eye well and the vision $\frac{20}{20}$. No internal treatment had been used, and locally only atropine and hot or cold applications, in addition to the cautery.

Case II.—Tenotomy of the internal rectus to facilitate the cure of incomplete paralysis of the externus. Melinda L——, aged twenty-five years, came to the Manhattan Eye and Ear Hospital in June, 1887, with incomplete paralysis of the left externus accompanied by an annoying homonymous diplopia. No history of syphilis could be elicited, nor could any definite cause for the trouble be ascertained. She was treated by electricity for about a year without any apparent benefit. On June 8, 1888, she was admitted to a bed in the hospital, and a tenotomy of her left internus was performed. Previous to the tenotomy it took a prism of 27° to fuse the images; the day after the operation the images were fused by a prism of 2°; indeed she could blend the images without any prism, but prism 2°, base out, enabled her to hold them. On June 5th, four days after the operation, her esophoria was 20°. She was discharged on June 6th, and I saw her no more. I may add that both eyes had perfect vision.

Case III.—Congenital cataract of both eyes removed by operation. H. W. G——, aged thirty-seven years, clergyman, consulted me about his eyes on May 31, 1888. He said that he had always been troubled with his eyesight. He had been examined eight years previously by Dr. E. L. Holmes, of Chicago, who told him that he had congenital cataract. He afterward consulted another ophthalmologist in Chicago, who confirmed the diagnosis and undertook to cure the cataracts by internal medication, but failed to make any improvement in his sight. Three weeks before I saw him he consulted Dr. Turnbull, of Philadelphia, who advised needling. Right eye has vision = $\frac{20}{60}$; left eye = $\frac{20}{70}$. The patient could read Jaeger 5 with his right eye, and Jaeger 7 with his left. Notwithstanding his defective vision he had acquired sufficient education to become a moderately successful preacher, but the central blur before his eyes was to him a constant source of annoyance. At his urgent solicitation, therefore, I undertook to try to rid him of his cataracts by such operations as might be indicated. On June 11, 1888, he was admitted to a bed in the Manhattan Eye and Ear Hospital, and under cocaine I needled the left eye, making a small opening in the centre of the anterior capsule of the lens. On June 15th, or four days later, as there was no apparent effect from the first operation, I performed a second and more extensive needling. In fact the lens was almost completely bisected in its horizontal meridian in consequence of a sudden and unexpected movement of the eye at a critical moment. The next day there was considerable reaction; the pupil was contracted, the eye was red, and there was some pain. Instillations of atropine were ordered. On the following day there were no pain and less redness. Atropine was continued thrice daily. June 18th, the third day after the operation, the eye was quite painful, the lens was swollen, and the tension was considerably increased. As it was believed that a long continuance of this increased tension would spoil the sight, it was thought advisable to evacuate as much of the swollen lens matter as possible without delay. Accordingly, with a keratome bent on the flat, an incision was made at the upper sclero-corneal junction, through which most of the lens matter was evacuated by means of pressure and counter-pressure with spoons. The iris receded into its natural position, and the pupil was left circular, and with very little semi-opaque lens matter in it. Iced cloths were applied.

June 19th: There is considerable inflammatory reaction with pain. Two leeches were applied to the temple; iced cloths and atropine were applied locally, and calomel gr. x. was given internally.

June 20th: The inflammatory symptoms continue, and there is now some chemosis. The leeches were repeated, and a hypodermic injection of morphine was given to relieve the pain.

June 21st: All the inflammatory symptoms seem to have increased. A pilocarpine sweat was given, and calomel gr. x. with jalap gr. x. was administered. Iced cloths were kept up day and night, and atropine was dropped into the eye three times a day.

June 23d: The chemosis was greatly reduced. There were no pain, and marked improvement in all respects.

June 26th: Last night the patient had some pain, and was very restless and nervous. The pilocarpine injections were stopped, and the patient was put upon kumyss, as much as he could digest.

July 1st: The patient has had bad nights from pain and nervousness, and had to have a nightly hypodermic of morphine to relieve the pain, and to enable him to procure any rest. He was now put upon mercurial inunctions, half a level teaspoonful of Squibb's oleate of mercury being rubbed into some part of his body or limbs night and morning.

July 5th: The patient is improving daily. The eye is whitening up and the exudation is disappearing from the anterior chamber.

July 7th: The eye is quiet. For some days there has been no pain. The injection is slowly diminishing.

July 10th: The eye is slightly injected; the anterior chamber is clear; the pupil is blocked with exudation. The mercurial inunctions were stopped, and the patient was ordered a generous diet.

July 13th: The patient was discharged with perception of light.

August 4th: Left V. = $\frac{2}{200}$ with + 9 D. The pupil is obstructed by opaque capsule and organized lymph.

September 6th: The patient was again admitted to a bed in the hospital. Atropine was instilled, dilating the pupil irregularly and not widely. The eye was cocainized, and with a knife-needle an opening was made through the membrane. A bandage was applied. At the evening rounds the bandages was removed, and atropine was dropped into the eye.

September 9th: There has been no inflammatory reaction. V. = $\frac{2}{40}$ with the refraction corrected, and the patient reads Jaeger No. 1. Discharged.

September 12th: The patient was readmitted, and a needling was done on the right eye, under cocaine, only a small opening being made in the centre of the anterior capsule.

September 14th: There has been no reaction. Left, V. = $\frac{2}{30}$ with + 10 D. The patient was discharged.

October 7th: The patient returned to the hospital to-day for a second needling of his right eye. A little larger opening was made in the anterior capsule than at the first needling. Atropine and a bandage were applied.

October 13th: There was no reaction. The patient was discharged.

November 19th: A third needling was done on the right eye. In forty-eight hours, as there was no reaction, the patient was discharged.

December 10th: The patient returned to the hospital to-day with a swollen lens, a small portion of which had become detached, and was resting against the posterior surface of the cornea. There is a slight scleral injection, rather sharp pain, and increased tension (+ 1). The pupil responds promptly to atropine and dilates widely and circularly.

December 12th: The patient is detained in the hospital in order to keep this eye under observation during the process of absorption of the swollen lens. He felt no result of the last needling until fifteen days after the operation. Then he felt a sharp, sickening pain in the eye. At the same time a conical swelling of the centre of the lens was observed. This pain soon passed off, and did not return until the 10th instant, when he came to the hospital, and the above condition was noted.

December 14th: Under atropine and cold applications the reaction has passed off. The tension is now normal. Discharged.

December 15th: V. = $\frac{2}{50}$ with + 2.50.

September 13, 1889: The patient was readmitted to the hospital, and a crucial incision was made with a knife-needle in the centre of the anterior capsule of the right lens, and a bandage was applied.

September 24th: From the point in the lens where the crucial incision was made a little white substance passes up to the posterior surface of the cornea.

September 26th: The patient was discharged.

May 7, 1890: The right eye presents a very white lens, and V. = perception of light. The eye having been cocainized, an incision was made with a keratome in the supero-temporal margin of the cornea, and the remaining lens matter, having been broken up with a cystotome, was removed piecemeal by pressure and counter-pressure with spoons.

May 9th: The pupil is filled with cortical substance, but there is no inflammatory reaction. The patient was ordered to have atropine instilled three times a day.

May 18th: The patient was discharged.

May 21st: R. V. = $\frac{2}{50}$ with + 10 D. L. V. = $\frac{2}{20}$ with + 10 D.

June 4th: Right eye, V. = $\frac{2}{20}$ with + 12 D. and 2.50 D. cylinder axis 180°. Left eye, V. = $\frac{2}{15}$ with + 14 D.

July 11th: The patient has constant homonymous diplopia, and has to wear an opaque glass over one eye to get along. The images are brought together by prism 40°, base out. A tenotomy of the right internus was performed, leaving 10° uncorrected. After waiting three hours the images were brought together by prisms 5°, base out, and a part of the time they were fused with his glasses without prisms.

October 28th: With a red glass over the left eye there are vertical images which are fused by prism 20°, base down, over the right eye.

December 29th: Complete tenotomy of right superior rectus with no apparent immediate effect.

December 30th: The patient holds the images together with his glasses. He was discharged.

## THE NECESSITY FOR STATE AID IN PULMONARY TUBERCULOSIS.[1]

By GEORGE W. GOLER, M.D.,

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For a period of years, as shown by the official reports of the New York State board of health, the number of deaths reported from consumption in New York State has averaged thirteen thousand per year. Upon this basis, assuming the average life of a consumptive to be four years, there are always to be found in the State of New York more than fifty thousand cases of consumption.

During a similar period of years the average number of deaths reported from acute respiratory diseases was over seventeen thousand per year. If to the reported deaths from consumption there are added the number of persons that die of consumption, but whose deaths are reported as due to intercurrent attacks of acute respiratory diseases, the number of deaths and the recorded number of cases of consumption would manifestly be largely increased.

The cost of this enormous amount of preventable illness is considerable. Taking the reported deaths from consumption at thirteen thousand, and assuming that one-half of these persons would have had an earning power of but $200 during life, the sum would amount to $1,300,000. The expense of caring for the sick, at but $200 each, would be $2,600,000. If but one thousand families were left wholly or partly dependent, and the families received an assistance from various charities of but $100 each, the sum would be $100,000.

As consumption is so largely a disease of city life, the cost of consumption to the cities in the State may be approximately computed by referring to the table below, which shows the deaths from consumption and from acute respiratory diseases, together with their percentages of deaths from all causes, for the nineteen largest cities in the State.

For the suppression of consumption the State as yet has given no aid. It has been proven to be both a preventable and a communicable disease. It causes untold misery, much poverty, nearly one-ninth of the reported deaths, and really one-seventh of the deaths from all causes. Its influence upon posterity in its causation of inherited tendency is profound. At

[1] Read at the annual meeting of the New York State Medical Association, October 24, 1899.

the lowest authoritative estimate it is curable in twenty-two per cent. of cases. The State, however, withholds its aid, though the reasons for doing so do not seem clear, if the cost of beginning aid be excepted. For the supression of other diseases more tragic in their course than consumption, the State spends hundreds of thousands of dollars yearly.

| 1898. | Estimated Population. | Total Deaths Reported from all Causes. | Deaths Reported from Bronchitis, Pneumonia, etc. | Percentage of Deaths Reported from Bronchitis, Pneumonia, etc. | Deaths Reported from Tuberculosis. | Percentage of Deaths Reported from Tuberculosis. | Total Percentage of Deaths Reported from all Lung Diseases. |
|---|---|---|---|---|---|---|---|
| New York .... | 1,912,000 | 36,689 | 5,926 | 16 | 4,070 | 11 | 27 |
| Brooklyn .... | 1,200,000 | 21,983 | 3,057 | 13 | 2,391 | 10 | 23 |
| Long Island City, | 130,000 | 2,582 | 410 | 15 | 243 | 13 | 28 |
| Albany ..... | 100,000 | 1,934 | 225 | 11 | 238 | 12 | 23 |
| Cohoes ..... | 24,000 | 462 | 69 | 14 | 37 | 8 | 22 |
| Troy ..... | 63,000 | 1,285 | 197 | 15 | 177 | 13 | 28 |
| Poughkeepsie . | 24,000 | 427 | 47 | 11 | 45 | 10 | 21 |
| Schenectady .. | 25,000 | 353 | 39 | 11 | 29 | 8 | 19 |
| Utica ..... | 55,000 | 985 | 112 | 11 | 114 | 11 | 22 |
| Binghamton .. | 35,000 | 584 | 71 | 12 | 55 | 9 | 21 |
| Elmira ..... | 30,000 | 492 | 47 | 9 | 53 | 11 | 20 |
| Syracuse ..... | 100,000 | 1,633 | 139 | 8 | 178 | 10 | 18 |
| Auburn ..... | 25,000 | 403 | 49 | 12 | 47 | 11 | 23 |
| Buffalo ..... | 360,000 | 4,583 | 605 | 11 | 427 | 9 | 20 |
| Rochester..... | 175,000 | 2,191 | 278 | 12 | 253 | 11 | 23 |
| Oswego ..... | 22,000 | 314 | 27 | 8 | 28 | 8 | 16 |
| Hempstead ... | 24,000 | 376 | 41 | 10 | 29 | 7 | 17 |
| Yonkers ..... | 40,000 | 689 | 123 | 17 | 70 | 10* | 27 |
| Newburg ..... | 36,000 | 412 | 53 | 12 | 67 | 16 | 28 |

* Eleven months.

For the insane and the insane epileptic the State expends about $7,000,000 yearly. Twenty-two thousand insane, of which eight per cent. die annually, and of which at best twelve per cent. are curable, are supported by the State, in its system of State hospitals. For the epileptic population in the State, estimated at thirteen thousand, a beginning has been made at the Craig Colony at an expense for grounds and buildings of $215,000, and an annual expense per capita of $450.

Insanity and epilepsy are tragic diseases attended by the violence of mania and the convulsions of epilepsy, the one violently dangerous to the patient and the public; the other chiefly dangerous to himself and a burden to his relatives. For the one, public safety has demanded a hospital; for the other, public sentiment has demanded an asylum.

The average duration of life of an insane person after admission to a State hospital is about twelve years, and the cost, at the average rate of maintenance of $186 per year, is $2,232. This, including loss of earnings for the period at $150 per year, $1,800; for buildings, furniture, etc., the hospital expense allowed by the State is $550; interest at three per cent. makes a total of $6,231 per capita for the twelve-year period.

For the epileptic, the duration of life in an institution must necessarily be long. At best but six per cent. of the cases of epilepsy are curable.

Consumption, unlike lunacy and epilepsy, is not a tragic disease. Its victims often long possess a semblance of health. A little loss of weight, a little cough, a little fever, a little loss of strength are often all the symptoms that mark the beginning and sometimes even the end of consumption.

Dangerous to himself, as shown by the large death rate, insidiously dangerous to relatives, friends, and to society at large, the consumptive yet pursues his way uncared for, so long as strength and life hold out, finally to retire into a home or public hospital or almshouse to die, usually a slow death, and in dying to endanger the lives of many others. To society, which is more dangerous, the maniac, the epileptic, or the consumptive? The insane of New York State housed in institutions number twenty-two thousand, of which twelve per cent. at best are curable and eight per cent. die annually. The epileptics number approximately thirteen thousand, of which an unknown per cent. die annually. The consumptives number approximately fifty thousand, of which at least twenty-two per cent. are curable and near twenty-five per cent. die annually. The insane are comfortably housed in the State hospitals. Provision is being made for the epileptics. The consumptives have no place provided for them. Even adequate protection against the milk of tuberculous cattle is denied the people of the State. For the insane and epileptic the State expends millions; for the consumptive nothing.

For consumption the loss in health, in life, and in money, as herein given, has been underestimated in every way. The money now spent but furnishes asylums for the dying. It is therefore wasted in so far as any rational results in the prevention or cure of the disease is concerned. Special sanatoria, controlled by the State at comparatively small cost, should be furnished for incipient cases of tuberculosis, where quite seventy per cent. of cure could be realized. Such institutions offer hope for the future in both preventive, curative, and educational work in tuberculosis.

## Progress of Medical Science.

**The Veil as a Cause of Redness of the Nose.**—Rosenbach (*Berliner klinische Wochenschrift*, October 9, 1899, p. 896) calls attention to the development of abnormal redness of the nose in consequence of the wearing of a veil in winter. The discoloration is most pronounced at those points where the veil is most intimately applied to the face. The effect is due partly to the mechanical action of the sharp and rough texture upon a sensitive skin, and to the influence of the watery vapor that collects within its meshes and prevents evaporation. Blood is thus driven from the tip of the nose to adjacent parts, whose blood-vessels in consequence become enlarged and conspicuous. The condition is aggravated if the use of the veil is persisted in on passing from a cold to a warm atmosphere. The alterations tend to become permanent the longer the veil is worn without airing, the longer its injurious action is maintained by compression, the colder the season, and the greater the exposure. Sometimes the cheeks are also affected similarly. The treatment of the condition consists in discarding the veil, avoiding for a time sharp winds and great cold and, when exposure to cold air is unavoidable, sudden changes from a cold to a warmer temperature. Gentle massage should be practised, and applications of a thin layer of lanolin, vaselin, or cold cream may be made, followed by that of some simple powder such as talc or starch. When the use of a veil is necessary, it should not extend below the nasal orifices, so as to permit the escape of watery vapor. Further, it should not be too heavy, nor should it be too tight.

**Osteotomy.**—Dr. De Forrest Willard (*Journal of the American Medical Association*, October 28, 1899, p. 1057) considers osteotomy one of the most simple, safe, and satisfactory of surgical procedures. Its employment is indicated in many cases of ankylosis of joints following rheumatic, inflammatory, or tuberculous conditions, when forcible straightening is impossible. It is also of great service in the treatment of deformities following mal-union from fracture, and of the bending of bones resulting from rickets, congenital deficiencies, etc. If performed aseptically, the injury to the tissues is less than in osteoclasis, and the resultant fracture becomes from the moment of closure of the wound only a simple one. Wedge-shaped oste-

otomy is seldom necessary, even in the presence of exaggerated deformity, as simple section is all that is necessary, the gap resulting from straightening being readily filled in with callus. Plaster of Paris makes the best subsequent fixation splint.

**The Effect of Atmospheric Changes on the Hearing in Cases of Chronic Catarrhal Otitis Media.**—Oppenheimer (*New York Medical Journal*, October 21, 1899, p. 590) concludes that the hearing in at least seventy per cent. of cases with chronic catarrhal deafness becomes worse under adverse weather conditions. The degree of impairment of audition, as influenced by atmospheric changes, is determined to a great extent by the location and character of the pathological process in the tympanic cavity. The morbid alterations most susceptible to barometric variations are those of hyperplasia. In the presence of purely atrophic changes in the middle ear the variations in weather have little or no effect upon the auditory function. Atmospheric influences also impair the hearing by affecting unfavorably catarrhal processes of the upper respiratory tract and Eustachian tube. All things being equal, the impaired audition in cases of chronic catarrhal otitis is diminished more (under unfavorable weather influences) in those whose general health is below par than in those otherwise healthy.

**Advances in Renal Surgery.**—Dr. Edward Deansly (*The Lancet*, October 28th) states that the first step in every operation on the renal organ is to verify or correct the diagnosis. Every operation on the kidney should be so designed as to permit a preliminary exploration. The first problem which concerns us is this: What is the kind and amount of clinical evidence which justifies the surgeon in advising or urging an operative examination of the kidney? We should explore in that case in which persistent morbid condition of the urine is associated with persistent signs referable to one kidney. For example, persistence of even minute quantities of blood and pus in the urine when associated with persistent or frequently recurring painin one loin constitutes a sufficiently good presumption of stone, tubercle, or pyelitis to justify an exploration of the kidney. Clinical investigation should be made to ascertain, first, whether any morbid change of the urine which may be found is or is not of renal origin; and secondly, if renal, whether from one or both kidneys. In many cases the absence of signs of bladder disease, together with well-marked pain, tenderness, and enlargement of one kidney, or typical attacks of unilateral renal colic, is sufficient to constitute not an actual proof, but a strong presumption that the morbid condition of the urine is of renal origin, and it justifies an exploratory operation. Every surgeon must, however, have met with cases in which it has been extremely difficult to decide whether blood or pus in the urine proceeds from the bladder or the kidneys. In such cases hæmaturia may be the only sign discoverable. It is true that there are well-known clinical rules for determining the probable origin of blood in the urine, but of these some are certainly fallacious, and thus are not always applicable. The use of catheterization of the ureters as a means of diagnosis is one which cannot yet be regarded as an indispensable method. The only question is, to what extent the difficulty and danger of the procedure are justified by the value of the information obtained. Dr. Deansly has adopted an original procedure which fulfils the same purpose as catheterization of the ureters, and has many advantages over it. Before operating upon the kidney to which clinical evidence points as the offending organ, he examines the opposite organ through a small abdominal incision not more than one and a half inches long immediately below the ninth rib cartilage. This enables one to obtain, with little difficulty and risk, positive information of great value, such as the presence or absence of stone in the pelvis and upper part of the ureter, or any considerable deformity in the size and consistence of the kidney. These remarks apply to calculus and its accompanying morbid changes. In the treatment of all conditions of the kidney except very large neoplasms the lumbar incision is by far to be preferred to the abdominal incision. Keeping the intestines out of the field of operation lessens the risk of infective peritonitis when the contents of the kidney are aseptic. What is the best position for incising the kidney for the removal of calculus? Experience has shown that wounds of the pelvis heal at least as readily as those of the cortex, and that if there is no obstruction of the urine, there is no fear of the formation of a permanent urinary fistula. As a matter of fact the pelvis and the upper part of the ureters are extremely common positions in which calculi become lodged, and when the kidney has been brought out on the loin it is very easy to cut on to the stone and after extracting it to close the incision with a fine continuous suture. Before doing this the opening in the ureter should be utilized both to introduce a sound into the kidney in order to detect other calculi, and also to pass a fine catheter down into the bladder. Some prefer sutures and some prefer no sutures with drainage. The doctor prefers to close the wound in the ureter completely with a fine continuous suture of silk, and the cortex, when that has been incised, with stouter silk sutures passing deeply through the kidney substance. When the contents of the kidney are healthy, and when obstruction of the ureter can be shown to be absent or can be remedied, there is no reason why the kidney should not be preserved. This applies even to advanced hydronephrosis when the cause of the obstruction can be determined and removed. The presence of infective inflammation and its products in the contents of the kidney greatly limit the scope of conservative measures.

**The Typhoid Fever of Malarial Countries.**—Dr. W. Forbes-Leslie (*The Lancet*, October 28th) believes the intestine to be a tube formed for the passage of certain substances, and fitted throughout with the complicated and highly efficient means of absorption and rejection. Colonies of bacteria here produce septic materials in the form of spores or ferments which, being highly absorbable, pass through the walls of the intestine into the blood-stream, and set up the clinical parallels of the disease which they originate. Now, Nature is above all things preservative, and all her ideas are highly efficient to this end. She must have a means of preventing this invasion of noxious elements, though it seems that the intestines exert a selective power, and act toward all substances as a simple membrane; it is in the liver we must look for this filter, this barrier between the primæ viæ and the vital fluid. Certain eminent authorities believe that the liver has this function. It seems that glycogen has an important function in this respect, for there is an intimate relation between glycogen and the onset of disease, as causes which are most fruitful in diminishing this substance are those which predispose to disease. Thus it may be that the poison gains entrance to the blood, and with it in due course the spores of the disease. But after a time these are rejected and thrown out into the intestine, and become formed bacteria, to develop and disperse other poison till death supervenes. It is probable, also, that most intestinal pathogenic colonies can increase in this way as well as by fission, without further introduction from the original infection, and in face of this intestinal focus of disease, with its continued increase from the blood, one can see how important is the question of intestinal absorption and the

necessity of destroying the constantly renewed foci by sweeping out the primæ viæ by strong remedies. Of these none is better than calomel, for in the early stages, and when judiciously used, it will cut short the disease. Calomel has two virtues—the effect of antisepticizing the tract and promoting the flow of bile, and sweeping out most naturally all offending materials. This treatment should be continued for several days till the blood is free from further infection. Then it remains to heal the ulcer left by the colonies of bacteria, and this will be better insured by a mixture containing chlorate of potash, quinine, and hydrochloric acid; this evolves chlorine gas, which has an antiseptic effect upon the intestines. Plenty of milk and soda water should be given, with stimulants in moderation, and when there are signs of weakness chicken-broth or beef-tea.

**Cerebro-Spinal Meningitis.**—Dr. Henry M. Bracken (*St. Paul Medical Journal*, November) concludes that we should not class all forms of cerebro-spinal meningitis as of a true epidemic type. We should not class cerebro-spinal meningitis occurring as a complication or a sequela of certain epidemic diseases, such as typhoid fever, la grippe, pneumonia, etc., as epidemic. We should be guarded in diagnosticating any given case of cerebro-spinal meningitis as epidemic. The prevention of this error should be avoided by a bacterial examination of the fluid removed by lumbar puncture during life, when possible, or by post-mortem findings.

**Intestinal Antiseptics.**—Dr. Burney Yeo (*Interstate Medical Journal*, October) claims that intestinal antiseptics and evacuants have for a long time been in use without the rationale for their use being known. He considers the subject under four headings: (1) What is the scope of antiseptics? The medical use of antiseptics is different from the surgical use. The surgeon aims rather at asepsis than at antisepsis. In medicine asepsis is impossible. Therefore, we must prevent, or antagonize, auto-infection—*i.e.*, intoxication of the organism with the products of digestion. (2) What is the scientific basis for their use? Certain bacilli are only harmful in the presence of putrefaction or other abnormal conditions. If the bowel becomes abnormal, owing to catarrh, long-continued constipation, or injury, the bacillus coli, which is a normal inhabitant of the bowel, seems to take on a virulent action. When associated with the bacillus typhosus it has the power of intensifying the virulence of the latter. As, then, the virulence of intestinal bacteria depends upon their environment, so by modifying that environment it is reasonable to suppose that we can modify their virulence. (3) Under what conditions are they applicable? Intestinal antiseptics are indicated in gastric catarrh and fermentative dyspepsia; also, dyspepsia, chest pains simulating angina pectoris, vertigo, aphasia, and anuria. Pernicious anæmia has been considered to depend upon some toxin which exerts a hæmolytic action. The use of intestinal antiseptics is rational in cholera, dysentery, and typhoid fever. Typhoid fever often exhibits symptoms of being due to a mixed infection, and this may explain the extraordinary variations in the severity of cases. (4) What are the means of applying intestinal antiseptics? The various intestinal antiseptics are water boiled and cooled, calomel, and salines, both of great value in the early stages of typhoid fever. Salicylate of bismuth and carbolic acid are both useful. Salol is very uncertain. Eucalyptol and thymol are both good, and irrigation of the large bowel in typhoid fever must not be overlooked. The doctor concludes with a warning against the productions of the modern manufacturing chemist who sets up to teach the clinical physician.

**The Association of Hysteria with Organic Disease of the Nervous System.**—Dr. Philip Zenner (*Medical Fortnightly*, November 1st) writes on this subject with the object of calling attention to the association of hysteria with organic disease of the nervous system. Hysteria is looked upon as a disease, not a disgrace. To-day the diagnosis is based upon well-recognized symptoms. The most important factor in the etiology of hysteria is heredity; other causes are alcohol, syphilis, fevers and other debilitating conditions, trauma, shock, and depressing emotions. The same causes may produce organic disease of the nervous system. At the same time organic disease of the nervous system itself not infrequently causes hysteria. In the diagnosis one is aided by noting the personality of the patient, the sex, age, heredity, disposition, and history; also the relations of symptoms to emotional conditions. The most characteristic clinical features of hysteria are the so-called stigmata—anæsthesia, paralysis, contractures, limitations of the visual field, hysterogenic zones, etc. Diagnosis is helped by the peculiar grouping of symptoms. Of great diagnostic import are the globus, and concentric contraction of the field of vision, for hysteria; and hemianopsia, alteration of the deep reflexes, rigid pupils, and the reaction of degeneration, for organic nervous disease. Yet even these symptoms are not pathognomonic, the first mentioned not at all, and hemianopsia, ankle clonus, and rigid pupils have been found in hysteria.

**Blood Examinations.**—Dr. A. L. Benedict's article on blood examinations (*New York Medical Times*, November) is not of particular importance to the hæmatologist, but is to the clinician who wishes to obtain the maximum of practical information at the minimum cost of time. There are four methods in common use for estimating the "richness," that is, the oxygen-carrying power of blood: (1) The enumeration of the red cells, preferably by the Thoma-Zeiss instrument; (2) the quantitative estimation of red cells by the hæmatokrit (centrifuge); (3) the estimation of hæmoglobin by color; (4) the indirect estimation of hæmoglobin by specific gravity, preferably by mixing chloroform and benzol till a density is obtained in which the drop of blood will neither rise nor sink, and then taking this specific gravity by the hydrometer. It will be seen that 1 and 2 estimate cells, 3 and 4 hæmoglobin. The point which one wishes really to determine is the quantity of hæmoglobin, and it is obvious that none of these methods is correct. The writer does not understand why most hæmatologists prefer methods 1 and 2. We wish to transport grain and we inquire as to the capacity of freight cars; which is the more rational statement, that there are so many cars on hand, or that, with no specification in number, there are cars ready whose aggregate capacity is so many bushels? So, regarding the transportation of oxygen by the blood, the writer did not see that it was more scientific to note the approximate number of cells per cubic millimetre than to state the aggregate volume of red cells, which may readily be compared with the normal standard, fifty per cent. The hæmatokrit tells us within five minutes, at slight strain of the muscles of the arm, practically what we may learn from the hæmatocytometer in an hour at the least, with much eye-strain, and necessitating either personal attention or the services of a well-trained, sharp-sighted, and thoroughly conscientious assistant. Some practical hints as to the use of the hæmatokrit the doctor gave as follows: Put the centrifuge on a shelf, so that, if anything breaks, the enormous centrifugal force may be exerted above the head of the operator. Always swing both tubes and average the results. A difference of more than two per cent. in-

dicates imperfect tubes or faulty technique. The blood should be blown from the tubes immediately after reading, to avoid coagulation. To clean the tubes they should be washed first with potassium hydrate solution, then with distilled water, introduced through a funnel connected with the capillary tube by a rubber union. The latter may be "milked" if the fluids do not flow readily. The tubes are dried by blowing air through them by means of a bulb. If the blood does coagulate, a coarse human hair as a stylet should be used. Filter paper or absorbent cotton will prevent the introduction of foreign matter into the tubes during the cleansing process.

**Acute Paralytic Dilatation of the Stomach.**—Brown (*The Lancet*, October 14, 1899, p. 1017) reports the case of a man, fifty-five years old, who it was said was suffering from intestinal obstruction. The patient was in his usual good health up to forty-eight hours before coming under observation, when suddenly he was seized with intense pain in the abdomen, accompanied by incessant vomiting, which continued for forty-five hours, when it ceased. The patient was found to be a well-nourished man in poor condition. The hands were cold, the pulse was small and thready, and the face pinched and sunken. The abdomen was distended above the pubes, but flattened at the sides and in the epigastrium. It was resonant on percussion all over, save between the umbilicus and the pubes, where it was dull, and fluctuation could be felt, and a succussion splash was obtained. The temperature was subnormal. The bowels had been moved slightly earlier in the day, but no urine had been passed for forty-eight hours. The abdomen was not tender on palpation, but the patient was in great pain, turning from side to side constantly, and asking relief from his agony. A catheter was introduced into the bladder, and about a drachm of bloody urine was withdrawn. Rectal examination disclosed a normal condition with some fecal contents. An exploring needle was passed into the fluctuating swelling midway between the umbilicus and the pubes, and withdrew about two drachms of thick, greenish fluid, with a curious smell, recalling the contents of a pancreatic cyst. As the general aspect of the case presented unusual difficulties with regard to a diagnosis, and the only thing that seemed certain was that the man would die shortly if unrelieved, and that this pressure of the fluctuating swelling was the cause of his suffering, it was decided to open the abdomen. Ether was given, and the abdomen was rapidly opened over the most prominent part of the swelling. A tense, thin-walled, rounded cyst was then seen, which contained a dark liquid with some gas. As no colon could be seen or felt, and as the tissues of the cyst-wall seemed to be more like peritoneum than any viscus, it was drawn to the surface, opened, and about three pints of dark-green, viscid fluid closely resembling that of a pancreatic cyst were evacuated. The walls were stitched to the skin, and the wound around was closed. The patient rallied well from the operation, and expressed himself as being much relieved, but he sank five hours later. On post-mortem examination the cyst was found to be a dilated stomach which would easily hold five pints of water. There was no pyloric obstruction. The kidneys showed marked signs of nephritis and were saccular. All of the other organs were healthy.

**The Local Treatment of Puerperal Infection.**—Arnold W. W. Lea (*The Medical Chronicle*, August) states that the conclusions which a study with analysis of forty-eight cases seems to justify are as follows: (1) The rise of temperature over 101.4° F. during the puerperium, not obviously accounted for by other causes, should lead to a thorough examination of the genital passages. (2) If no sufficient explanation is found in the condition of the perineum or vagina, a uterine douche should be at once given with due precautions. (3) If within twenty-four hours the temperature has fallen definitely, no further exploration is required, but the douche may be repeated if the temperature again rises. (4) If at the end of twenty-four hours the temperature is higher, and the pulse rate is increased, the cavity of the uterus should be explored with the sterilized finger. (5) If the initial rise of temperature is great (103° F. or over), with or without rigor, the uterus should be explored at once, not waiting twenty-four hours to observe the effect of the douche. This is more especially indicated if the uterus is bulky, showing delayed involution, since this points to putrefaction of retained products, or to septic endometritis. (6) If clots or placenta are discovered, they should be removed with the finger or the curette, a douche given, and a gauze drain inserted for twenty-four hours. (7) In the great majority of cases it is wiser thoroughly to curette the uterus, with the object of removing the whole of the decidua and retained products. (8) There is no evidence that curettage, if done with every precaution, favors the spread of infection. In a large proportion of cases the infection is rapidly checked. (9) In very virulent infection early curetting with the object of sterilizing the uterine cavity affords the best chances of a successful result. (10) If curettage entirely fails, it must be repeated or not, according to the local conditions present. The prognosis, however, in the absence of a definite localization of the infective process, is bad. (11) In some cases, if curettage fails and there is no evidence of general infection of the blood stream, vaginal hysterectomy, if performed in good time, may be successful. (12) Antistreptococcic serum should be given early and freely in cases of proved streptococcic infection. It is of little use in advanced stages of the disease.

**The Medical Treatment of Movable Kidney.**—In the *University Medical Magazine* for September is an article by Dr. Alfred Stengel, in which are discussed the methods of treating movable kidney by attempting to supply the perirenal fat which has become deficient, and by supporting the organ by an abdominal pad. When emaciation has played a part, forced feeding may succeed and an instance of satisfactory treatment in this way is cited. The writer thinks belts and pads are largely condemned because manufacturers are misdirected. A pad, to be effective, should be so shaped and applied as to make pressure upward, backward, and toward the right, so as to push the kidney toward this normal position. Pads used by the writer have been roughly kidney-shaped, having a concave upper border where the pad is about half an inch thick, and a concave lower border where it may be as much as one and a half inches thick. It should be soft but firm, and covered with leather, the greatest length being about three inches and the greatest width two and a half. Several cases are related.

**The Bacillus of Tuberculosis in Chickens and in Man.**—Since Koch first showed the identity of chicken tuberculosis with that of man, it having been previously confounded with diphtheria, and Ribbert first demonstrated the anatomical differences in the two kinds of tubercle tissue, many bacteriologists, notably Strauss, have attempted to show the variations in the growth characters of these organisms. In the *Centralblatt für Bakteriologie und Parasitenkunde*, 1899, No. 45, vol. xxvi., Matzuschita has given an extended analysis of the results of others, and has been able to grow the organisms on potato, potato with glycerin, alkaline potato, beets, and on gelatin and agar-agar.

He here details at length the morphological characters that separate the two forms, and gives the best *resumé* that is obtainable of late.

**Accidental Vaccination through Mosquito Bites.**—Lueddeckens (*Berliner klinische Wochenschrift*, September 25, 1899, p. 858) reports the case of his own son, one and a half years old, who was vaccinated upon the right arm with glycerinated lymph, which was used also in other cases without ulterior result. On the following day the child was bitten in numerous places by mosquitoes. Although care was taken to prevent the little patient from touching the site of vaccination, he accidentally did so, and in the course of a few days it was observed that the sites of some of the mosquito bites were reddened and swollen. For a time nothing unusual was thought of this, but as pustules developed, it was realized that secondary infection had taken place from the site of primary vaccination. Fever existed for eight days, and the general condition was quite poor. In spite of all care and precaution some of the pustules suppurated and left undesirable cicatrices.

**Can Gonococci be Present in the Absence of Clinical Manifestations of Gonorrhœa?**—It having been contended by Neisser that gonococci may be present in the absence of macroscopic evidence of disease, Schiller (*Berliner klinische Wochenschrift*, October 9, 1899, p. 898) examined bacteriologically the urethra and the cervix in three hundred women coming under observation consecutively for various disorders, without finding gonococci in any instance in which visible signs of disease were not present, scrapings being examined in cases in which secretion could not be detected. In all cases in which gonococci were found pathological secretion also was present. Evidence of catarrhal inflammation may be overlooked unless the urine be retained for two or three hours before the examination, which should be made repeatedly with the aid of the endoscope, and before and after the menstrual period, and irrigation should be avoided.

**The Craving for Stimulants.**—Campbell (*The Lancet*, October 21, 1899, p. 1091) contends that his thesis that the blood normally contains stimulants, that these stimulants exercise a favoring influence on function, and conduce to, and may even be a necessary factor in, the production of the feeling of well-being, explains the widespread liking in man and beast for stimulating substances. This liking, amounting often to a craving, is the expression a great physiological principle. When health is perfect, when the blood is well provided with its proper stimulants and not overcharged with depressants, there is no craving for extraneous stimulants, such as alcohol, tea, or coffee, but when the blood is defective in the one, or surcharged with the other, then is felt the desire for the glass of wine or the cup of tea. In order to obviate this desire the body should be kept at the highest level of health. The more perfect the health the more perfect will be the composition of the blood, in respect to both physiological stimulants and deleterious toxins. A blood properly constituted in these and other respects will exercise a gentle stimulant action on the nervous system, and induce a condition of mild physiological intoxication, which expresses itself in a feeling of well-being and happiness—a condition that cannot be bettered.

**The Treatment of Diphtheria with the Antitoxin.**—Tonkin (*The Lancet*, October 21, 1899, p. 1082) formulates the following conclusions as a result of the treatment of two hundred consecutive cases of diphtheria with the antitoxin: (1) The general mortality is reduced. The mortality for cases treated during the first few days is reduced to about three per cent., and that for all other cases to about twelve per cent. (2) Laryngeal cases treated early are markedly influenced for the better, the death rate being very considerably reduced. (3) The mortality from tracheotomy is very much lessened. (4) There is less need for tracheotomy if treatment is begun early. (5) All ages and both sexes are equally influenced. (6) The chances of nephritis are lessened. (7) When treatment is begun early, albuminuria will not appear, and if it appears it will probably not be severe, and will soon disappear. (8) Paralysis is lessened for cases treated on the first and second days. The mortality from paralysis is not lessened. (9) Extension of the disease to the larynx and parts below was not noted after injection of the antitoxin. (10) The only disadvantage noted after the use of the antitoxin was slight discomfort for a few days from urticarial rashes and pains in the joints in a small percentage of the cases. The conclusions arrived at may be taken as a plea for early diagnosis and early antitoxin treatment.

**The Cause of Death from Industrial Electric Currents.**—Cunningham (*New York Medical Journal*, October 21, 28, 1899) summarizes as follows his views as to the cause of death from industrial electric currents: Industrial electric currents which traverse the whole body transversely or longitudinally in sufficient intensity kill because fibrillar contraction of the heart is produced, and not, as has been hitherto surmised, by inducing total paralysis of that organ or destroying it outright. Such currents neither destroy the central nervous system outright nor paralyze it instantaneously. Death of the nervous system from such currents is due to the total anæmia following a sudden arrest of the circulation. In rare instances, when an electric current traverses only the cerebro-cervical portion of the nervous system in considerable intensity, and for a considerable length of time, it may kill by asphyxia, consequent upon a more or less complete inhibition of the respiratory movements which occurs chiefly during the passage of the current. No existing facts warrant the conclusion that the medullary respiratory centre is paralyzed or destroyed under such conditions. Industrial currents are practically non-lethal to frogs and turtles, as the condition of fibrillation disappears from their hearts quickly and spontaneously after the current has ceased to pass. Such animals can, of course, be killed by the prolonged application of a current of moderate intensity, or by one of enormous voltage and large intensity. Strong electric currents, applied to the surface of the skin, affect the heart in the same manner as currents of less strength do when they are applied directly to the exposed heart. It may be possible for an electric current of enormous intensity and electro-motor force to produce instantaneous death either by its disruptive action, or by causing instantaneous heat coagulation of the cellular constituents of the body. Industrial currents do not kill instantly, although as a result of their action death occurs rapidly. The experiences of individuals who have recovered from severe electric shock indicate that such a mode of death is not a painful one. Spontaneous recovery of the dog's heart from fibrillation induced by strong currents is rare. Such recovery and restoration of the arrested circulation after the external application of a strong current for two or three seconds appear not to take place. Artificial recovery of the excised dog's heart from fibrillation induced by the external application of a strong electric current is possible. Such recovery, with restoration of the circulation and recovery of the nervous system, can be brought about by transfusion of defibrinated blood and venesection.

MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

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PUBLISHERS

WM. WOOD & CO., 51 Fifth Avenue.

New York, November 18, 1899.

## THE CLIMATE OF SOUTH AFRICA.

THE climate of South Africa is freely acknowledged to be one of the healthiest in the world. The saying that in war pestilence and disease are far more to be dreaded and claim an infinitely larger proportion of victims than weapons of destruction, has been made and proved so many times as to have become a somewhat wearisome truism. The fight between the British and the Boers has been up to the present marked by terrible loss of life, and will before the end comes result in still further slaughter, but in all probability disease will not add its customary quota of human sacrifice. This prediction is based upon the well-known salubrity of the South African climate, which is perhaps as inimical to the germs of disease as any upon earth. The testimony with regard to the healthfulness of South Africa is unanimous. Its configuration is peculiar and strongly resembles a series of steps. The coast plateau is six hundred feet above sea level; the Southern Karoo is twelve hundred feet, the Central Karoo twenty-five hundred feet, and the Northern Karoo four thousand feet and upward. The least healthy portion of this region to Europeans is that bordering on the coast. *The Lancet*, in a leading article some few years ago, gave an interesting description of the climate of South Africa, which, in view of the events now in progress there, it may not be out of place to quote. "In Cape Colony rain falls chiefly in the winter months, the three hottest months, January, February, and March, being almost rainless at Cape Town. On the east coast, however, at Durban for example, most rain falls in summer, and this is also the rule in the interior, where the winters are usually dry and clear with slight frost in some localities. The Southern Karoo presents a decided contrast to the coast plateau. The climate here is, on the whole, dry, with considerable oscillations of temperature and a greater contrast of seasons. The hottest month is January, with a mean maximum of 87° F., and the coolest is July, with a mean minimum of 36° F. The winters are bright and clear with cold nights, and snow lies for a time upon the mountains. The Northern Karoo, of which the elevation varies from twenty-eight hundred to six thousand feet, stretches to the Orange River and has an extremely dry climate, the rainfall in some parts being as low as two inches, and the general average being about ten inches. On the whole, the winter climate is very agreeable; clear, sunny, bracing days with just a touch of frost in the air being very frequent.

"The Transvaal is an elevated plateau with a very healthy climate. Pretoria is at an elevation of forty-five hundred feet above sea level, and Johannesberg of five thousand feet above sea level. In spite of this elevation the summer heat in these places is very great, and dust storms are frequent. Malaria is common in some parts of the Transvaal during the hot rainy season; nevertheless, the climate in general must be pronounced healthy and favorable to Europeans." The climate of South Africa as a whole may be summed up in these words: "Though the mean temperature of the South African climate is higher than that of the greater portion of Europe, owing to the complete absence of very cold weather, the thermometer, at least in the cooler parts of the country, does not exhibit a higher rise than often occurs in northern Europe."

The deductions to be drawn from the foregoing descriptions are that South Africa is comparatively free from deadly diseases, and this is indeed the truth. It is said to be one of the few portions of the globe that have never been visited by yellow fever or cholera, and many of the other pests of the western world are unknown in this favored land. Low fevers occasionally prevail, and there are also periodical epidemics of smallpox and measles along the coast line, invariably imported by calling ships. Ophthalmia and rheumatic complaints in some portions of the country are more or less common, but may be avoided to a great extent with ordinary care. Of course in the case of an army operating in the field there are certain maladies which are difficult and in some instances impossible to escape, such as enteric fever, diarrhœa, and dysentery. To make a comparison with the dangers from disease threatening the British army in South Africa and those with which our forces in Cuba had to fight, it is indisputable that the lot of the British soldier is in this respect greatly better than was the American. If the campaign against the Boers, however, is a long one, it would be idle to prophesy that disease may not yet play havoc among the British ranks, but provided that the sanitary arrangements are carried out effectively, it would appear that disease will not bulk very largely in the death rate of the invading army.

## THE FEEDING AND TRANSPORT SYSTEM OF THE BRITISH ARMY IN SOUTH AFRICA.

IT is said of the Duke of Wellington that, although of course a consummate strategist, a great deal of his success as a leader must be attributed to his untiring care for the bodily welfare of his troops. He paid at least as much attention to the commissariat department as to his plan of campaign, recognizing that unless the men under his command were, so to speak, in good condition, their ability as a fighting machine was very considerably lessened. Other commanders of mark have given testimony that soldiers to fight energetically and with vim must be well fed, suitably clad, and judi-

ciously and comfortably shod. Therefore on the shoulders of those who are responsible for these vital details rests an awful responsibility.

It seems, nevertheless, that despite the bitter lessons taught by past experience army contractors refuse to learn wisdom. Perhaps the Crimean war was the most striking instance of the shortcomings of army caterers. Our campaign in Cuba was not undistinguished for defects in this respect, and even granting that the outcry raised with regard to embalmed beef was not altogether justified by facts, still that the said beef was not free from suspicion cannot be in truth asserted by the most rabid partisans of that department of the United States government in whose hands the feeding of its soldiers was placed. One might, therefore, have reasonably concluded that the British government, with so many and so recent examples of the evils attending careless methods of commissariat management generally, and the providing of improper food in particular, would have insisted on the supply for South Africa being strictly inspected. Such, however, has not been the case, and the news has come that already, and before leaving port, fifteen thousand pounds of canned meat has been condemned and ordered to be dumped into the sea. The report states that the tainted meat was procured chiefly from colonial sources. The main obstacles in the way of the British army making rapid progress up country after landing in Africa will undoubtedly be the immense difficulties of transport. Ladysmith, whose relief will naturally be the first object of Sir Redvers Buller, is one hundred and eighty-nine miles from Durban; the former town is thirty-two hundred and eighty-four feet above sea level and connected with Durban by only a single line of railway. It is estimated that the invading army will require at least three hundred tons of provision daily, and, in addition to this, sick, wounded, and ammunition must be conveyed. Needless to say, the railway's carrying powers will be wholly inadequate to meet this strain. Consequently wagons will have to be used along tracks which, as the rainy season has set in, are now almost impassable. Mules and trek oxen, the only animals available for traction purposes, are, owing to rinderpest, scarce in South Africa, although fifteen thousand mules have been purchased in Spain, France, the United States, and elsewhere. It will thus be seen that the problem set the British army medical authorities with regard to the removal of their sick and wounded will be one hard to solve successfully. This is the dark side of the picture. The reverse indicates that the efforts being put forward by the army medical department are energetic and strenuous, and if loyally seconded by the transport department there would seem to be every reason to hope that the sick and wounded will fare as well as the exigencies of such a campaign will permit. *The Lancet*, referring to this matter, says: "With regard to the feeding and supplies for the army and its hospitals, enormous difficulties have to be overcome in a campaign of this character. Transport is one of these, and we hope that the medical service will be amply supplied with transports of all kinds. The pivot on which field medical arrangements depend in modern warfare is transport for the systematic and easy movement of the wounded from the fighting front along the lines of communication to the base."

A rest camp and a remount depot have been prepared at Durban, and camps of a similar nature will be established at suitable points. The supply of hospital ships will be large enough, one would think, to meet all requirements. Two of these vessels will be in the roadstead, one stationary, while the other will move backward and forward so that the patients on board may enjoy the benefits of fresh breezes. The central Red Cross committee has decided on sending a fully equipped hospital train, which will doubtless prove of incalculable advantage as a means of conveying the sick and wounded with rapidity and with comfort. On the whole, and when taking the fact into consideration that the British government was on its own showing hardly prepared for a war of such magnitude as the South African struggle promises to be, the exertions now being made on all hands to place every department on a smoothly working footing augurs well for the final result. One feature of the Transvaal war must be viewed with peculiar satisfaction by the army medical department of this country. The feature to which reference is made is the adoption by the British army authorities of hospital ships and trains, a system inaugurated with such splendid effect in our war with Spain.

## MILK AND TUBERCULOSIS IN CHILDHOOD.

THE contest over the question as to whether or not tuberculosis might be transmitted to man in his food has now for several years been carried on, and it would seem that to the majority of physicians the conviction has been borne to their minds that such is indeed the case. With regard to the disease as it affects infants, the theory that infection is caused by means of milk is regarded by many as quite an established fact. The evidence in favor of this theory is *prima facie* a strong one. Tuberculosis is a common disease with the very young; their food is principally milk, and cows are notoriously subject to tuberculosis. Again, in cases of infantile tuberculosis the intestines are usually found to be affected. Dr. Sidney Martin, in Allbutt's "System of Medicine," says: "To the ingestion of milk is no doubt to be ascribed practically all the cases of intestinal tuberculosis and of tuberculous peritonitis that occur in childhood." Dr. Osler is not so decided on the point, and writing on the subject in Starr and Westcott's "Diseases of Childhood," says: "That tuberculosis may originate in the alimentary canal is shown experimentally by the feeding of guinea-pigs with cultures of the bacillus and the feeding of calves and pigs with the milk of tuberculous animals. . . . That the intestinal lesion may be primary in children is acknowledged. The comparatively large number of children with caseous foci is suggestive. On the other hand, instances of primary intestinal tuberculosis are not very common." Dr. Sheridan Delépine is firmly of the opinion that it is through the intestine that tuberculosis attacks the body, and is positive that, whatever may be asserted to the contrary, the consumption of tuberculous milk

is attended with serious danger. He gives instances coming under his immediate notice, in which it was distinctly proved by post-mortem microscopical examination of children whose mesenteric glands showed clear tuberculous lesions. Dr. Sims Woodhead published in 1889 statistics pointing out that tuberculosis in children was due to ingestion of tubercle bacilli, probably along with milk from tuberculous animals, and furthermore drew attention to the fact that during the first year of life the number was comparatively small, but that from one to five and a half years there was a rapid rise which could be accounted for only on the supposition that infective material made its way—in children especially—into the alimentary canal, and thus set up intestinal and mesenteric tuberculosis. The proof, indeed, of intestinal tuberculosis in children being caused by infected milk is, if not overwhelming, at least extremely strong. However, many experienced pediatrists refuse to accept this theory as conclusively demonstrated. Among these is Dr. George F. Still, one of the physicians to the Great Ormond Street Hospital for Sick Children, London. Dr. Still contributed a paper on the matter at the recent meeting of the British Medical Association, in which, speaking of the mode of infection in childhood, he said: "It is evident that the main incidence of tuberculosis corresponds more or less exactly with the period at which milk forms or should form the chief article of diet. The suggestion that milk contaminated with the tubercle bacillus is the cause of this frequency follows as a matter of course. At first sight such a view appears extremely probable. . . . But further inquiry is needed before any conclusions can be drawn from these premises." Dr. Still then proceeds to show that although tuberculous lesion of the intestines and mesenteric glands in infancy and childhood is a well-known fact, the frequency of its occurrence is no evidence of its being the most common source of infection, and in addition that pulmonary lesions would seem to be much more frequent than intestinal, as evidenced by statistics. He is of the opinion that the prevalence of intestinal lesions is due to the swallowing of tuberculous sputum, and that, with a primary infection of the lung, tubercle bacilli are constantly being swallowed in large numbers, so that secondary infection of the intestine is extremely likely to occur. He would prefer to be guided by the condition of the lymphatic glands, which he considers the most reliable index of the sequence of infection, and considers those of the mediastinum the ones most commonly first infected. Another channel of infection to which Dr. Still draws attention is that of the teeth, and thinks that carious teeth, especially in a child predisposed to tubercle, may be a primary cause of infection. These are the conclusions which Dr. Still draws from his observations:

1. The commonest channel of infection with tuberculosis in childhood is through the lung.

2. Infection through the intestine is less common in infancy than in later childhood.

3. Milk, therefore, is not the usual source of tuberculosis in infancy, perhaps owing to the precautions taken in boiling, sterilizing, etc.

4. Inhalation is much the commonest mode of infection, and especially in infancy.

5. The overcrowding of the poorer population in the large towns is probably responsible for much of the tuberculosis of childhood, and prophylaxis must be directed to the prevention of this overcrowding, the improvement of ventilation, and the inculcation of the extreme importance of fresh air during the earliest years of life.

It may be that the danger to children of drinking milk from a tuberculous cow has been somewhat exaggerated, and there can be no doubt that good ventilation and fresh air are an absolute necessity to infants predisposed to tuberculosis; but it must not be forgotten that, though the most frequent form of primary consumption is through the lungs, infection through the intestine is also very common, and therefore in order to minimize this source of danger every effort should be made by health authorities to insure a pure milk supply.

## THE INFECTIOUSNESS OF RHEUMATISM AND CHOREA, AND THE RELATION BETWEEN THEM.

It is pretty generally believed that acute rheumatic polyarthritis is an infectious disease, even if of multiple origin. Numerous observers have found micro-organisms in the lesions of the disease and of its complications, but these have differed among themselves and it has not, heretofore, been possible to cultivate the micro-organisms artificially and with them again to generate acute polyarthritis. For a long time some relation has been thought to exist between acute rheumatism and chorea, the latter affection not rarely following the former, both prevailing at corresponding seasons and both being often complicated by endocarditis. Chorea also is coming gradually to be looked upon as an infectious disease, but concerning its bacteriology little is as yet known. Whether chorea is dependent upon the same causes as acute rheumatism or upon allied causes must be considered as yet merely a matter for speculation. An important contribution to this most interesting subject has recently been made by Westphal, Wassermann, and Malkoff in the *Berliner klinische Wochenschrift*, No. 29, 1899. These observers report a case of acute articular rheumatism followed by chorea and complicated by endocarditis and nephritis, in which they succeeded in isolating from the blood, the brain, and the endocarditic vegetations a micrococcus susceptible of culture and capable of inducing polyarthritis when inoculated into lower animals. The patient was a girl nineteen years old, who in the sequence of an attack of acute articular rheumatism developed chorea, with general movements, delirium, elevation of temperature, acceleration of pulse and collapse, followed by death. Post-mortem examination disclosed the presence of fine, delicate endocarditic vegetations upon the mitral leaflets, as well as recent parenchymatous nephritis. From the blood, the brain, and the valve-leaflets was isolated a micro-organism, injection of which in small quantities into the blood-vessels was

followed in animals by the development of high fever and multiple arthritis, usually terminating fatally. The affected joints presented evidences of inflammation, and in the exudate was found the micro-organism already mentioned. Injection of this after culture again induced acute multiple arthritis. The micro-organism is a streptococcus, although in the tissues and in the blood it may appear as a diplococcus, and it may be the same as that found by other observers in the vegetations of endocarditis, but not subjected to culture and inoculation. Its growth requires a higher degree of alkalinity of the culture medium than usual and a larger amount of peptone.

## DOES IT PAY?

In the course of his professional life many a man must pause and ask himself this question. In the *Cincinnati Lancet-Clinic* of September 9th there are two communications, one entitled "Does the Practice of Medicine Pay?" in which the writer, Dr. Monroe, of Louisville, takes a rather pessimistic view, dwells upon the many hardships of a doctor's life, and dismisses the subject with the words: "Therefore, taking everything into consideration, I think I am perfectly safe in saying, in closing this paper, that it does not pay financially to be a physician."

The second paper has for its caption "Does It Pay to Live?" in which the intellectual pleasures constituting

"The soul's calm sunshine and the heartfelt joy"

are dwelt upon, and it is pointed out that there are other objects in life beside and beyond those associated with finance.

This writer, Dr. Woodruff, believes that no greater reward can come to a physician than the ability to look back upon time well spent and the consciousness of good example stamped upon the community. He says: "The opportunities of relieving suffering and inspiring hope in the despondent are so numerous in the daily rounds of a doctor, that any physician who has spent his life in the conscientious discharge of his duties may answer the question in the affirmative."

But after all it is the individual point of view. "As a man thinketh in his heart, so is he."

**The Old, Old Story.**—A correspondent of the *New England Medical Monthly*, writing of one of the latest serums for the cure of insanity, old age, and many other ills, says: "Whatever may be the merits of the so-called —— lymph, it is being exploited in a most unprofessional way. Licenses to use it are issued for $100 to one physician in a locality, who must pay three cents a drop for the lymph, and give the promoters, or company, or whatever it may be, one-third of all his earnings in using the lymph, and is obligated by contract to sell his services at a fixed price. There is said to be a clause by which the poor are provided for." Whatever the therapeutic virtues of the serums, they one and all seem to arouse in their discoverers the gold itch in a most acute form.

## News of the Week.

**Philadelphia County Medical Society.**—At a stated meeting held November 8, 1899, Dr. Mordecai Price read a paper entitled "Treatment of Appendicitis, and its Great Mortality," and Dr. Charles W. Dulles read a paper entitled "Medical Journal Ethics."

**Honored by His Colleagues.**—A well-attended dinner was given on November 7th, at the University Club, Philadelphia, in honor of Dr. Alonzo E. Taylor, recently elected professor of pathology in the University of California, and formerly assistant director of the Pepper Laboratory of Clinical Medicine.

**Philadelphia Pediatric Society.**—At a meeting held November 10th, Dr. Thomas Morgan Rotch, of Boston, read a paper entitled "Some of the Difficulties in Prescribing and Modifying Milk for Infants," in which he dwelt upon the importance of securing proper proportions of fat, proteids, and sugar, and of insuring a maximum freedom from bacteria. At the close of the meeting a reception was held in Dr. Rotch's honor.

**Anglo-American Nursing Home in Rome.**—We learn from the *British Medical Journal* that the proposal to establish an Anglo-American Nursing Home in Rome is likely to be carried out. The need for such an institution has been felt by many British and American practitioners in Rome. A sum of £1,000 has been subscribed for a building fund, and negotiations are on foot for the purchase of a house. The home when established will receive cases of illness of any kind, including typhoid fever.

**College of Physicians of Philadelphia.**—At a stated meeting held November 1, 1899, Mr. Frederic E. Ives, by invitation, demonstrated his system of color photography, especially in its application to medicine. The principle of the process consists essentially in obtaining photographs in triplicate through red green, and violet glass respectively. By the superposition of these the original colors are reproduced. Beautiful pictures of fibroid uterus, carcinoma of the breast, panophthalmitis, hypertrophied prostate, and surgical kidneys, exhibiting the normal colors and appearances, were shown. Dr. R. C. Cleeman described the circumstances attending the admission of an immigrant suffering from typhus fever, who died subsequently at the Municipal Hospital presenting characteristic lesions.

**The Pan-American Medical Congress.**—Three years ago at Mexico it was decided to hold the next Pan-American Medical Congress at Caracas in December of the present year. Some time ago the Venezuelan national committee in charge of the arrangements for the meeting decided to postpone the congress for a twelvemonth. But owing to the generally unsettled and revolutionary state of Venezuela, it is doubtful whether a meeting can ever be held there, and moreover the hotel accommodations in Caracas are utterly inadequate for a quarter of those who attended the

meeting in Mexico. In view of these facts it would seem not inadvisable for the international committee to withdraw the acceptance of the Venezuelan invitation, and select some other place—Montreal or one of the larger cities of South America, in some country where the political conditions are fairly stable, and where there would be a reasonable certainty of holding the meeting at the appointed date.

**The Oklahoma Territorial Medical Association** will meet in Guthrie on November 23d.

**A Maternity Hospital in Montreal.**—Lord Strathcona and Mount Royal has contributed $10,000 toward the fund for the erection of a building for the Montreal Maternity Hospital. The new governing board will have representatives from McGill University and the Royal Victoria and General hospitals.

**The Loomis Sanatorium.**—It is expected that the new administration building of this sanatorium, to replace the one which was totally destroyed by fire on October 14th, will be completed within a few months. The Casino has been adapted temporarily to the purposes of the administration. No injury was done by the fire to any of the patients' cottages.

**The Sale of Poisons.**—The president of the New York boardof health has taken action looking to a stricter enforcement of the law regarding the sale of poisons, being led thereto by the many cases of suicide, especially among women, committed on impulse, and which would probably never have occurred had the impossibility of procuring the poison given time for reflection.

**Pathological Society of Philadelphia.**—At a stated meeting held November 9, Dr. P. W. Darrah read a paper entitled "An Experimental Study of Illuminating-Gas Poisoning." He related that dogs exposed to the action of illuminating-gas could be resuscitated by transfusion of arterial blood from another animal of the species, while inhalations of oxygen and subcutaneous and intravenous injections of hydrogen dioxide and saline solution failed. Dr. F. A. Packard exhibited the spinal cord from a case of cerebro-spinal meningitis. Dr. M. H. Fussell exhibited kidneys, heart, liver, spleen, and lungs from a case of chronic parenchymatous nephritis, cardiac dilatation, nutmeg liver, perisplenitis, and pulmonary hypostasis. Dr. A. E. Blackburn exhibited a specimen of carcinoma of the stomach, involving the pancreas, omentum, and liver. Dr. A. V. Meigs presented a communication entitled "Endophlebitis," and exhibited sections showing enormous hyperplasia of the middle coat especially of a peripheral vein, with almost obliteration of the blood-channel. Dr. J. D. Steele presented a communication entitled "Endothelioma of the Retroperitoneal Space," and exhibited a section illustrating the histological features. Drs. J. H. Musser and D. L. Edsall exhibited specimens of carcinoma of the mediastinal glands, and of the lower lobe of the right lung, with carnification of the upper lobe and dilatation of the stomach. During life there had been enlargement of the supraclavicular and of the axillary glands, copious effusion into the right pleural cavity, and a tumor was found in the pyloric region which was found to consist of the thickened pylorus surrounded by a ring of enlarged glands. It was thought the pancreas also was involved, but the liver was free. The retroperitoneal glands above the pancreas were also the seat of disease.

**A Proposed Epileptic Colony in Virginia.**—We learn from the *Virginia Medical Semi-Monthly* that a commission was appointed by the recent General Assembly to study the subject of a State colony for the care of epileptics. This commission—consisting of Drs. George W. Le Cato, of Accomac County, William F. Drewry, of Petersburg, Col. C. E. Vawter, and Mr. W. F. McRae—is looking for a suitable farm, to be recommended for purchase by the State for the purpose indicated, and is estimating every detail of probable expense, so as to be ready to have an act enacted by the legislature next winter establishing such an epileptic colony.

**Yellow Fever** is dying out in Key West and Miami, Fla. Two cases and one death were reported at Port Tampa on November 10th, and the usual quarantine has been established against the place, but because of the lateness of the season no alarm is manifested. At a meeting of the Orleans Parish Medical Society on November 11th, there was a discussion on the recent epidemic in that city, and some of the speakers held that the disease had not been yellow fever, but malaria. Reported bacteriological examinations, it is said, failed to reveal the presence of the bacillus icteroides of Sanarelli, while on the other hand the plasmodium malariæ was frequently found.

**Overcrowding on the Transport "Tartar."**—The report of the board of inquiry regarding the treatment of the sick on the *Tartar*, which arrived recently at San Francisco from Manila, criticises the placing of so many sick troops on a transport which had accommodations for only twenty-six emergency sick. The volunteer regiments that embarked at Manila to return to the United States had many sick among them. It is said that it was the duty of the regimental surgeon to leave in the Manila hospitals those men who were ill, and not to place them on the *Tartar*, as was done. There are hospital ships at Manila for the work of bringing home the sick, and it is not necessary to place them on the regular troop-ships. It is not likely that any action will be taken, however, as the surgeon of the regiment and nearly all of its officers have been mustered out of the service of the United States. Orders have been given that in the future a regular army officer stationed at Manila shall see that none of the transports leaves the Philippines with men too ill to be transported in the regular troop-ship.

**The Medical Society of Virginia.**—At the thirtieth annual meeting of this society, held in Richmond, October 24th, 25th, 26th, and 27th, the following officers were elected: *President*, Dr. Hugh T. Nelson, of Charlottesville; *Vice-Presidents*, Drs. Southgate Leigh, of Norfolk, S. T. A. Kent, of Ingram, and R. J. Hicks, of Warrenton; *Recording Secretary*, Dr. Landon B. Edwards, of Richmond; *Corresponding Secretary*, Dr. John

F. Winn, of Richmond; *Treasurer*, Dr. Richard T. Sty'l, of Newport News. Dr. John P. Upshur, of Richmond, was appointed to deliver the annual address, and Dr. Stuart MacLean, of Richmond, to open the general discussion on "Malaria." The next meeting will be held in Charlottesville.

**The Sanitary Condition of a Railroad.**—After a period of rest and apparent unconcern, the New York City board of health has again awakened to the dangers which menace the health of the travelling public in the Borough of Manhattan. An examination was made some time ago regarding the standing of the elevated road, the soundness of its structure, and the paint on its cross beams, but the result of this investigation was unsatisfactory; at least there was no visible result either in the condition of the road or in the value of its securities. The present examination concerns the condition of the cars, which is said to be unsanitary. To the ordinary citizen there is no apparent difference, as regards insanitary conditions, between the elevated cars and those of the surface roads.

**Medical Matters in the South African War.**—Three surgeons and five trained nurses for the hospital ship *Maine*, which is being fitted out by American-born women for service in South African waters, sailed from this city on Sunday last. The surgeons were Drs. G. E. Dodge and H. H. Rodman, of New York, and C. H. Weber, of Philadelphia. Surg.-Col. F. H. Hensman, of the British army, has been appointed chief medical officer in charge of the *Maine*. One of his assistant surgeons will be English, the others Americans. With the staff sailing Sunday was taken an ambulance, selected as the latest and best product of army experience, which was the gift of Mrs. Whitelaw Reid, to whom was entrusted the work of selecting the nurses. About thirty more nurses, both men and women, will be sent next week.—The Duke of Newcastle has undertaken to pay all expenses necessary to the fitting out of the second hospital ship, the *Princess of Wales*, formerly the *Midnight Sun*.—The statement that the British artillerists fired upon a Red Cross ambulance turns out to be true, but according to the account given by a Boer clergyman the occurrence was accidental. The ambulance was close to the firing line, and was hidden from the view of the British. One shot went through the ambulance, but as soon as it was seen what had been done, the British ceased firing in that direction. The persistent reports that the Boers had fired upon the Red Cross flag are doubtless explainable in the same way.—Scarlet fever has broken out in the barracks of the Horse Guards, Blues, and this will probably cause a postponement of their departure for South Africa.—A woman physician of London wrote to the Marquis of Lansdowne, Secretary of State for War, volunteering her services as a physician in South Africa. In his reply the secretary expressed his appreciation of the offer, but said that he was not prepared as yet to allow women physicians to join the forces in the field.—An appeal has been published in Vienna for subscriptions in aid of the Boer wounded, and several surgeons have left that city to join the medical staff of the Transvaal army. The Italian Red Cross Society has sent medicines to the Boers, and will provide fruit for the wounded on the British side.—It is said that the men wounded in the recent battles recover with marvellous rapidity, many reporting for duty within two weeks after being shot. The rifles of the Boers are Mausers, and the wounds made by them are small and clean, and, unless a vital part is pierced, heal *cito, tuto et jucunde*. This is similar to our own experience in Cuba. Wars will never cease if something is not done to make them more sanguinary and horrible, and therein lies the mistake of peace conferences and Red Cross conventions.

**The Plague** has reached Lorenzo Marquez on Delagoa Bay, near which it has prevailed for some time past. In reporting the appearance of the plague in Paraguay, the Buenos Ayres *Herald* suggests that it may be merely a visitation of the pigue or sand-flea, the bite of which is exceedingly poisonous and often gives rise to glandular swellings.

**Craig Colony Prize for Original Research in Epilepsy.**—Last year Dr. Frederick Peterson, president of the board of managers of the Craig Colony for Epileptics, offered a prize of $100 for the best original contribution to the pathology and treatment of epilepsy. The seven papers received were submitted to three members of the New York Neurological Society, who decided that no award should be made this year. Some of the essays submitted failed to comply with the conditions of the competition, others were more limited in scope than a successful essay should be. The prize of 1899 not having been awarded in accordance with the report of the committee, Dr. Peterson now offers a prize of $200 for the year 1900 under similar conditions. This sum will be awarded to the author of the best contribution to the pathology and treatment of epilepsy. Originality is the main condition. The prize is open to universal competition, but all manuscripts must be submitted in English. Each essay must be accompanied by a sealed envelope containing the name and address of the author and bearing upon the outside a motto or device which is to be inscribed upon the essay. All papers will be submitted to a committee, consisting of three members of the New York Neurological Society, and the award will be made upon its recommendation at the annual meeting of the board of managers of the Craig Colony, October 9, 1900. Manuscripts should be sent to Dr. Frederick Peterson, No. 4 West Fiftieth Street, New York City, on or before September 1, 1900. The successful essay becomes the property of the Craig Colony and will be published in its medical report.

**The St. Louis Academy of Medical and Surgical Sciences** held its annual meeting on November 7th and elected the following officers: *President*, Dr. James Moores Ball; *Senior Vice-President*, Dr. William Porter; *Junior Vice-President*, Dr. H. G. Nicks; *Secretary*, Dr. R. B. H. Gradwohl; *Treasurer*, Dr. Emory Lanphear; *Orator*, Dr. J. C. Murphy; *Curator and*

*Librarian*, Dr. Robert Edward Wilson. At the same meeting Dr. Lanphear read a paper on "Some Practical Points in the Treatment of Diseases of Women," and Dr. B. S. Simpson presented his thesis, "Report of a Case of Exophthalmic Goitre Treated by Sympathectomy."

**Ptomain Poisoning.**—Fifty members of the Forty-second Volunteer Infantry at San Francisco were recently the victims of ptomain poisoning caused by hash made with tainted meat.

**Smallpox in Chicago.**—Several cases of smallpox have been brought into Chicago from Storm Lake, Iowa, where the disease exists among the laborers on the railway.

**The Medical and Chirurgical Faculty of Maryland.**—The programme of the Medical and Chirurgical Faculty, the State society of Maryland, to be held at Westminster, November 14th, is as follows: After an address of welcome, to which the president, Dr. G. Birnie, will reply, the first paper will be by Dr. E. F. Cordell, on "The Medical and Chirurgical Faculty's Contribution to the Welfare of the State." Dr. William Osler will then speak of the "Home Treatment of Consumption," which paper will be discussed by Dr. C. S. Millet, of Brockton, Mass. The title of a paper by Dr. James H. Billingslea, of Westminster, has not yet been announced, but it will be followed by an article by Dr. Charles R. Foutz, of Westminster, on "An Interesting Case of Cystitis." "Excision of the Pylorus for Carcinoma, with Report of a Case," will be the subject of Dr. J. H. Branham's paper, and Dr. J. C. Hemmeter will be heard from on "The Use and Abuse of Hydrochloric Acid in Gastric Disease." After luncheon is served, Dr. A. D. McConachie will read a paper on "The Naso-Pharynx in Relation to Aural Disease," and Dr. H. H. Young one on "The Recent Methods of Treating Hypertrophied Prostate by Electro-Cautery." Dr. Simon Flexner and Dr. L. F. Barker, who have just returned from the Philippines, will then read articles on "The Medical Conditions in the Philippines and India"; while the concluding papers will be on "Typhoid Fever in the Country Districts," by Drs. J. S. Fulton, C. Hampson Jones, C. M. Ellis, and V. M. Reichard.

**College of Physicians of Philadelphia; Section on General Medicine.**—At a stated meeting held November 13th, Dr. W. G. Spiller exhibited a case of post-hemiplegic hypertonicity in a girl aged about seventeen years, who had a convulsion at the age of three months and presented paresis and slightly retarded development of the right side of the body, with marked flexor tonic spasm of the right hand, at times relaxing, with average intelligence and without aphasia. Dr. Spiller exhibited also a case of Jacksonian epilepsy with hemianopsia and monohypertonia, occurring in a young man who, in diving in water, had struck his head on a brick and had been trephined, but without relief. Dr. F. A. Packard reported two cases of traumatic tetanus with somewhat unusual features. One occurred in a boy aged nine years, who was injured by the discharge of a toy pistol. Death ensued in spite of treatment with tetanus antitoxin, physostigmine, chloral, bromide, and oxygen inhalations. The other followed a lacerated wound of the forehead by the twig of a tree, and symptoms of facial palsy appeared concurrently with those of tetanus. Death resulted in spite of frequently repeated full doses of carbolic acid. Dr. D. J. McCarthy read a paper entitled "Narcolepsy," in which he contended that the condition is merely a symptom which may attend a number of conditions, such as hysteria, epilepsy, intoxications, etc. Dr. J. D. Steele reported a case of typhoid fever with concurrent malarial infection. The chills and the malarial pyrexia appeared during the typhoid defervescence, and seemed to dissipate the remnant of typhoid fever.

**Navy Department,** Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending November 11, 1899. November 3d.—Passed Assistant Surgeon R. G. Brodrick ordered to Washington, D. C., November 17th, for examination for retirement, and then home and to wait orders. November 4th.—Surgeon O. D. Norton detached from the *Ranger* and ordered to the *Monadnock* via the *Solace*. Passed Assistant Surgeon R. K. Smith detached from the naval hospital at New York, and ordered to the naval hospital at Mare Island, Cal. Assistant Surgeon O. M. Eakins ordered to the Naval Academy. Assistant Surgeon W. M. Wheeler ordered to the naval hospital at New York. Assistant Surgeon H. E. Odell detached from the naval hospital at Mare Island, Cal., and ordered to the *Ranger*. November 6th.—Medical Director R. A. Marmion promoted to medical director. Medical Inspector M. H. Simons promoted to medical inspector. Surgeon L. G. Heneberger detached from the *Indiana* November 10th, and ordered home and to wait orders. Surgeon W. A. McClurg ordered to the *Indiana* November 10th. Passed Assistant Surgeon G. D. Costigan promoted to passed assistant surgeon.

**Surgeon-General Sternberg's Report,** which has just been made public, dwells at length upon the health of the troops in the tropics and at home, the casualties and losses in battle and in hospital, and the care of the sick and wounded. The number of deaths, including the regulars and volunteers from May 1, 1898, to June 30, 1899, is given as 6,619. Of these, 496 men were killed in battle and 216 by accident, 202 died from gunshot wounds, 2,774 from typhoid fever, 476 from malarial fever, 359 from pneumonia, 342 from diarrhœa and dysentery, and 185 from yellow fever. General Sternberg attributes the prevalence of typhoid fever to the unsanitary condition of many of the camps where the disease became epidemic, and the failure to suppress the disease to the inexperience of regimental and line officers and want of discipline among the men. He says it has been his endeavor that the sick and wounded should be supplied with every comfort and restorative, and the surgeons with every appliance that modern science could suggest in the treatment of disease and injury. Concerning the

preparation for the future, he remarks that "the value of the aphorism, 'In time of peace prepare for war,' has received additional support during our recent experience. This preparation should include a corps of trained medical officers larger than is absolutely necessary for the army on a peace basis, and systematic instruction in military medicine and hygiene for the medical officers of the National Guard, as well as for those of the regular army; also instruction of line officers in the elements of hygiene, and especially in camp sanitation. It should also include the establishment of camping grounds in various parts of the country, having an ample supply of pure water, a proper system of sewers, etc. If our volunteers could have been assembled in such camps during the late war a saving in lives and money would have resulted, which would, without doubt, have demonstrated the economy of such preparation for war in time of peace."

**The Late Dr. Hamilton Mailly.**—The following resolutions were adopted at a meeting of the Bridgeton, N. J., Hospital staff, on November 1, 1899:

"*Whereas*, The death of Dr. Hamilton Mailly has taken from the hospital staff of the Bridgeton Hospital one of its most valued members; and

"*Whereas*, During the time that Dr. Mailly had served on the staff he had by his professional ability and attainments, by his unfailing courtesy and his always ardent devotion to what he believed to be right, given character and dignity to the honorable profession of which he was a member:

"*Resolved*, That the staff place on record their sincere regret at his untimely death, as well as their high appreciation of his many qualities of mind and heart which led them to respect him as a man and honor him as a physician.

"John H. Moore, David H. Oliver, Ellsmore Stites, Committee."

**The Death of Dr. Edward Bleecker.**—At a special meeting of the Flushing Hospital staff, held on November 6, 1899, in memory of their late associate, Dr. Edward Bleecker, of Whitestone, the following minute was unanimously adopted:

"In the sad Providence which has removed from among us our late associate we hasten to record this tribute of our esteem and affection as a meagre memorial to his high character and sturdy manhood. Had Dr. Bleecker sustained no other relationships, his commanding position as a leader of men, his numerous and honorable official positions, and his wide sympathies with all that affected the people among whom his life was spent, were enough to mark his career as aside and above that which falls to most men.

"As his professional associates we add our hearty testimony to his varied and rare accomplishments as a physician. Removed at a time when all his powers were at the climax, wise in counsel and always resourceful in expedient, he won our admiration and commanded our respect in emergencies where unfaltering courage could alone save life. To us his untimely death brings a sense of irreparable loss only less than to those of his immediate family. To them we extend our deepest sympathy in a bereavement that, after all, only time can assuage and heal."

**Obituary Notes.**—Dr. Walter J. Hoffman, United States consul at Mannheim, Germany, died at his home at Reading, Pa., on November 8th, at the age of fifty-three years. He was graduated from Jefferson Medical College in 1866, and at the outbreak of the Franco-Prussian War received a commission as surgeon in the Prussian army. After returning to America he was, in 1871, made an acting assistant surgeon in the United States army, and naturalist to the expedition for the exploration of Nevada and Arizona. In 1872 he was ordered to the military post at Grand River agency, Dakota, where he served as post-surgeon and prosecuted researches in the language and mythology of the Dakota Indians. He accompanied many expeditions, and later became connected with the Smithsonian Institution at Washington. He was for a number of years associated with the Bureau of Ethnology, and was a recognized authority on this subject. He devoted many years to the study of the Indians, concerning whom he wrote a good deal, and he was admitted into a number of tribes. He was variously honored by the Emperor of Germany, the King of Norway and Sweden, and other important personages and bodies.—Dr. Dilwyn P. Pancoast, of Mullica Hill, N. J., died in Camden, N. J., on November 4th, at the age of sixty-three years. He was graduated from the medical department of the University of Pennsylvania in 1856, entering the army in 1863, and remaining in the service until the close of the Rebellion in 1865.—Dr. W. H. Beane died at Middletown, Pa., on November 8th, at the age of sixty-two years.—Dr. John A. McCreery died at his home in this city on November 11th. He had been in poor health for several months. Dr. McCreery was born in this city on January 6, 1850. He was graduated from Bellevue Hospital Medical College in 1871, and in 1874 received the degree of M.R.C.S., London. He began practice in this city in 1875. He was visiting surgeon at St. Vincent's Hospital, and was a member of the County Medical Society, the Academy of Medicine, and the Pathological Society. A widow and three children survive him.—Dr. James M. Morrison, of Baltimore, Md., died at his home in that city on November 13th, from injuries received at the hands of two burglars. He discovered them in his house one night about two weeks ago and attempted to drive them off, but they threw him down and stamped on him most brutally. Dr. Morrison was born in Maryland in 1837, and was graduated from the University of Maryland School of Medicine in 1859. At the beginning of the Civil War he received a surgeon's appointment and was commissioned in the Fourth Pennsylvania Cavalry. He was afterward transferred to the Forty-eighth Pennsylvania Infantry, and served with distinction throughout the war, and took an active part in some of the greatest engagements. Soon after the close of the war he was commissioned in the regular army. He was in Custer's command at the time of the latter's death, but left the army soon after and took up private practice in Baltimore.

## Therapeutic Hints.

**Treatment of Appendicitis by Absolute Repose.**—Dr. Romme (*Presse Médicale*) describes the method of treatment of appendicitis at the "Bethanien" Hospital of Berlin, the principle of which is complete rest. After the acute symptoms have subsided he recommends the removal of the appendix.

**Gastric Ulcer.**—Absolute rest in bed, nourish by rectal enemata, and apply cold compresses to the stomach. Codeine by the mouth, or morphine hypodermatically to lessen peristalsis and partly to narcotize the patient, should be given; also, the alkaline mineral waters, or five grains of bicarbonate of sodium, followed by a little whiskey and milk.—J. C. Wilson.

**Quinine Hypodermically.**—It has long been a desideratum in the practice of medicine to procure a solution of quinine which can be administered hypodermically without causing irritation to and blistering of the cuticle. I have for the past two years been using a fifty-per-cent. solution, dissolved in muriatic acid, which produces no ill effect whatever, and also find excellent results from giving the same liquid in capsules. Muriatic acid being native to the stomach assimilates more readily than either tartaric or sulphuric acid, and the quinine is dissolved more rapidly and thoroughly than it can be with the other two acids. I have used this solution (fifty per cent. of quinine in muriatic acid) in unusually large doses without any of the uncomfortable results generally attending the use of sulphate of quinine, giving as much as thirty grains in capsules without any resultant headache or ringing in the ears. The quinine acts directly and happily, administered in capsules holding ten grains each. I therefore recommend the formula to the profession used as above stated.—N. S. Lincoln, M.D., Washington, D. C.

**Treatment of La Grippe.**—Absolute and prolonged rest in bed until after all fever has disappeared and the principal symptoms have been ameliorated, notably pulmonary manifestations; an exclusive liquid diet, consisting of milk, coffee, mild stimulants, and hot drinks. The coffee is useful as a diuretic and to antagonize nervous depression. Gargling with some mild antiseptic, and spraying out the nose with a liquid alboline containing three to six grains of menthol to the ounce, is advised. In symptoms of great nervous depression, sore throat, hoarseness, fever, and other manifestations of respiratory difficulty, quinine is the remedy, the hydrochlorate being preferred, given in doses of ten to fifteen grains three times in twenty-four hours in cachets. Should the stomach be intolerant, it may be given by the rectum, dissolved in the proper quantity of hot water, or suppositories of hydrochlorate of quinine may be used. Antipyrin seems to be of value in combating fever and quieting pain, but it often is a dangerous remedy in old persons. If the temperature is very high, warm baths, continued for fifteen to twenty minutes, are advisable. To overcome congestion in the pulmonary mucous membranes, from ten to fifteen grains of chloride of ammonium and five to ten grains of Dover's powder may be given in the course of the day. To overcome cough and produce sleep, opium, morphine, or codeine may be used.—*Public Health Journal.*

**Quinine as a Specific in Malarial Hæmaturia.**—Dr. L. G. LeBeuf read a paper at the last meeting of the Louisiana State Medical Society on the subject of quinine in hæmaturia, and reported four cases of the worst type of hæmaturia. He contends that the only specific remedy is to be found in the alkaloids of Peruvian bark. In Louisiana and the South generally the custom is to use turpentine, ergot, strychnine, and counter-irritants, but rarely quinine. In opposition to the various authorities who oppose quinine are all the modern text-books and especially the writings of Hare in the Medical Record, and James Tyson. To-day, with the use of the microscope and urinalysis an exact diagnosis can always be arrived at, and while the experience of others shows that quinine should be exhibited carefully, as it is an irritant to the genito-urinary tract and produces some peculiar metabolism in the circulation, its use should not be condemned, but on the contrary it should be administered judiciously, and a middle course adopted to avoid possible dangers.—C. Jeff Miller.

**Urinary Infection—Its Prevention.**—Dr. J. Henry Dowd (*Buffalo Medical Journal*, May) writes as follows: "Conscientiously, I cannot recommend internal medication for the destruction of bacteria developing along the genito-urinary tract; furthermore, urinary antiseptics have been overestimated, except in tuberculous conditions, where creosote or its derivatives will, to a certain extent, prevent the growth of these specific bacteria. To be sure, drugs recommended for this purpose, when placed in freshly passed urine, will keep it for a longer time without other development than if no drug was used, but the same drug passing through the system, meeting as it does the different chemical substances, to my thinking, is so changed that when it reaches the urine the power of bacterial destruction is lost. Bacteriuria has a definite cause; discover and remove this, and these germs will disappear from the urine. Of the numerous cases which I have been called to operate upon for retention, extravasation, and the like, with but an hour's notice, my results have been just as good as though these patients had been medicated for two or three days previously in trying to obtain an impossibility. Remember the fact that it is just as possible to have an antiseptic operation field here as it is for the abdominal surgeon to have the same."

**Treatment of Acute Rheumatism.**—Dr. Henry B. Fahill (*Journal of the American Medical Association*, May 13th) writes as follows: "I venture to outline a routine, which I would apply to a typical case: (1) Empty the bowels thoroughly, preferably with a sharp mercurial. (2) Administer salicylate of soda to its full and analgesic effect; if it is not well borne by the stomach, its equivalent, oil of wintergreen. If it is contraindicated by cerebral conditions use antipyrin, or the coal-tar preparations best adapted. If these are contraindicated by conditions of the heart or nervous system, use opium. At all events, control the pain. (3) As the pain is controlled by such means, aided by local measures, principally heat and immobilization, gradually draw away the salicylic element and saturate the system with alkalies, continued until the active process seems controlled. (4) Finally, while giving alkalies or after it, administer iron, provided the condition of the bowels and liver permits. (5) At all times, and incessantly, strive to promote intestinal hygiene, by mercurial, cholagogue, or saline cathartics."

**Formaldehyde** in four-per-cent. solution, taken by mistake, caused death in a man of twenty-six years, twenty-nine hours after being swallowed. There was early vomiting with traces of blood, and emesis was encouraged by apomorphine hypodermatically. Subcutaneous injections of strychnine with sparteine and nitroglycerin by the mouth did not counteract the signs of heart failure, which showed themselves sixteen hours after the dose had been taken.—*The Medical Press*, September 20th.

**Threadworms.**—In the treatment of threadworms large injections must be used, and in view of the difficulty of dislodging the worms from the appendix, and their possible presence in the small intestine, the injection should be combined with the administration of drugs by the mouth. The vermiform appendix is a common habitat of oxyuris vermicularis in children. —STILL.

**Emetic for Infants.**—

℞ Pulv. ipecac..... 0.50 cgm.
Antimonii et potassii tartrat..... 1 gm.
Oxymel. scillæ..... 10 "
Aq destill..... 20 "
M. S. Teaspoonful every ten minutes until vomiting occurs (for a child from six to ten years of age).

—BAGINSKY.

**Neuralgia.**—

℞ Ext. hyoscyami..... 0.12 cgm.
Ext. valerian..... 0.20 "
Morphin. hydrochlor..... 0.01 "
Pulv. glycyrrhizæ..... q.s.
For one pill. Make xx. S. One morning and night, or not more than three in twenty-four hours.

—BASTIÉ.

**Oxyuris Vermicularis.**—

℞ Tinct. eucalypti..... 5
Tinct. myrrhæ..... 2
Sodii biborat..... 3
Aquæ..... 500
S. As an injection.

**Ankylostoma Duodenale in Infants.**—

℞ Extr. filicis maris..... 2
Ol. ricini..... 10–15
Syr. menth..... 30
To be taken in two doses.

**Tænia Inermis.**—

℞ Pelletierin. sulphat..... 0.40–0.50
Tannin..... 1.20–1.50
Aquæ..... 100
To be taken in two or three doses

—SCHEFFER, *La Méd. Mod.*, September 20th.

**Psoriasis.**—

℞ Sodii arsenit..... gr. i.
Sodii salicylat..... gr. xlv.
Sodii bicarbonat..... ʒ ij.
Syrupi..... ʒ viij.
M. S. A dessertspoonful after each meal.

—BROCQ.

**Thallium**, which has been used in the night sweats of phthisis, has been found in several instances to produce marked falling of the hair. Huchard reports one instance after four doses of gr. iss. each.—GUINARD, *Jour. des Pratic.*

**Urticaria.**—Phosphate of soda in supersaturated solution and in drachm doses. Locally:

℞ Pulv. calamin.,
Zinci oxidi..... āā ʒ iss.
Acidi carbolici..... ʒ ss.
Aquæ calcis..... ʒ ij.
Aquæ rosæ..... ad ʒ iv.
M. S. Apply frequently and freely.

—WOLFF.

**Pain and Tenesmus of Dysentery.**—

℞ Cocain hydrochlor..... gr. i
Ext ergotæ aq..... gr xij.
Aristol..... gr. v.
Ol. theobrom..... q.s
M. et ft. suppos. No. xii. S. One to be applied every hour.

—TAYLOR AND WELLS.

**Strychnine** should be given early in all cases of depression in acute affections, *i.e.*, as soon as the first indication of depression manifests itself, and in sufficient doses to accomplish the purpose. In chronic affections, if it is to be kept up for months, diminish the dose or withdraw when the first symptoms of physiological action manifest themselves.—UPSHUR.

**Cholera.**—

℞ Oil peppermint..... ʒ iv.
Chloroform..... ʒ iv
Fl. ext. ipecac..... ʒ iiiss.
Fl. ext. valerian..... i.–ʒ ij.
Tinct. opium deod..... ʒ iss.
Ether..... ij.
Alcohol..... ʒ vi.
Sherry wine..... sufficient to make ʒ xvi.
M. S. Adult dose is twenty-five to thirty drops, in a small glass of water every twenty minutes, until relief is obtained.

—THIELMAN.

**Fetor of the Breath.**—

℞ Powdered coffee..... 45 parts.
Vegetable charcoal,
Powdered sugar..... each 15 "
Vanilla.
Mucilage of gum arabic..... a sufficiency.
M. Divide into pastilles of gr. xv. each. Five or six to be chewed daily.

—*Journal de Médecine de Paris*, January.

**Liniment for Hemorrhoids.**—

℞ Extr. hamamelidis fl.,
Extr. hydrastis fl.,
Tinct. benzoini comp..... āā ʒ iv.
Tinct. belladonnæ..... ʒ i.
Ol. olivæ carbolisat. (five per cent.)..... ʒ i.
M. S. For inunction two or three times a day.

—ADLER.

**The Best Anti-Fermentative.**—

℞ Ol cajuputi..... gtt. iij.
On sugar. Repeat.

—MURRELL.

**Catarrhal Conjunctivitis.**—

℞ Protargol..... 1–2 gm.
Aq destillat..... 10 "

This makes a caustic solution to be applied with some caution.—A. DARIER.

**Nephritis.**—

℞ Tinct. grindeliæ robust..... 30
Tinct. convallariæ majalis..... 10
Tinct scillæ..... 5
M. S Fifteen drops three times daily.

—IMMERWAHR.

**Malignant Syphilis.**—Inject from twelve to fifteen ounces of Hayem's solution by four or five subcutaneous punctures at intervals of five or six days.

℞ Sodii chloridi..... 7 parts.
Sodii phosphat..... 2 "
Aquæ..... 1,000 "

—AUGAGNEUR.

**Dyspnœa of Fibroid Phthisis.**—

℞ Sodii chloridi..... 10 gm.
Sodii bromidi..... 5 "
Sodii iodidi..... 1.5 "
Aquæ destil..... 100 "
M S. One to three teaspoonfuls daily in milk.

—POTAIN.

**Epilepsy with Weak Heart.**—

℞ Potassii bromidi..... ʒ v.
Syrupi acaciæ..... ʒ i.
Infusi adonis vernalis..... q s. ad ʒ xvi.
M. S Tablespoonful in water after meals.

**Creosote Cachets.**—

℞ Creosoti,
Benzoin..... āā 0.10 cgm.
Pulv. carbo. lig..... 0.60 "

—MAURANGE.

**Incontinence of Urine** in the female due to lack of power in the vesical sphincter is relieved, according to the *Journal of Medicine and Science*, by minim doses of tincture of cantharides well diluted.

# Reviews and Notices.

Interstitial Gingivitis, or So-Called Pyorrhœa Alveolaris. By Eugene S. Talbot, M.D., D.D.S. Philadelphia S. S. White Dental Manufacturing Company. 1899.

This is a much more comprehensive work than one upon the same subject recently reviewed in these columns. The author goes deeper into several of his subjects—notably the pathology. It must not be thought that Rigg's disease interests the dentist alone. It may have a decided influence upon the whole subject of mastication as influencing digestion and nutrition, and upon constitutional disturbances of various natures. The work is well illustrated, and shows much original thought and investigation.

The Hygiene of Transmissible Diseases: Their Causation, Modes of Dissemination, and Methods of Prevention. By A. C. Abbott, M.D., Professor of Hygiene and Director of the Laboratory of Hygiene, University of Pennsylvania. Octavo volume of 311 pages. Illustrated. Philadelphia. W. B. Saunders.

Taken in part from the author's lectures at the University of Pennsylvania, the subject matter has been modified so as to deal with preventable diseases. The foundation has been laid in authorities considered most trustworthy in the various departments, and the views of many are often given without the author committing himself definitely. Frequent requests coming to the writer for the details of management of transmissible disease have prompted him in the preparation of this work, and the reader will often find answered just the kind of questions he would himself have propounded. Many useful suggestions concerning the care of the patient's surroundings, bed, room, clothing, excreta, attendants, etc., will be found. Formalin diluted with glycerin and used in a generator is preferred for room disinfection. The subject of hygiene, especially in the present connection, is of vast importance, and such a work as that now presented should find many readers.

Asthma: Recent Developments in its Treatment. By Ernest Kingscote, M.B., C.M., L.R.C.S. Edin., Author of "So-Called Spasmodic Asthma." With colored frontispiece and illustrations. London: Henry J. Glaisher. 1899.

This is in many respects an interesting work, in that recent views are brought forward, and, in a subject to which the author has evidently devoted much attention, he is enabled to give valuable personal experience concerning the conditions of the heart found in this class of patients. The Schott treatment is highly thought of, and the author finds that bringing back the heart to its normal size is of the greatest benefit. Vagal implication and irritation, vagal pressure, vagal autotoxic neuritis have all been discussed. The actual study of asthma proper begins at Chapter XII., on page 89. There are in all one hundred and sixty-eight pages of text. Many theories will be found advanced with which perhaps the reader cannot at once agree, but the work should stimulate to further observation and study.

Diseases of Children. By C. Sigmund Raue, M.D., Visiting Physician to Children's Homœopathic Hospital and Chief of Children's Clinic, Philadelphia; Visiting Physician to Children's Wards in the Woman's Homœopathic Hospital, Philadelphia, etc. Philadelphia: Boericke & Tafel. 1899.

This is a work based upon personal clinical experience, observation, and the results of treatment as studied at the bedside. Including the index, there are four hundred and seventy-three pages in which the various ailments of infancy and childhood are depicted. The commoner forms of skin diseases occupy a separate chapter, written by Dr. Ashcroft, who is lecturer on venereal diseases in the Hahnemann College of Philadelphia. The chief distinction made is between diseases due to external irritants and those depending upon the "psoric taint." Vaccination is looked upon as playing a rôle in the causation of eczema, and parasitism is considered largely responsible for the pustular form, especially that of the scalp. The differentiation from syphilis is inadequate. While it is claimed that eczema is due largely to the existence of a psoric taint and can be successfully eradicated only by the administration of a well-selected internal remedy (graphites, rhus, hepar, sulphur, etc.), still the usual list of external remedies—including ichthyol, which is highly spoken of—is given, and we are told that the external exciting irritant must be removed. Ecthyma is considered a disease of adult life only. Fisher's prescription for scabies calls for sulphur and balsam of Peru, each ʒ iiij. (*sic*); lard and vaseline, each ʒ ss.—which looks very much like equal parts of all. Dr. Bayley, lecturer on mental and nervous diseases in the college, is given credit for suggestions in the chapter on diseases of the nervous system. The indication of the remedy without definite direction as to dose to meet the varying conditions and ages, would seem to constitute a weak feature of the work.

Pocketbook of Medical Practice, Including Diseases of the Kidneys, Skin, Nerves, Eye, Ear, Nose and Throat, Obstetrics, Gynæcology, and Surgery. By Ch. Gatchell, M.D., Editor of *Medical Era*, Professor of Diseases of the Chest and Physical Diagnosis in the Chicago Homœopathic Medical College. Chicago: Era Publishing Company. 1899.

This is a small, neatly bound volume, similar to several pocket formularies on the market. The therapeutic part, dealing as it does with homœopathic drugs and doses, contains no formulæ, which is the chief feature of the little works recently put out by several publishing houses. The local treatment is almost wholly founded on old-school lines. Though several chapters have been especially prepared by those identified with the particular branch, much is left to be desired in the description and diagnosis of many diseases. The paper is too thin, allowing the print to show through. An appendix contains bacteriology, diet, baths, poisons, antidotes, etc.

Progressive Medicine. Vol. III. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth. 440 pages, 11 illustrations. Philadelphia and New York: Lea Brothers & Co.

The contributors to the third volume of this year book are William Ewart, Richard Norris, William Spiller, and Henry Stelwagon. The first discusses the diseases of the thorax and its viscera, the second covers the field of obstetrics, Spiller treats of diseases of the nervous system, and Stelwagon of those of the skin. The editors of the different departments have done their work in a conscientious manner, and, while not taking in all that might be considered "progressive," they have not encumbered the pages with much that is already known by text-book readers and students in general. The majority of the references are to journals of 1898, and those who have kept abreast of the time in any particular branch by reading weeklies and monthlies may find little which will be actually new to them. Unless, however, they have prodigious memories, they will take both profit and pleasure in going again over the ground in company with such able abstractors and commentators as have had these four subjects in hand.

Thérapeutique Obstétrical. Par le Docteur A. Auvard. Deuxième édition. Avec 129 figures dans le texte. Pages 331. Paris: Octave Doin. 1899.

The flexible morocco covers of this little volume prepared for students' use and handy reference make it very attractive, and remind an American of the celebrated Baxter's Bible, so much carried about by Sunday-school teachers and like godly-minded folk. The illustrations are very well executed, and are clear and practical. The book forms one of a series of which there are to be forty volumes, which deal with medical and surgical therapeutics. The work contains much besides the actual treatment of obstetrical conditions, since it is necessary for the complete understanding of the subject. Instruction for Americans from the French point of view in the matter of obstetrics might be thought to be bringing coal to Newcastle, but the student and physician will see matters with French eyes in reading the work, and will get ideas which will enlarge those already possessed and suggest new trains of thought.

# Society Reports.

## THE NEW YORK PATHOLOGICAL SOCIETY.

*Stated Meeting, October 11, 1899.*

T. Mitchell Prudden, M.D., President.

**Carcinoma Gelatinosum Mammæ (Carcinoma Mucosum).**—Dr. E. Hodenpyl presented this specimen. He said that it was of comparatively rare occurrence, and when the specimen first came into his possession he imagined it might be almost unique, at least so far as the situation of the lesion was concerned. He had found, however, in Ziegler's "Pathology" a very good short description of gelatinous carcinomata of the breast, with a drawing of a case similar to his own; and in Bruns' *Beiträge*, 1896, vol. xvi., he had found an elaborate monograph on this subject by Dr. Fritz Lange. The latter contained a *résumé* of all the recorded cases, seventy-five in number. Roger Williams, in his new text-book on "Tumors of the Breast," had stated that, although the disease had been described, he had never met with a case. The patient from whom this tumor had been removed was admitted into Roosevelt Hospital, on account of a tumor in the left breast. She stated that it had been there "as far back as she could remember." For many years it had been about the size of an egg, was hard and painless, and showed little if any tendency to increase in size. A year and a half before its removal the mass had been struck a severe blow, in a fall, and after this it had increased in size. About three months before coming under observation she had accidentally struck the breast again. Shortly after this an opening formed near the nipple, from which dark bloody fluid had escaped. Since this second traumatism the increase in growth had been quite perceptible, and the breast had become tender. Examination had shown a tumor, about four inches in diameter, which was unusually hard. The mass was freely movable, and apparently not adherent to the pectoral muscle. No axillary lymph nodes were palpable; there were no disturbances of sensation in the left arm; there was no cancerous cachexia. The patient stated that she had recently lost some flesh and strength. When Dr. McBurney first saw the case, he was in some doubt as to its nature, and had accordingly requested the speaker to make a preliminary microscopical examination at the time of operation. The examination was, in this case, particularly puzzling, for the reason that the mass submitted and removed from the densest portion of the tumor resembled a quantity of jelly-like substance. On section, it presented a general alveolar arrangement of the connective tissue, the spaces of which were filled with a homogeneous, transparent, jelly-like substance. He concluded that the tumor was a carcinoma which had undergone extensive degeneration. The entire breast, including the axillary contents and pectoral muscle, was removed, and the patient made a satisfactory recovery. The tumor, which was exhibited, was hardened in formalin. It had to a great extent replaced the mammary gland, and consisted largely of a soft, jelly-like substance. In places there were old hemorrhagic extravasations. It was partially encapsulated and contained some calcareous patches. There was a single enlarged lymph node between the tumor and the pectoral muscle, and two or three very small axillary nodes had been dissected out. In the microscopical examination made by Dr. Hodenpyl he had found nothing in the central portion other than alveolar arrangement, the spaces being filled up with a gelatinous material. It was only near the periphery that one could find the usual evidences of carcinoma—alveoli filled with epithelial cells. The lymph nodes were not involved. In all of the sections of the tumor, as well as the lymph nodes at a distance from the tumor, the blood-vessels contained numerous rather large and intensely black granules. Some of these granules were also scattered about in the tissues. The nature of these granules of pigment was afterward explained, when it was learned that the wound made in removing the specimen for microscopic diagnosis had been treated with the actual cautery to control hemorrhage. Dr. Hodenpyl said that, according to Lange, this gelatinous type was very much less malignant than the ordinary form of cancer of the breast. In many of the reported cases the tumor had existed for from six to eight years, and, in one instance, for twenty-three years before removal. As a rule, the tumors had not been larger than a walnut. Occasionally they reached the size of an egg. Ordinarily there had been no lymph-node enlargement. Calcareous degeneration was quite a common feature. Metastases had not been very common. Out of twelve recorded autopsies of individuals who died after removal of gelatinous cancers of the breast, metastases had been found in only five cases, and these had been most often present in the lungs or in the liver. Local recurrence had not been a frequent feature. Three of the cases had been peculiarly interesting, in that the individuals had carcinoma of both breasts. In one case the carcinoma on one side was gelatinous, and on the other side it was of the ordinary scirrhus variety. In another case the gelatinous form had complicated a Paget's carcinoma of the opposite breast. In still another, the carcinoma had been gelatinous on both sides. One instance had been reported in which it had occurred in the breast of a male. Lange had thrown no additional light upon the chemical nature of this peculiar substance. Johannes Müller had examined chemically a number of these cases without finding any mucin in them, but other observers were quoted who claimed to have found mucin. With regard to the source of origin of the gelatinous substance, Lange, agreeing with other observers, believed that, unlike the ordinary form of so-called "colloid carcinoma" of the stomach, it did not originate within the epithelial cells of the tumor. The jelly-like substance, as it increased in amount, caused a secondary atrophy and more or less total obliteration of the epithelium. This statement seemed to be borne out by sections from the speaker's case. It appeared probable that the gelatinous material had its origin in the connective-tissue elements of the growth, but more investigation was needed to clear up this point.

**Carcinoma Gelatinosum of the Stomach—Carcinoma Gelatinosum of the Lung.**—Dr. J. H. Larkin presented these two specimens of carcinoma gelatinosum in connection with the preceding. The first specimen was one of carcinoma gelatinosum of the stomach which had been removed from a man fifty-four years of age, who had given a history pointing to carcinoma, dating back six or seven months. The tumor in question occupied the anterior and posterior walls of the stomach, extending from the cardia to the pyloric end, along the lesser curvature, the only portion of the stomach not involved being the greater curvature at the pendent portion. The thickness of the stomach wall involved by carcinoma was about one to one and a half inches, the portion not involved being greatly thinned out. The pylorus was almost entirely occluded. The inner wall of the stomach over the infiltrating mass was changed into a trembling jelly. The peritoneum over the greater curvature was glistening and shining, while that over the tumor was lost and studded with myriads of tiny gelatinous masses. These small jelly-like bodies were also present on the mesen-

tery and the under surface of the diaphragm. There were no metastases in the other viscera. The noteworthy features of this specimen were the abrupt stoppage between the carcinoma and the more normal stomach wall at the greater curvature, the great thickness of the stomach wall and the direct extension of the infiltration through it, and the appearance of myriads of gelatinous masses in the mesentery.

Dr. Larkin also exhibited a gelatinous carcinoma originating primarily in the peritoneum. It had been taken from a woman, aged sixty-five years, who had not given any history of previous illness. She had died of chronic Bright's disease. At the autopsy myriads of small gelatinous masses under the pleura and in the substance of the lung were discovered. A thorough search had been made in the peritoneum, and alongside of the cœliac axis a small mass, about three-quarters of an inch in diameter, had been found. This had been removed, and it had then been found that the mesenteric glands back of the mass were enlarged and gelatinous. On microscopical examination of the tumor in the peritoneum it was found to be made up of irregular connective-tissue spaces lined with high cylindrical epithelium. The cavity was filled with gelatinous material, staining with hæmatoxylin, containing a few cells. The same appearance was presented in a node found on the superior surface of the liver. The small gelatinous metastases in the lung had presented the same irregular network of connective tissue made up of the connective tissue of the old walls of the air vesicles. The characteristics of the other tumors were still preserved. In the masses in the lung the mucous material was very abundant. The speaker asked for information regarding the proper classification of tumors of this kind.

Dr. P. A. Levene said that even mucin had not been studied very much by the physiological chemists. It had been considered to be a proteid combined with sugar. If considered to be a glucoside, one could not explain its pathological origin as a product of decomposition. If mucin was a proteid molecule having in it a carbohydrate, one would be inclined at the present day to look upon this material as a product of the function of the cell rather than of its decomposition. He was at present working on one of the mucins, and as far as he had gone he had been led to look upon it as a product of decomposition. He thought mucin consisted of two parts, one part being the product of metabolism—an acid which subsequently combined with a proteid.

Dr. Ernest E. Smith thought a good deal of confusion existed among chemists as well as among pathologists as to what mucin was, because they had attempted to include in the class of mucins all mucilaginous substances in the body. At one time he had undertaken a study of the mucous material of the alimentary tract, and had found that it was not mucin. He did not believe that the slimy material in the bladder was mucin at all. The mucous material of the intestine did not at all conform to the rather dogmatic requirements of chemists for this class of bodies, viz., that it should be composed of carbon, hydrogen, sulphur, nitrogen, and oxygen and that it should give a reducing substance when boiled with acids. Of course, true mucin was found in saliva and human bile. The other class of mucilaginous substances seemed to be more closely allied to the nucleoproteids Bladder and intestinal mucus, in his opinion, were of this latter class. He thought it probable that the gelatinous substances which were the result of decomposition or degeneration were allied to this class rather than to true mucin.

Dr. Levene said that Swedish investigators had shown that the mucin of the bile was not a true mucin, but a nucleoproteid. The trouble had been that formerly every proteid that gave a reduction test was considered a mucin, but it was now known that all the nucleoproteids contained a carbohydrate molecule. In his opinion, all the nuclein forms could be distinguished from mucin histologically by their behavior with staining agents.

Dr. Smith added that since the first statement had been made, that the mucous substance of the bile was a nucleoproteid and not mucin, the substance occurring in human bile had been investigated, and it had been found that mucin did occur in human bile. The original substance investigated had been ox bile, and this did contain nucleoproteid, and not mucin. The fact that nucleoproteids yielded a reducing substance when boiled with acid was no reason for confusing these compounds with true mucins, since, as already said, mucins contained only carbon, hydrogen, sulphur, nitrogen, and oxygen, while the nucleoproteids contained phosphorus in addition to these.

Dr. Prudden said that he did not know why in this country we were calling these tumors "colloid," as they did not contain the substance giving the chemical reactions of colloid as it was found in the thyroid gland. Germans called them "gelatinous," and this seemed to be a more appropriate term. There was a large group of hyaline materials appearing under a variety of pathological conditions in the body, and which, with our present knowledge, could not be definitely separated one from the other. It was perhaps wise, under these circumstances, to consider them as a group of hyaline substances which were yet to be differentiated by the chemists, and to which we should attach special names as the result of superficial microchemical tests only with considerable reserve. The metastases in the lung of Dr. Larkin's gelatinous carcinoma seemed especially interesting because in places, instead of forming its own stroma as it grew, it had made use of the walls of the air vesicles, so that in places these vesicular walls, recognizable by their capillaries, by pigment, and by form, were to be seen lined with cuboidal and cylindrical epithelium and filled with gelatinous substance. Under ordinary circumstances in the growth of a carcinoma, the increase in stroma and in epithelium went hand-in-hand, and one might well be in doubt which took the initiative. But here, the epithelial cells, having an appropriate base, seemed to have gone ahead on their own account. Thus these metastases, in addition to their intrinsic importance, seemed to afford a half-glimpse into that border-land of cell impulse toward which attention was so generally turning to-day.

**Tumor of the Nymphæ.**—Dr. Larkin presented for Dr. Matthews a large tumor that had been removed from the nymphæ of a negress, twenty-four years of age, who had given a definite history of syphilis, and of this growth having existed for one year. Microscopically the tumor was made up of œdematous connective tissue containing numerous blood vessels surrounded, for the most part, by small lymphoid cells. The question arose as to whether syphilis had anything to do with the tumor. Personally he did not think it had.

**Two Cases of Absence of One Kidney Associated with Presence of a Double Uterus.**—Dr. Leon T. Le Wald presented these cases. He said that while he had met with these two cases within a few days of each other, a search of the literature had confirmed his former opinion that they must be extremely rare. The left kidney had been absent in both instances. The first patient, a woman of forty-seven years, had died of an acute lobar pneumonia. There was only one ureteral opening in the bladder, and no trace of a ureter or kidney could be found on the left side. The kidney was double the normal size and weight. The internal genital organs showed a malformation in

the shape of a distinctly double uterus of the type known as "uterus bicornis." In the second case, that of a woman aged thirty-two years, there had been a pyonephrosis and a perinephritic abscess. An incision had been made into the abscess and into the substance of the organ. So far as known, no cystoscopic examination had been made, hence if the operation had been pushed further the only kidney present might easily have been extirpated. In this case there was also present a double uterus, but of a different type from the first case. Externally the uterus departed from the normal only in the appearance of a slight depression at the middle of the fundus, but internally it presented two distinct cavities opening into a single cervix—"uterus bilocularis." The absence of the left kidney was believed to be more common than that of the right. The relation between this anomaly and the occurrence of double uterus had not been determined.

Dr. Larkin said that he had met with two cases of absence of the kidney—in one it was the left, and in the other the right kidney that was missing. In one of these cases there had also been an adenoma of the kidney.

**Diverticulum of the Bladder.**—Dr. A. V. Moschcowitz presented this specimen that had been taken from a man seventy-three years of age, who had been admitted to the surgical ward of the Mount Sinai Hospital with the presumptive diagnosis of specific urethritis. The speaker had examined the patient at the time of his admission, and had found the body temperature to be 103.4° F. and the pulse 140. The patient stated that he had noted no special difficulty with urination up to one week previously, at which time there had been acute retention. Repeated but nearly futile attempts at catheterization had been made before coming to the hospital. The skin covering the dorsum of the glans penis was black and necrotic; there was a fetid purulent discharge from the urethra. There was a hard swelling a little back of the meatus. A diagnosis of impacted calculus in the urethra had been made, and after irrigation a calculus had been easily removed with the aid of forceps. A catheter of large size, and even a Thompson searcher, could then be introduced into the bladder without difficulty. The urethra and the bladder were freely irrigated, but there was nevertheless a continuous discharge of blood and pus, and the patient was badly septic. One week later suprapubic cystotomy was accordingly performed, and with the patient in the Trendelenburg position three calculi were removed. He had been surprised to note that at each inspiration, instead of at much longer intervals, there had been a jet of urine from one of the ureters. Closer inspection showed the opening to be not the ureter, but a diverticulum of the bladder filled with stones; these were removed. The patient had died of septicæmia the following day. Only a partial autopsy had been permitted. One ureter, instead of being in the natural place, was situated on the anterior portion of a diverticulum of the bladder. There were forty calculi in the diverticulum and three in the bladder proper.

**Tuberculosis of the Genital Tract.**—Dr. Moschcowitz also presented specimens from a case of tuberculosis of the genital tract. They had been taken from a man who had been admitted to the Mount Sinai Hospital with a swelling of the left epididymis. Nothing abnormal was felt in the spermatic cord or vas deferens. On rectal examination the corresponding seminal vesicle presented a nipple-like projection into the rectum. The case was considered an ideal one for a radical operation. Accordingly, an incision had been made along the scrotum and the testicle everted. The entire epididymis had then been dissected off without injury to the testicle. While the spermatic artery was compressed the testicle was inspected. As much of the vas deferens as possible was pulled out and a catgut ligature applied to the stump as a guide; then, the patient having been placed in the lithotomy position, a curved incision had been made around the anus, extending from one tuberosity to the other, and then by blunt dissection he had been able to reach up to and beyond the prostate. The seminal vesicle was then extirpated, being cut off as closely as possible to the ejaculatory duct. He had then taken hold of the stump and withdrawn the remainder of the vas deferens. It was now two months since the operation, and there had been no complication and no evidence of tuberculosis in the genital tract. The enlarged epididymis and the other organs, examined by Dr. Mandlebaum, pathologist to the hospital, showed numerous tuberculous abscesses and cheesy deposits. There was pus throughout the vas deferens and in the seminal vesicle.

**Changed Appearance of Diphtheria Bacillus.**—Dr. W. H. Park said that in having a photograph made recently of a diphtheria bacillus that had been under constant cultivation for four years, he had been struck with the change in its appearance. It was now twice as long as before and more slender, and did not present the appearance of the diphtheria bacillus, while before it was very characteristic in its clubbed forms.

**Antitoxic Globulins.**—Dr. Park, on behalf of Mr. James P. Atkinson, the assistant chemist in the research laboratory of the New York health department, presented a communication on the subject of antitoxic globulins. He stated that for two years past Mr. Atkinson had been testing the globulin in the antitoxin horses. He had thus found that the globulins increased as the antitoxin in the blood increased. It had been found that the globulin of normal horse serum and diphtheritic antitoxic horse serum, after separation from the serum by means of magnesium sulphate, might be separated into five fractions by the following method: The watery globulin solution was saturated with sodium chloride. This yielded a precipitate at the normal temperature. After filtering off this precipitate, a little more sodium chloride was added to the filtrate to insure saturation, and the temperature raised to 40° C. A turbidity appeared which, on raising the temperature higher, separated out in flocculi. At 45° C. the precipitate could be filtered off. At 49° C. the third precipitate commenced to come down, and at 53° C. it might be filtered off. The fourth precipitate came down between 57° and 62° C., and the fifth precipitate came out between 67° and 72° C. These precipitates were almost completely soluble in water. The 67–72° precipitate left a slight residue in water, but was soluble in dilute soda solution. An interesting feature of this process was that each one of these precipitates was antitoxic, and that the total globulin of the blood appeared to contain all the antitoxin, the moderate amount lost in the final precipitates being due, it is believed, to the effect of the heat used. Dr. Park added that they were going to give the antitoxic globulins to children instead of the antitoxic horse serum, to see if the rashes could not in that way be eliminated. By experimenting with these five globulins it was thought not improbable that more light could be obtained on this subject.

Dr. P. A. Levene said that it would be interesting to know if these different globulin precipitates varied in their physical characteristics. He was reminded of the experiments made at one time on Koch's tuberculin by Professor Kuhne. The conclusion had been reached in these experiments, that the toxin of the tuberculin was not chemically combined with these albumoses, but was merely carried down mechanically. The more flocculent the precipitate the more likely

was it to carry down the antitoxin mechanically. As to the increase of globulins in antitoxic horses he was not sure that the increase of the globulin was due entirely to the abnormal condition of the horse. In a study of artificial diabetes that he had made he had found that the quantity of globulin had increased as a result of the pathological state which existed.

Dr. Park replied that the horses which yielded the most antitoxin and seemed to be in the best condition yielded the most globulin. So far as he had observed, all these five globulins looked alike. As long as there was some globulin left in the serum from immunized horses, there was some antitoxin. No globulin from antitoxin serum could be extracted that was not, at least, feebly antitoxic.

## NEW YORK ACADEMY OF MEDICINE.

*Stated Meeting, November 2, 1899.*

William H. Thomson, M.D., President.

**The Pathology of Lobar Pneumonia as a Basis for Treatment.**—Dr. Andrew H. Smith read a paper on this subject. In using the term "pneumonia" he said that he desired to restrict it to the form variously designated as lobar, fibrinous, or croupous, the form which, in typical cases, was ushered in abruptly by chill and fever, and which, after from four to nine days, if the patient was to recover, ended suddenly by crisis. Pneumonia, he said, was not an inflammation of the lung, although pneumonitis could be produced at will in one of a great many ways. Inflammation, suppuration, and even gangrene might be produced, but it would not be pneumonia. There was one thing which introduced into the parenchyma of the lung would always produce pneumonia, and that was the pneumococcus. These facts served to differentiate sharply between pulmonary inflammation and pneumonia. It was not enough to admit the infectious nature of the disease and define pneumonia as an inflammation excited by the presence of a specific parasite. The parasite was unquestionably there, but it did not excite an inflammation. In pneumonia the parenchyma of the lung did not suffer; at most there was a certain amount of desquamation of the epithelium. There was nothing left to represent the results of inflammation. The tremendously active process that had gone on in the lung vanished, and left no trace behind it. For this we had to thank the special nutrient circulation provided by nature. At the same time, and in the same area, one could see the action of the right heart completely suspended, and that of the left heart going on actively. In the pneumonic lung, the capillaries which were the continuations of the pulmonary artery were completely thrombosed, and this thrombosis extended back to the heart. If the entire lung were involved the thrombosis would extend back into the bifurcation of the pulmonary artery. The blood supply from the bronchial arteries, on the other hand, was completely free from obstruction. In pneumonia we had to deal with a process of germ culture going on in a culture medium, each air cell acting as a tiny test tube, and filled with this culture medium. The complicated manifestations completing the clinical picture of pneumonia were epiphenomena. Two of these epiphenomena were of extreme importance, constituting singly, or together, the chief menace of life, viz.: (1) Infection of the system by toxin formed in the lung, and (2) the embarrassment of the lungs from the exudation in the air cells. From the first arose a host of manifestations dependent upon toxæmia; from the second, we had the ever-present danger of failure of the right heart.

**Treatment.**—Heretofore the treatment of pneumonia had been far from satisfactory, pneumonia destroying more lives than any two other acute diseases put together. Within the past decade, however, there had seemed to be the dawning of a better era. The problem before us was first of all to arrest or inhibit the growth of the pneumococcus, bearing in mind the peculiarities of the organ in which the disease process took place. It should be remembered that the life of the organism was short, not exceeding ten or twelve days in artificial cultures. Another interesting fact was, that this was one of the most sensitive of all germs, its growth being arrested by very slight changes in its surroundings. If we could impregnate the blood sufficiently with a substance inimical to the growth of the pneumococcus, there would be a chance of forestalling the local process. The local process was always a spreading one, so that it seemed perfectly feasible to prevent the spread of it to other cells than those first invaded. Long before the microbic theory of pneumonia had been understood, or even thought of, calomel had been a favorite remedy, although given with the idea that it was an antiplastic. The older practitioners rarely had the hardihood to treat a case of pneumonia without a mercurial. In 1878 Dr. Mary Putnam Jacobi had reported the result of an investigation into the action of the so-called "sedative dose" of calomel in pneumonia. The results from this treatment, which had been a favorite one with the late Dr. Leaming, had been quite remarkable. Quinine, though a feeble antagonist to other than malarial germs, was known to have a decidedly beneficial action in pneumonia when given in rather large doses. This was not surprising when one considered how thoroughly this remedy pervaded the whole system. Dr. J. S. Thacher, at his suggestion, had made a number of experiments in the laboratory of the Presbyterian Hospital, regarding the effect of chloroform on the pneumococcus, and these had abundantly substantiated what had long been known from clinical observation concerning its powerful influence in pneumonia. Creosote had been highly lauded by a number of observers as a useful remedy in pneumonia. It had been given by the mouth and in enemas. The carbonate of creosote had been found to saturate the blood readily without irritating the stomach, and without giving rise to poisonous or other untoward effects. A very remarkable series of seventy-two cases of pneumonia occurring in Austria among miners had been reported. All of these had been treated with large doses of sodium salicylate—gr. cxx. daily. All of these patients had recovered, and in not one had the disease terminated by crisis.

**A Possible Prophylactic Treatment.**—The treatment should be instituted, in all cases of pneumonia, at the earliest possible moment. The occurrence of the chill was a certain indication that a considerable amount of toxin had been already formed in the lung and had been taken into the general circulation. As the disease progressed, one after the other of the air cells would shut off, and in each one of these the germ culture must be allowed to go on. The young, newly formed cocci were the most virulent, as had been proved by laboratory cultures, and it was in the half-filled cells in which the blood was still flowing that these cocci were present in large numbers, and hence it was never too late to begin treatment. Dr. Smith said that, in his opinion, the family physician should instruct his patients to keep in stock some preparation of creosote or a salicylate, and to begin its use immediately upon the first sign of chill or pain in the chest. By this means he believed pneumonias might, in many instances, be prevented from developing. His experience with this comparatively new treatment had been rather limited, but so far it had been encour-

aging. At one time he had thought well of the salicylates, but was now inclined to believe that, in the later stages, they were depressing, and certainly they were always irritating to the stomach. He now preferred creosôte carbonate, also known as creosotal.

**Accessory Treatment.**—The accessory treatment embraces: (1) Stimulation of the emunctories to carry off the poison; (2) sustaining the heart by the use of cardiac stimulants; (3) the use of vasodilators or of venesection; (4) compensation for the loss of respiratory surface by inhalations of oxygen; (5) reduction of the temperature, as by the application of cold to the surface, and (6) relief of the incidental symptoms. When the chief danger to life was mechanical, from obstruction to the circulation, as shown by the labored respiration and the presence of cyanosis, he would give nitroglycerin, and not digitalis. If the patient's face could be kept florid, there might be hope, but blue lips were the shadow of death. He infinitely preferred the big pulse, however soft or gaseous, to a tiny thread which the finger could scarcely discover. Under these conditions he had never known the pulse to become full and slower from the administration of digitalis. Regarding the so-called digitalis treatment the speaker said that the infusion of digitalis used by Putresco did not represent the drug, containing chiefly digitalin and digitonin, and he would hazard the opinion that the good effects obtained from such administrations had been rather from the action on the heart than on the pneumococci.

**Not Very Hopeful.**—Dr. Frank W. Jackson thought it must be admitted that as yet we had no specific for pneumonia. There were almost as many different methods of treatment as there were prominent men in medicine, and so far as he could see the results were about the same with each. The subject, therefore, seemed to narrow itself down to the matter of individual treatment. Having studied under Dr. Leaming he had, at one time, had a large experience with the calomel treatment, giving gr. xxx. as early as possible, and repeating this, or a larger dose, in a few hours. He was free to say that he had never injured the patient, and had observed the beautiful sedative and antipyretic action of this medication, but unfortunately the fever and other symptoms would return within twelve hours or more, and the case would apparently progress just as if the calomel had not been given. In recent years he had scarcely used this treatment at all, although it must be admitted that even salivation had been exceedingly rare with it. When an interne in the Roosevelt Hospital, the routine treatment had been the administration of large doses of quinine and the application of an oil-silk jacket. At that time he could not see that any good results followed this use of quinine. He had used creosotal in a few cases of pneumonia, and it had not seemed to him to have much effect. He did not have much faith in creosote as a germicide for disease of the lung, and this opinion was founded on a considerable experience with it in tuberculous patients. He had seen many pneumonias, under active treatment, recover in thirty-six hours, and, again, he had seen them recover in twenty-four hours without any treatment. Just here was the stumbling-block in drawing deductions from the use of drugs, or the adoption of special modes of treatment. There were, indeed, many cases in which the physician was not called upon to institute any special treatment; in others, opium might be most beneficially employed. He would pin his faith on the serum treatment of the future as apparently the most rational method.

**Fascinated but Not Convinced.**—Dr. Alfred Meyer emphasized the importance of individualizing the treatment, not only in pneumonia, but in many other diseases. The idea that pneumonia was a non-inflammatory disease had been presented by the author of the paper in a most fascinating manner, yet he cautioned those who had heard it not to be fascinated to such an extent as to prevent their reason from having proper sway. The fact that the same micrococci might excite inflammation in other regions of the body, as, for example, in the serous cavities, was, at least, very significant. The anatomical picture of an inflammation always varied according to the structure involved, and whether or not the process was acute or chronic. He would raise the question, in this connection: Is erysipelas of the face any the less an inflammation because the result of micro-organisms than the dermatitis produced by exposure to the sun? Moreover, microscopical evidence was not wanting to show that the epithelium of the air cells actively participated in the process. There seemed to be more hope from the salicylate treatment than from any other thus far presented. One should be very cautious in making deductions from statistics of any method of treatment because of the varying type of the disease. Thus, in a recent study that he had made of five hundred cases of lobar pneumonia occurring in the Mount Sinai Hospital during a period of ten years, the mortality had varied from eight per cent. in 1897 to twenty-nine per cent. in 1898.

**Pneumonia in Children.**—Dr. H. D. Chapin spoke of the disease as found in children. He called attention to the fact that the right heart of the child was usually very strong, and hence little trouble was experienced on that score. He had tried creosote, but without specially good results. He had employed both medicated and unmedicated steam, and had been pleased with the effect, which, however, had seemed to him to be equally good from the steam alone. Since Dr. Smith's earnest advocacy of nitroglycerin in pneumonia he had used it extensively, and with much success. In regard to the germicide treatment he would only say that all of these remedies were depressing. He would not like to treat the pneumonias which he saw with large doses of either calomel or the salicylates. In septic pneumonias one would look for the best results from such remedies, yet he thought he would be a bold physician who would make use of large doses of drugs of this class in these cases. While deeply interested in the paper, he had not been convinced, and probably would not be until a very large series of cases had been presented, together with minute details regarding the type of the disease and the influence of individuality.

**Pneumonia a True Inflammation.**—Dr. E. K. Dunham said that year after year he had made use of pneumonia, in his teaching, as a typical example of inflammation, and he utterly failed, from his microscopical studies, to see anything which would enable him to separate acute lobar pneumonia from other recognized inflammations. The same process that was observed in lobar pneumonia was also seen around tubercles or hemorrhagic infarctions in the lung—at least the microscope failed to show any difference. From sections of pneumonic lung which he had examined, it seemed to him that not only did the exudate show the process to be an inflammation, but also the reaction on the alveolar wall seemed to be indicative of an inflammatory process. Dr. Dunham then exhibited under the microscope the following specimens: (1) A section of the brain and pia mater from a case of fibrino-purulent leptomeningitis; (2) a section from a case of croupous pneumonia; (3) the alveolar wall in another section of the same lung, showing the increased tissue and thickening of the alveolar wall and what he took to be a rejuvenescence of the cells; (4) a section of alveolar wall of a lung the seat of simple œdema, showing no reproduction of tissue, and (5) a section of the same lung which had been stained for

the micro-organisms present, and showing what appeared, from their morphology, to be typical pneumococci. It did not seem to him necessary to regard pneumonia as anything but an inflammation in order that the arguments presented for treatment need hold, nor did he think it necessary to divide the circulation of the lung in the manner that had been done by the reader of the paper. If the nutritive supply was so excellent, he saw no reason why the parenchyma of the lung should die after hemorrhagic infarction. That the vessels should be found filled with fibrin after death was not remarkable because of the condition being so favorable to coagulation.

Dr. James K. Crook said he did not see but that Dr. Smith admitted the existence of all the recognized essentials to a true inflammatory process. Many mild inflammations resolved without leaving any structural alteration. In many severe cases of pneumonia there was certainly interference with the bronchial circulation, and in many fatal cases the autopsy would show the involvement of the entire structure of the lung by the presence of suppuration or of gangrene. Although not agreeing with Dr. Smith on these points, he felt disposed to accept his theory of the cause of the defervescence. Regarding the proposition so to change the composition of the blood that the exudate poured out from it into the air cells might prove inimical to the pneumococci, Dr. Crook said that at the very outset one was met with the fact that pneumonia was often apparently the result of a mixed infection. While, therefore, it might be perfectly feasible to check the growth of the sensitive pneumococci, the matter was quite different when other and more resistant germs were partly responsible for the disease process.

**Abortive Treatment not a Myth.**—Dr. Edward H. M. Sell said that, looking back thirty years, the view was very interesting. About thirty years ago this very subject had been discussed in the Medical Society of the County of New York, and very nearly the same diversity of opinion had existed then. At that time the application of ice to the chest had been suggested, but the treatment had been very quickly abandoned. In those early days he had had the audacity at one meeting to speak of the "abortive treatment" of pneumonia, and had been severely criticised because of his belief in such a possibility. It would seem that this was just as much questioned at the present time. Dr. Sell then referred to a severe case in which, by the use of small doses of tincture of aconite and the application of the very old-fashioned poultice, he had caused a subsidence of all the symptoms within twenty-four hours.

**Pneumonia and Typhoid Contrasted.**—Dr. William H. Thomson referred to the contrast between two important infections—typhoid fever and pneumonia. In both the patients usually died of a toxæmia; in both there would be observed marked variations in the type of the disease in different years. But here the similarity ended. Typhoid fever began very insidiously, and progressed slowly, and subsided gradually. Pneumonia, on the other hand, began abruptly, developed rapidly, and was the only disease among the entire class of infections which ceased suddenly. Despite some recently expressed opinions to the effect that there had been no difference in the mortality of typhoid fever from any method of treatment within the past thirty-five years, he had no doubt that the long course of typhoid fever did allow physicians materially to modify that disease. Only last week he had stated in this hall that out of three hundred and forty-four typhoid patients who had been more than one week in his ward in the Roosevelt Hospital, the mortality had been only three per cent., and if these cases had been under treatment from the very beginning, he felt that the mortality might have been reduced to one or two per cent. There was no disease that he felt more pleasure in treating than typhoid, because of the comparative certainty he felt of securing a good result. On the other hand, he felt apprehensive when called upon to treat a pneumonia because he was impressed with the essentially toxic nature of this disease. An important step in advance had been made when the profession had been asked to abandon the old idea that pneumonia was a pneumonitis. Every clinician knew that the gravity of the symptoms bore no constant relation to the amount of lung involvement. He challenged any one to name another disease, and particularly a serious inflammation, in which there was such a sudden termination by crisis as in pneumonia. This meant really an abrupt termination of the toxæmia. A case of pneumonia was really a case of poisoning, and what could be more unsatisfactory than treating such a case by the indications arising from the disturbed functions?

**New Treatment for Pneumonia Demanded.**—He did not believe the mortality from pneumonia in hospital practice had varied at all during the thirty-six years of his experience. We should, therefore, look in an entirely different direction for an advance in the treatment—most probably in the direction of an antitoxin. Theoretically speaking, pneumonia would appear to be the disease for which an antitoxin ought to be discovered. Notwithstanding the failures of many observers in the past, he believed that it would be found, but he would expect that such an antitoxin would have to be used very early in the disease, and in very large doses, and that considerable difficulty would be experienced in manufacturing an article having much stability. Another direction in which we should look had been suggested by the paper of the evening—a mode of medication which would check the growth of the pneumococci.

**The Chloroform Treatment.**—He had been occasionally called in to see cases in which there had just been a violent chill, followed by bloody sputum, and had succeeded by the administration of about ♏ xxx. of chloroform in preventing the development of other symptoms. At one time he had treated ten pneumonias in alcoholic subjects, and every one of them had recovered, but having subsequently had one or two patients die very suddenly after the reduction of the temperature, he had abandoned this treatment. He was inclined to think that such medicinal germicides were dangerous. The fact that the pneumococcus could both lose virulence and gain virulence explained many recoveries and relapses. This fact also gave some hope that, from its sensitiveness in the laboratory to certain substances—notably chloroform and carbolic acid—better therapeutic results might be attained along the lines laid down in the paper by Dr. Smith. In one exceedingly unfavorable case of double pneumonia he had given twenty grains of carbonate of creosote, in emulsion, every two hours, and no other medication whatever. The man had recovered, but the disease had not terminated by crisis. A second case was that of a colored man who had been brought in with high fever and great prostration. As the crisis occurred in this case within seven hours after admission to the hospital it was impossible to say whether or not the medication had had any share in the result. He had given carbonate of creosote in very large doses to small children with bronchopneumonia, and had never observed the depressing effect on the heart which creosote itself possesses.

Dr. Smith, in closing the discussion, said that he had gone over the history of pneumonia for many years, and had not found a single instance in which any one in discussing this disease had adverted to the double circulation in the lung, and yet it seemed to him the most important of all the facts connected with

this subject. As this circulation was unique, it did not seem possible to reason from similar disease processes in other parts of the body. It was true that pneumococcus inflammations were present in other parts of the body, but these disease processes did not have anything in their clinical course analogous to pneumonia. Pneumonia was pneumonia because it was in the lung, and the peculiar structure of the lung was absolutely necessary for the existence of pneumonia. The tremendous extent of the process was also worthy of note. Did any one think that with an inflammatory mass in the liver of the size of a consolidation in the lung recovery would take place? Obviously not. When gangrene of the lung occurred it was because a nutrient twig had been involved. It should be remembered that the blood coming to the lung brought with it a variable amount of sodium bicarbonate. The carbonic dioxide of this combination was destined to be thrown out, but in a solid form. Nature had provided for the production of a peculiar acid, made just where it was wanted. This substance was pneumic acid, which formed with the sodium a pneumate of sodium, setting free the carbon dioxide. In pneumonia the production of pneumic acid went on, as could be easily demonstrated. Now, if there were any one thing which the pneumococcus could not tolerate, it was an acid, and in this fact was to be found one of the causes of the crisis. If pneumonia was a simple inflammation, how could the phenomena of the crisis be explained?

**Rupture of Aneurism into Pericardium.**—Dr. L. Faugères Bishop exhibited a fresh pathological specimen showing the rupture of a small aneurism into the pericardium.

## AMERICAN PUBLIC HEALTH ASSOCIATION.

*Proceedings of the Twenty-Seventh Annual Meeting, Held at Minneapolis, Minnesota, October 31, and November 1, 2, and 3, 1899.*

*Third Day — Thursday, November 2d — Morning Session.*

(*Concluded.*)

A resolution was offered and adopted, that steps be taken to secure advanced teaching and the giving of diplomas in hygiene, and that recognition of such diplomas be made by sanitary authorities.

Another resolution was adopted, recommending to all governments to set apart such portions of their forests as may be practicable for national parks.

The association established a section to be known as the bacteriological and chemical section of the American Public Health Association. This section is to meet on the day preceding the meeting of the general association.

**Vaccination.**—Dr. William Bailey, of Louisville, narrated in an interesting and instructive manner some points pertaining to the history of vaccination.

Dr. W. C. Woodward, of Washington, D. C., spoke of the accidents of vaccination, some of which arose from impure virus, lack of aseptic precautions, etc.

In the discussion, Dr. E. Licéaga said that revaccination was really unnecessary in Mexico, while in Europe it was imperative because animal virus was used. In Mexico humanized virus was used. His remarks were based on two hundred thousand vaccinations in the republic of Mexico.

Dr. Cabana, of Massachusetts, referred to an epidemic of smallpox which occurred in Montreal in 1885, in which there were ten thousand cases. He thought sterilized virus from the animal was preferable to the humanized virus. He referred to syphilis and other diseases being transmitted by using humanized virus.

Dr. Wright, of Minneapolis, related his experience during six years' residence on the western coast of the Mediterranean Sea. Humanized virus was used there in vaccinating, and he knew of no case of syphilis or any other disease being communicated from one person to another by this method of vaccination.

Dr. Samuel Abbott referred to the rarity of cowpox, and believed that infection in most instances was transmitted by individuals rather than by cows. Very little was known about the remote origin of the infectious diseases.

Dr. William H. Welch, of Baltimore, referred to the septic infections that occurred at the time of or following vaccination.

Dr. Peter H. Bryce, of Toronto, asked in regard to hypodermic injections of vaccinia, to which Dr. W. C. Woodward replied that Dr. Kinyoun had tried it in numerous cases with satisfactory results.

Dr. Charles V. Chapin called attention to a report of the New York board of health for 1896, in which reference was made to experiments with the subcutaneous inoculation of vaccinia, saying it was not so reliable as inoculation by scarification.

Dr. Samuel H. Durgin reported a case in which subcutaneous injection of vaccinia was resorted to, the constitutional disturbance being the same as that observed by the usual method of vaccination. This case was observed some twenty or more years ago.

Dr. Frederick Montizambert, of Ottawa, Can., favored bovine instead of humanized virus, principally for the reason that if syphilis or any other disease should follow vaccination by humanized virus, the anti-vaccinationists would have an argument for the condemnation of vaccination generally.

Dr. Charles F. Roberts, of New York City, also spoke in favor of bovine virus for vaccinating purposes.

Dr. Benjamin Lee narrated an instance in which several members of one family were infected with syphilis by impure virus, the vaccination having been performed in this case by a drummer, not a doctor.

Dr. James F. Kennedy, of Des Moines, Iowa, said the president of the anti-vaccination league lived in his State, and it was claimed by the anti-vaccinationists that not only syphilis but tuberculosis was transmitted by bovine inoculation; but he did not think so.

Dr. Louis Laberge, of Montreal, said that with humanized lymph, if proper aseptic precautions were observed, there was practically no danger of transmitting disease.

Dr. Liston H. Montgomery, of Chicago, asked in regard to tetanus following vaccination, and if pathogenic germs were found in the discharges.

Dr. Cabana reported two cases of tetanus following vaccination.

Dr. Woodward reported another case.

Dr. H. M. Bracken said that physicians should take cognizance of the length of time following infection. In two cases of tetanus which he had observed the disease developed on an average of three weeks after vaccination. These persons were very dirty, and he believed the vaccination had nothing to do with the development of that disease.

**The Official Definition of Diphtheria.**—Dr. H. W. Hill, of Boston, read this paper. He said that the first factor in the production of the disease was the patient, and the second, the bacillus of diphtheria. The disease of diphtheria was existent only when the active diphtheria bacillus, producing recognizable lesions, was present. The presence of diphtheria bacilli without the production by them of recognizable lesions did not constitute this disease; nevertheless such pa-

tients might be a source of possible infection to others. The necessity of isolating persons suffering from the disease, in order to prevent its spread, had long been recognized. In order to place the matter on a definite basis it was suggested that this definition be recognized by so wording all regulations relating to the supervision of diphtheria that, in so far as might be advisable for the protection of the public health, the demonstration of the presence of the diphtheria bacillus should be sufficient to empower health authorities to proceed with measures directed to prevent its dissemination. He suggested that such phrases occurring in regulations as "persons suffering from diphtheria," or "cases reported as diphtheria," should be modified to read "persons suffering from diphtheria or infected with diphtheria bacilli," and "cases reported as diphtheria or as infected with diphtheria bacilli." It seemed to him that a simple change of wording would give the necessary power to health authorities, while absolving them from any charge of wrenching terms to suit misunderstood conditions, such as were sometimes, although unjustly, brought forward.

**State Cancer Laboratory.**—Dr. A. Walter Suiter, of Herkimer, N. Y., offered the following resolution, which was adopted:

*Whereas*, The State of New York has taken a decisive step in advance by the grant of an annual appropriation for the establishment and maintenance of a laboratory with all modern appliances for the persistent prosecution of studies in the etiology of cancer; and whereas results have already been obtained which lead to the hope that the discovery of the etiological factor in the production of this much-dreaded disease may be attained; therefore, be it

*Resolved*, That the association approve of similar efforts to that end, that State and national patronage in special and general scientific research may be universally established.

**A National Home for Lepers.**—Dr. H. M. Bracken, of Minneapolis, presented the report of the committee on a national home for lepers in the United States. He stated that inasmuch as the Congress of the United States had passed a law for the appointment of a commission of medical officers of the Marine-Hospital service to investigate the origin and prevalence of leprosy in the United States, and to report upon what legislation was necessary for the prevention of the spread of the disease, he would recommend that the committee of the association be continued to report at the next meeting. He stated that the Ramsey County Medical Society and the Minnesota Academy of Medicine had already taken action urging upon the United States government the necessity of establishing homes or colonies where lepers could be segregated, thus protecting the general public and at the same time furnishing these sufferers with a comfortable home and suitable medical care.

**Definition of an Epidemic.**—Dr. U. O. B. Wingate, of Milwaukee, Wis., presented the report of the committee to define what constitutes an epidemic, and the following definition was recommended to the association for adoption: "An epidemic is an outbreak of a communicable disease or infectious disease, affecting a dozen or more individuals in quick succession before the recovery of the first case, whether arising from a single focus or from several foci in the neighborhood." This definition was not satisfactory to the association, and the matter was therefore referred to another committee to be appointed for the ensuing year.

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*Fourth Day—Friday, November 3d—Morning Session.*

**The Treatment of Garbage and Excreta in Military Camps.**—Dr. Benjamin Lee, of Philadelphia, presented this paper. He spoke of flies as factors in the causation of disease. He also referred to the portable furnaces which were now being used by the United States government at Havana for the destruction of garbage, with gratifying results. Two additional papers were presented on waste disposal and its advances.

**Diphtheria Antitoxin.**—Dr. C. H. Jones, health commissioner of Baltimore, related his experience in the treatment of diphtheria with antitoxin and formaldehyde, which showed a great decrease in mortality by the use of these agents. He said that the health department of that city had not lost a case of diphtheria which was treated with antitoxin within the first two days of the disease.

**Report of the Committee on Demography and Statistics in their Sanitary Relations.**—Dr. C. L. Wilbur, of Lansing, Mich., read this report. He stated that with the completion of the work relative to the nomenclature of causes of death, a larger part of the time of the association should be devoted to other subjects of vital statistics, which had been neglected to some extent in recent meetings. Technical papers, dealing with the best methods of collection, tabulation, and presentation of vital statistics, should be presented, but papers of a different class, relating to the employment of vital statistics in practical sanitary administration, should also receive consideration. Some systematic effort should be made to extend the number of registration States, and to insure that all States and cities adopting methods of registration should comply with certain necessary standards of efficiency, which it might well be the province of the authorities connected with the association to formulate for convenient reference. Lastly, no efforts should be spared to raise the general standards of vital statistics and to increase their value in the public mind as an absolutely essential part of modern sanitary science, and the basis of public health work. Vital statistics should be systematically taught in our medical schools, with special reference to their practical use by health officers and students of the prevalence of disease. The practical study of mortality statistics was a necessary part of the work of the medical officer of health, and its reputation and character should not be diminished by withdrawing it in any case from medical direction.

**Officers Elected.**—The following officers were elected for the ensuing year: *President*, Dr. Peter H. Bryce, of Toronto, Ont.; *First Vice-President*, Dr. H. M. Bracken, of Minneapolis, Minn.; *Second Vice-President*, Dr. Juan Brena, of Zacatecas, Mexico; *Secretary*, Dr. Charles O. Probst, of Columbus, Ohio; *Treasurer*, Dr. Henry D. Holton, of Brattleboro, Vt.

Indianapolis, Ind., was selected as the place for holding the next meeting.

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**Vaccination with Six Punctures.**—An innovation in the operation of vaccination for smallpox has been practised in Bengal during the past year. The six-puncture system has been introduced, and the decrease in the number vaccinated is perhaps explained by this change. It is thought that the plague scare has contributed to the decrease, but it is much more likely that the extra two points have been objected to. In some places it is said that they were looked upon as in some way connected with plague inoculation. In Calcutta alone the decrease was 12,704 in the number of operations. It is difficult to see on what reasonable grounds these changes were introduced, as it has been conclusively shown that four points, when followed by an average success in "takings," afford a very high degree of protection. The multiplication of points is much more likely to bring the operation into discredit.—*Lancet.*

## Surgical Suggestions.

**Secondary Hemorrhage.** — We may enumerate the causes of secondary hemorrhage as follows: (1) Septic infection or sloughing of the artery, due to infection of the wound, of the ligature, or of the blood clot; (2) yielding of an arterial cicatrix; (3) division of the inner coats of an artery, weakening its walls; (4) advanced disease of the arterial walls; (5) cachexia, hæmophilia, chronic renal disease, diabetes; (6) plethora; (7) increased force of the ventricular contractions; (8) punctured wound or incomplete division of an artery; (9) proximity to the ligature of a large branch; (10) special thinness of the outer coat of an artery; (11) wound of a branch arising just below a ligature in continuity; (12) faulty ligature.—A. Pearce Gould, in Treves' "System of Surgery," vol. i., p. 544.

**Treatment of Injured Arteries.**—The important points to be specially borne in mind in the treatment of injured arteries are: (1) To secure the total occlusion of every wounded artery; no attempt must be made to obtain healing of the wound in the vessel without obliteration of its lumen. (2) When nature has closed the end of a divided artery, the surgeon should not interfere with it.—A. Pearce Gould.

**Vaginal Hysterectomy** with the ovaries left *in situ* is followed by much less nervous and physical disturbance than when the ovaries are removed and the uterus is left, or than when they are all removed at the same time.—J. T. Johnson.

**Leucoplasia Buccalis.**—Leucoplasia developed in old syphilitics should be considered, as tabes and general paralysis of a specific origin, a parasyphilitic affection. In this condition, specific treatment should not be employed, for it is not only useless but harmful and dangerous. The only treatment capable of avoiding epitheliomatous degeneration, which so frequently occurs, is early surgical intervention.—Legrand.

**To Remove Silver Stains.**—(1) The cloth is immersed for five minutes in a solution of twenty-five parts of sodium chloride and ten parts of corrosive sublimate in two litres of water, and is then rinsed with pure water. (2) A twenty-per-cent. solution of ammonium chloride in water is prepared and enough tincture of iodine added to color it yellowish-brown. The fabric is immersed in this for five minutes, the liquid diluted with water, and there are then added a few crystals either of sodium sulphite or hyposulphite, or a little ammonia. If after thorough contact the stains are still visible, the treatment must be repeated. (3) The stains are moistened with javelle water, and the cloth is washed after five minutes with water containing 0.5 per cent. of hydrochloric acid.—Credé.

**Thiersch's Grafting in Varicose Ulceration of the Leg.**—In order to insure success in cases of chronic ulceration of the legs it is absolutely necessary—(1) previously to bring the ulcer into an aseptic condition; (2) to remove the edge of the ulcer before applying the grafts; (3) to treat varicose veins or other causes of the ulceration; (4) to insist upon the patient resting the leg for a considerable period afterward until the adhesion of the grafts has become firm.—J. E. Platt.

**Pelvic Operations.**—The first question which naturally presents itself is this: Is there any difference between operations upon the pelvic organs of women and operations in general? If you examine the statistics you will be at once struck with the number of patients operated upon for pelvic disease, who show insanity, neurasthenia, and other nervous troubles following operations and probably resulting from them. Some writers have come to the conclusion that these operations are peculiarly liable to be followed by such phenomena; but if you come to analyze the cases more closely you will find that these operations are performed upon persons whose general health is greatly impaired.—Moyer.

We make a mistake as gynæcologists, perhaps, in sometimes promising too much as the result of local treatment of pelvic disease. We certainly need to give due heed to the claims of the patient's general health, treating not the pelvis alone, but the woman as a whole.—Montgomery.

**Strangulated Hernia.**—Surround the tumor with vaseline, elevate the pelvis, flex the thighs, and pour ether upon the constricted neck. Depletion of tissue, shrinkage, relaxation, render reduction possible.—*Med. Rev.*, September 30th.

**A Glycerin Soap** for clinical purposes, which does not chap the hands:

℞ Green soap,
Glycerin. . . . . p.æq.
Mix well.

**Surgical Hints.**—In the class of fractures in which there is detachment of processes and apophyses, we very often fail to get crepitus, as in transverse fractures of the patella, fractures of the olecranon and coronoid processes of the ulna, and of the coracoid and acromion processes of the scapula.

The severity of the symptoms of intestinal obstruction usually bears a relation to the suddenness of the attack. The more sudden it is, the worse for the patient, and the greater the need of immediate interference.

A truss for inguinal hernia is of no value unless the pad lies over the internal ring in a permanent position, notwithstanding the changes in posture of the body, and unless the pressure is just enough to hold the hernia, and no more or less.

In all intraperitoneal operations the rule is to move the bowels early, but if there is shock with a fast and irregular pulse and nervous disturbance, morphine is indicated at first, just enough to quiet the nervous system. After this has been accomplished the bowels may safely be moved.

It is a mistake to think that cancer of the uterus is always painful. If a suspicious growth is seen, the question of pain should not influence the diagnosis. Any flow of blood after the menopause demands immediate careful investigation, but cancer of the cervix has been observed in quite young women.

When you succeed in passing a catheter into the bladder in cases of considerable retention, do not empty it entirely or too suddenly, as it may give rise to hemorrhage, which is sometimes very profuse, or to severe cystitis, or even to urinary suppression and death. It is well to partially plug the lumen of the catheter so as to allow the urine only to dribble out.

If a child complains of pain anywhere about the lower extremities, or limps in the slightest degree, examine the hip-joints as a matter of routine. In that way many unsuspected cases will be early revealed.

In an inflamed cervix uteri the tenaculum holds quite firmly; in carcinomatous ulceration it tears out readily, with much bleeding; and in cystic degeneration, while it usually tears out readily, it lets out thin mucus with or without blood.

In old people quite a considerable degree of cystitis may exist without giving rise to symptoms. The microscopical examination is in such cases quite indispensable.—*International Journal of Surgery*, May.

# Correspondence.

## OUR LONDON LETTER.

(From our Special Correspondent.)

THE WAR—CONSULTING SURGEON TO THE R. A. M. C. SIR W. MACCORMAC—THE INFECTIVITY OF CANCER—"SLEEPING-SICKNESS" OF THE CONGO—THE ARCHBISHOP TO STUDENTS—SCHOOL ENTRIES—THE MUZZLING ORDER—GUILD OF ST. LUKE.

LONDON, October 27, 1899

"BELLUM, horridum bellum"—all our talk is of the war. Doctors are citizens, and their patriotism is as pronounced as that of any class. In the excitement of the South African struggle the arrival of a case of plague at Plymouth attracted very little attention on the part of the public. Of course such an event was anticipated by the profession, and the sanitary authorities were prepared. There is, however, a point of interest in this case—the period of incubation. The crew were in good health on leaving Bombay, and sixteen days elapsed before the man complained of illness. Did he take it in the Mediterranean, or where?

As to the war it was announced in the House of Commons on Tuesday that Sir William MacCormac will shortly proceed to South Africa in the capacity of consulting surgeon to the Royal Army Medical Corps, and that he will be accompanied by two other civil surgeons. It is stated that the idea of employing civil surgeons to co-operate with the military medical officers proceeds from the army medical department, and that Sir William's name was mentioned as one who would be specially suitable. On hearing this he at once placed his services at the disposal of the War Office. It is not a new thing for civil surgeons to help in time of war, as they did so in the Franco-German and Russo-Turkish campaigns. With us, however, it is a new departure, though it may be a natural sequel to the home defence mobilization scheme under which civil surgeons are attached to base hospitals. If the plan is good no better man could have been selected than the esteemed president of the College of Surgeons. Sir William has experience of war. He was surgeon to the Anglo-American ambulance in the Franco-German conflict, and he rendered invaluable aid in the Servian war of 1876. He is a *persona grata* with his brethren, both civil and military. His health was some time ago giving his friends uneasiness. We all hope the South African climate may do him good.

On Monday the Medical Society had under discussion a paper by Dr. J. W. Washbourn and Mr. Bellingham Smith on "The Infectivity of Malignant Growths." The conclusions at which these authors had arrived were that such growths are local in origin but possess the power of infecting adjacent and distant parts of the same individual; that inoculation may take place from one part to another of the same individual, apart from transmission by the natural channels; that there is evidence that one person may be infected from another; that there is also experimental evidence that growth may be transferred by inoculation from one animal to another of the same species. So far a considerable number would probably agree who might hesitate to accept the further conclusions, which were to this effect: that bodies resembling micro-organisms are found in malignant growths and have been regarded as belonging to the protozoa or the blastomycetes; that a new growth with the structure and behavior of carcinoma has followed in at least two instances inoculation with a form of blastomycetes, and that these experiments are highly suggestive that the bodies found in cancer may be the cause of the disease, though evidence is wanting that the two are directly associated.

Dr. MacFadyan pointed out how necessary it is to distinguish between epithelial and connective-tissue growths. He suggested that some growths described as sarcomatous might rather be the result of reaction of the tissues to living irritants. The structure of sarcomata and many bacterial growths could not be called dissimilar, and actinomycotic tumors used to be described as sarcomata. As to transplantation, were there any examples occurring with lesions known to be parasitic?

The "sleeping-sickness" prevalent on the Congo, and which seems to be rather on the increase, has been the subject of some investigation here. You may remember that two Congo boys who were brought to this country died of this curious complaint. Dr. Mott, pathologist of the London County Council, investigated the state of the nervous system in these cases, and brought his results before the Pathological Society, illustrating his statements by lantern slides and microscopic specimens. He examined the brain, spinal cord, pituitary body, and spinal ganglia. He found signs of a leptomeningitis and encephalomyelitis in both cases, extending throughout the central nervous system, but especially in the medulla and base of the brain. Dr. Mott thought the symptoms of the disease could be best accounted for by supposing that the activity of the neurons as a whole was affected by some toxic product in the blood or in the cerebrospinal fluid, and that this product occasioned great proliferation of mononuclear leucocytes beneath the pia and in the perivascular lymphatics. The liver, spleen, kidneys, lungs, lymphatic glands, and duodenum were also examined, all except the last two giving negative results. The glands were enlarged, owing to the increase of leucocytes; the duodenum showed a large number of lymphocytes and proliferation in the lymphoid nodules. The facts were of interest in contrasting the disease with general paralysis, which many consider to be a primary meningo-encephalitis; although the appearances of inflammation were equally intense and more widespread than in any case of general paralysis which Dr. Mott had seen, yet the cellular changes were slighter—an argument in favor of the view that progressive paralysis of the insane was a primary disease of the neuron with secondary inflammatory changes.

On Wednesday the archbishop of Canterbury presented the prizes at St. George's Hospital, and addressed the students in his homely, earnest way. He told them he did not feel quite certain that in every case the doctor did just right; but he was quite certain that, taken as a whole, the blessings which medical science had conferred on humanity took rank with the very highest benefits that could be bestowed on man. By using his brains as he ought, a man not only gained knowledge but the power of using his knowledge, a power they might acquire by keeping an open mind when in practice. A doctor who fancied he knew all that could be taught was really going back, for science was always going forward. Further, he was losing ground within himself, for he was failing in the keen perception which he once had.

Hull is still suffering from smallpox. Some forty cases have been admitted to the hospital during the week. More than three hundred cases have occurred in the town during the epidemic—about six months.

The entries at the medical schools seem rather under the average. The teachers are somewhat disappointed, but men in practice see no cause for regret. There is no fear of any lack of help for the public from the overcrowded profession.

The order for muzzling dogs in London is revoked, as from to-day. There is no doubt this order has

been effectual against hydrophobia, and the ministry deserve thanks for maintaining it in spite of the outcry of selfish owners of dogs. It will be necessary to keep up the rule as to imported dogs, or we may soon have rabies brought into the country again.

The Guild of St. Luke has paraded itself once more in the glory of clothes, and the Bishop of Stepney preached on the occasion to the assembled doctors. He told them there is a science of theology as well as of medicine.

## FAITH CURE AND THE LAW.

To the Editor of the Medical Record

Sir: Your correspondent, Dr. N. C. Steele, in the Medical Record of October 7 1899, makes a plea for liberty of action on the part of mankind in the selection of the person who shall treat him in sickness. The doctor shows a very liberal spirit, and his plea seems to be founded upon justice, but there is just one element in the problem that he fails to mention. No law can compel a man to employ any particular kind of medical attendant in sickness; no law can prohibit his employment of any particular kind. But what the law can do is to compel all persons who undertake to heal the sick to acquire a certain amount of knowledge of the human body, its structure, its functions, the diseases to which it is subject, their causes and natural history, and the conditions which imperil life. Persons who have complied with this requirement of the law are then at liberty to practise "Christian science," "faith cure," "regular" medicine, "homœopathy," "eclecticism," "voudooism," "charms," "osteopathy," or any other old thing, and Dr. Steele or any other citizen would be at full liberty to elect the method that suited his fancy. The law does not undertake to bar the citizen from making a perfectly free choice of the method of treatment and the person who shall administer it, providing always that the person who so professes to treat the sick has complied with certain reasonable requirements.

That all who assume the responsibility of treating the sick, and make certain professions of skill in so doing, shall comply with the standard of requirements, organized society has a right to demand. If it demands it of one, it must demand it of all. There cannot be one standard for "drug-healers" and another for "faith-healers." Organized society cannot accept the alluring fiction that there is no such thing as disease. We know that it is not true. To assume that it is true, or to permit a certain fanatical sect to act upon such erroneous belief, is to share in the responsibility for the neglect of certain well-known prophylactic measures, which neglect would endanger the lives of many in a community. The life of no individual belongs to himself exclusively. Organized society, the community, has an interest in the life of each individual of the community. If this were not so, there would be no public hospitals for the free cure of the sick who are unable to care for themselves. The founding of such hospitals is not a philanthropic enterprise; it is an expression of the selfish and common interest which the race has in the propagation of the race, in the conserving of the sum total of human life, that none shall unnecessarily go to waste.

Laws to regulate the practice of medicine (the healing of the sick) are of like character. They are not for the purpose of limiting one's choice. They are for the purpose of safeguarding one against imposition. In society's effort to protect itself, certain regulations (called laws) have been adopted which demand that those who profess to be competent to become arbiters of health and life shall possess a certain standard of qualification. Society has determined what that standard shall be. It is no hardship to demand that all shall come up to it. But that is as far as organized society goes, because that is as far as accepted doctrines permit it to go. Beyond that, all is free. Dr. Steele is free to make what choice he will; those who practise the healing art are free to practise what they will. There is no restraint upon any one.

Charles Gatchell, M.D.

162 Thirtieth Street, Chicago.

## LETTER FROM NEW ZEALAND.

(From our Special Correspondent.)

DECREASE IN THE BIRTH RATE—HOSPITAL SYSTEM—RARITY OF CERTAIN DISEASES—THE "GEORGIA MAGNET" ON HER TRAVELS.

Auckland, September 28. 1899

The decrease in the birth rate of the Australasian colonies, and especially of New Zealand, which is the lowest of all, is beginning to excite a good deal of attention. In a former letter I touched on this question. Since I wrote, another official year-book has been issued (for 1898), and by this it appears that the birth rate is still diminishing, and touched 25.74 per thousand of population. In 1880 it was 40.78. It was thought that as there was a temporary increase in the marriage rate in 1897, there would have been at least a corresponding increase in the birth rate. But the fact is that the young women will not have more than two children at the outside, if they can help it, and some of them will not have more than one. And they take every possible means to prevent conception, and if that does occur then they either produce abortion or get some one else to do it for them. A few weeks ago I was consulted by a young unmarried woman, aged twenty years, who calmly explained to me how she had used a speculum, and introduced a silver catheter into the uterus herself twice. The first time she passed it in two inches, and the second time two and a half inches. This virtuous young female is now married, and operated on herself to prevent the unpleasantness of having a child too soon after marriage.

It would be interesting to us here to know the birth rate of the different American States, if such statistics are published in any accessible form. Owing to the enormous use of preventives, the proportion of illegitimate births is slightly diminishing.

As our hospital system differs very greatly from that of the mother country, it may interest some of your readers to know how we manage. The hospitals for the insane are entirely maintained by the colonial government, with the exception of one very small private asylum for paying patients only. The medical superintendents and all the other officials are therefore government servants. The asylums are all overcrowded, but a vote has been taken this year to remedy this. Nobody except the officials knows much about the asylums, but it is believed that they are fairly well conducted. An inquest is held, by law, on every death in an asylum or jail.

The general hospitals are of two kinds. Those in the mining districts are supported in part by the voluntary contributions of the miners and residents in the district, whose subscriptions are subsidized by a government grant of twenty-five shillings for every twenty shillings subscribed. They are all small hospitals, and are managed by boards chosen by the subscribers. The subscribers have a right to admission in case of illness or accident; other patients are expected to pay, if able to do so. Any deficiency in the funds is made good by a contribution of the Charitable Aid boards, obtained from rates.

The larger hospitals are all maintained out of the

public funds, either by grants from the central government, or by the funds derived from rates of the Charitable Aid boards, who by law can strike a rate for the hospitals. Some of the patients pay four or five dollars a week toward the cost of their maintenance and medical attendance. This can be recovered by a summons if the patient is able to pay and neglects or refuses to do so. A weak point in the system is that though the general government in all cases contributes more than half the cash, it has no official representatives on the boards.

The medical staff, nurses, servants, and other officials are all elected by the board, and may be dismissed by them. The appointments are mostly annual, though in some cases the honorary visiting staff is appointed for three years. The staff of the larger hospitals, which contain from one hundred to one hundred and fifty beds, consists of one or more paid residents, and several honorary physicians and surgeons, together with an ophthalmic surgeon, one for female diseases, and sometimes other specialists. One of the hospitals, Dunedin, has a small medical school attached, and manufactures a few practitioners. They are not held of much account unless they go to Europe to complete their education.

The fact is, that a man who studies medicine only in this colony cannot get a practical knowledge of disease. We have not a sufficient number of cases, and of some diseases, common enough in the old country, we have so few examples that a man may pass years without seeing a case. Take hysteria, for instance; a regular fit of hysterics is quite a rarity here. In twenty-six years' practice I have been called to only two cases, while in a London hospital I never passed a day without seeing two or three. Bright's disease again is very much rarer here than in England, and so are all tuberculous diseases. The fact is, that the population generally is sober and well-fed, and the houses are not, even in the largest towns, built very close together, so that we do not produce the diseases arising from the intemperance, the foul air, and the starvation of the large European cities.

The great defect in our hospital system is the mode of appointing the honorary visiting staff. They are all what we call in England general practitioners; that is, they attend midwifery cases, and take every kind of disease, medical or surgical, indiscriminately. They are called physicians and surgeons, but there is no such person as a pure physician or surgeon in the colony. The towns are too small; our largest city with its suburbs contains only about fifty thousand inhabitants. The staff being appointed by a local board, no question of professional skill or even competence is ever entertained for a moment; private interest is everything.

The hospitals in the larger towns are well fitted out with instruments and operating-rooms for aseptic surgery. There is a perfect mania for operating, and every woman who suffers from leucorrhœa, if she gets into some surgeon's hands, will be curetted, and an Alexander done at least, if she does not have the whole genital apparatus extirpated. It surprises me that no one (as far as I know) curettes the vagina for chronic vaginitis. "Why not?" as the March hare said. If you scrape away the mucous membrane of the uterus for chronic endometritis, why not scrape away that of the vagina for chronic vaginitis, and that of the rectum for chronic dysentery? This suggestion is copyrighted.

We have had a visit from a fair countrywoman of yours, Miss Alice May Abbot—the Georgia Magnet. Her performances have "time and again" been noticed in your paper, her manager writes to me, so that I need not refer to them particularly. She succeeded in hypnotizing a lot of gushing men, old, young, and middle-aged, and convincing them that they could not lift her from the floor with their arms extended at full length, and her pretty fingers tickling their necks inside their collars. She so thoroughly hypnotized one of our *confrères* that, after the performance was over, when he took her temperature he announced it as 93.5° F., whereupon I uttered a groan of incredulity. The audience of course saw nothing in it. We certainly are a soft lot in New Zealand.

The annual meeting of the Australasian Medical Association has just commenced in Brisbane. This is a branch from the British Medical Association.

## LETTER FROM THE FALKLAND ISLANDS.

(From our Special Correspondent.)

STATISTICS — CLIMATE — PREVAILING DISEASES — SURGERY — PEAT WATER AS A PRESERVATIVE.

STANLEY, FALKLAND ISLANDS, September 14, 1899

THE population of the Falkland Islands is approximately about 2,000. In 1898 the births were 64, percentage 3.6; deaths 27, percentage 1.56. The cause of the latter being high was a sad boating accident whereby ten lives were lost. As a matter of fact death by drowning is unfortunately too frequent, owing to the stormy nature of the climate and the extreme coldness of the water when a boat is capsized, which appears to paralyze every effort of the swimmer. The season when sickness is rife is the early spring. This is owing largely to the saturated condition of the peat bogs and the impossibility of the water freeing itself until hydraulic pressure takes place in the form of a peat slip; and the advent of spring, when the strong westerly winds produce evaporation—hence summer and the major portion of the winter are healthy. The months when influenza is prevalent are July and August. The meteorological conditions of the seasons have much to do with sickness. In cold, damp weather influenza takes root, also rheumatism, which has always been unfortunately too frequent.

The drainage of the settlement is most defective, there being no intercepting drains to catch the storm or surface water from the hills which surround the settlement on the south side; the ordinary main drains and those leading from private dwellings leave much to be desired. Notwithstanding this drawback the health of the settlement is excellent, which speaks well for the health-giving qualities peculiar to these islands. There is a total immunity from all tropical and malarial diseases, nor can they at any time be imported as the thermometer ranges from 30° to 50° F. in winter, and from 40° to 65° F. in summer; but the latter is of very short duration, as it is not uncommon after a morning at the above temperature for the thermometer to fall to 38° F. in the afternoon.

Scrofula is common but not indigenous; this climate is antagonistic to tubercle, in consequence of the entire absence of want or destitution of any kind, the abundance of highly nitrogenized food in conjunction with the concentrated form of oxygen. Ozone is the prophylactic. Syphilis is occasionally met with either in the secondary or tertiary form, rarely in the primary, as the social evil is almost unknown. Cancer, whether as fungus hæmatodes, melanosis, or scirrhus, is rare. I have had six cases of the latter and one of fungus hæmatodes during my residence here. Diseases of the nerves are also rare. In children chorea is occasionally seen, but only three cases of meningitis to my knowledge have occurred. Diseases of the respiratory organs, such as bronchitis, pneumonia, and asthma, are infrequent—the former as a sequela of influenza, or neglected cold.

Surgical injuries are very common, owing to accidents on board ship, or falls from horseback. They consist of fractures of the femur, tibia, or Pott's fracture of the fibulæ, fractures of the arm, forearm, Colles' fracture of the wrist, clavicle, inferior maxilla, base of skull. I have alone and unaided performed several capital operations, *i.e.*, right shoulder-joint, forearm, leg below tubercle of tibia and lower third, also Chopart's and Syme's on the foot, hand, and phalanges.

I mention these cases specially to show the aseptic nature of the climate, as every operation performed was an unqualified success. The bacilli are chilled by the cold reception in these islands on the fringe of the Antarctic.

I may mention in closing that I knew the late Admiral Spotts and dined with him and Captain Weaver on board the United States flag-ship *Brooklyn*, the evening previous to his very sudden death. I went on board when his death was announced the following morning, and, in conjunction with the doctors on board, viewed the body. He had a very large and representative funeral. Again it became my duty as president of the board of health to give permission and assist at the exhumation of the body in the early part of this year, when the United States cruiser *Badger* arrived here. The body was in a perfect state of preservation, no change whatever even in the features—in a word, little different from when I saw him alive seventeen years previous. This was owing to the preservative effects of the peat water, which had burst the coffin and saturated the body.

## THE TECHNIQUE OF BASSINI'S OPERATION.

To the Editor of the Medical Record.

Sir: I wish to offer my congratulations to Dr. Andrews, of Chicago, whose article upon Bassini's present technique appears in your issue of October 28th. In beautifully clear and explicit language he has detailed many little points of interest to the surgeon; and it is only by just such study of minute technique that advances are made.

Let us hope that in a later paper he will describe Bassini's method with femoral hernia. If he does this, perhaps he will also give the exact composition of the lime-and-starch mixture used for fixation bandaging; also the antiseptic solution out of which the operator takes the glycerin-boiled silk for use.[1]

This matter of the suture material is one that is by no means settled. Several surgeons now can claim a distinctly better proportion of permanent cures to relapses than twenty to one—the percentage, or "less than five per cent.," claimed for Bassini; and it may well be that his use of silk is to some extent responsible for this.

Schimmelbusch, von Bergmann's famous assistant, in his work "The Aseptic Treatment of Wounds," affirms that silk, absolutely sterile, placed by sterile means within sterile wounds, occasionally, if rarely, "after a long period of time" produces pus. This shows that it then acts as a foreign body of an irritant nature, and the phagocytes are sent in myriads to try to devour it. They fail. Pus is the result; and it is none the less objectionable because devoid of microbes. This may happen only after months or perhaps years. It of course seldom occurs; but it may account for one or two per cent. of relapses. Schimmelbusch says of such silk: "It simply remains a foreign body in the tissues, of which the organism endeavors to free itself as soon as a favorable opportunity presents."

What is true of silk in this regard is also true of "silkworm gut" (which is simply the *un*spun fluid of the silkworm, which if spun would have been silk). Dr. Edebohls has very frankly and honestly come forward to withdraw his former commendation of buried silkworm-gut sutures—and for this same reason, based upon his longer experience with them.

Here in New York most of the surgeons have quite discarded non-absorbable materials for buried sutures and for ligatures. I think that most of us use, for the deepest two rows of Bassini's technique, chromicized large catgut. This remains many weeks unabsorbed, but finally disappears. Dr. Weir's experiments would seem to show that well-chromicized catgut lasts at least as long as kangaroo tendon. If this is so, no reason of importance remains for continuing to employ the latter, which is so much more expensive. It is nevertheless far preferable to silk, since the latter is rarely absorbed.

The idea that the largest sizes of catgut cannot be sterilized is of course erroneous. Boiling in absolute alcohol, under pressure, as Fowler first advised, will do it. As to even ordinary, *non*-chromicized catgut, "the fear that it may [in a wound] be too rapidly absorbed, as has occasionally been expressed, is not well founded; it persists much longer often than is desired" (Schimmelbusch).

Bassini's use of silk sutures for the skin, to be cut and drawn out on the eighth day when the dressings are changed, would seem indefensible. Quite fine, aseptic catgut, which would be absorbed by that time, would save the patient needless pain in this regard.

Perhaps the commonest cause of a relapse, next to infection, when a comparative beginner is at work, is neglect to free sufficiently, upon both superficial and deep surfaces, the conjoined muscles from the tissues nearest them—and dependence upon the deepest row of sutures to keep these muscles dragged down to Poupart's ligament. In surgery, as in matrimony, unwilling union is pretty certain to be followed in time by a divorce. By the handle of the scalpel the conjoined muscles should be completely freed, for inches if need be, until they will lie, quite without effort, in contact with the ligament. Doubtless Bassini avoids the mistake indicated; but it was hardly emphasized in the article under discussion.

I have his original article upon his method of radical cure, and faithfully followed his description in writing up hernia for Wood's "Handbook," in which I also detailed some twenty other methods; but, if I remember correctly, the point made by Dr. Andrews at this time is new—namely, that Bassini by his first row of stitches now "inverts the upper or muscular segment like a Lembert suture," producing "an overlapping or imbrication here, giving broad surfaces of union." It is also certainly well worth a thought.

Numerous other questions of technique, especially as to the treatment of the sac and placing of the cord, will occur to every one, but cannot properly be studied within the limits of a letter. I can only allude in conclusion to the interesting description of the huge ward of the Spedale Civile, capable of holding twice ninety-six beds; for, as Dr. Andrews describes it, only a low screen separated the one group of ninety-six (or with a capacity for that number) from the other; "so that the two rooms were in reality one immense chamber." To this Dr. Andrews "can see no real objections" unless from "difficulties in administra-

[1] In this country sterilizing silk by boiling in glycerin has been commonly discarded in favor of boiling in water, which is certainly as effective. It was Miquel of Paris, who in 1880 suggested the use of glycerin heated to 140° C. Redard among others refers however, to the "intolerable odor of boiling glycerin, as precluding its use."

tion and nursing." To the writer it would seem that there is a different and most serious objection to such an enormous ward, namely, that one suffering patient can by his groans, or by screaming out in a nightmare, spoil the sleep of a great number of others; some of whom may even be placed in jeopardy of their lives, if in a critical state, by a sudden fright or by broken rest. Plainly, the smaller the wards the better for the patients—if the air space is relatively the same in either case.

A very large ward of this kind is to be found in the new United States Naval Hospital in Brooklyn—in most other respects, and particularly in its operating-room and equipment, a credit to the government.

Once more, the expression of my cordial appreciation to Dr. Andrews, with the hope of another article of equal value from his pen.

ROBERT H. M. DAWBARN, M.D.

105 WEST SEVENTY-FOURTH STREET, NEW YORK,
October 31, 1899.

## THE VAGINAL OPERATION PREFERABLE FOR INTRALIGAMENTOUS CYSTS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In to-day's number of the MEDICAL RECORD I find myself credited, during a discussion on "Ovarian Cystoma Complicating Pregnancy," before the Obstetric Section of the Academy, with the statement that it is "a great mistake to operate on an intraligamentous cyst, whether the woman was pregnant or not, provided it did not extend up very high." Of course I expressed no such opinion, and I do not wish to go on record as entertaining so absurd a view. What I did say substantially was, that in my opinion it was a mistake to operate on an intraligamentous cyst from above, that is, by the abdominal route, unless it extended high up into the abdominal cavity, for when such cysts are entirely intrapelvic they can be much more easily and safely evacuated and even enucleated through the vagina, whether during pregnancy or even during labor, if in the way, or in the non-pregnant condition. The omission in the report of the distinction between the abdominal and vaginal operation constitutes the absurdity of the statement, for the correction of which I venture to trespass on your valuable space. I may be permitted to add that, in my experience, the evacuation by free incision of intraligamentous ovarian cysts, with or without enucleation of the sac, is far safer and easier, and vastly less dangerous, while equally curative (gauze drainage and packing), when performed through the vagina, than when carried out by the abdominal route. Only in large intraligamentous cysts, which have become chiefly intra-abdominal, do I think the operation from above advisable. I know of no abdominal operation which is likely to present more technical difficulties, and consequently more risks to the patient, than the enucleation of an intraligamentous ovarian cyst and the stitching of the flaps of the broad ligament to the abdominal wound. It is in these cases that pan-hysterectomy often becomes necessary. These risks can be avoided, to a great extent, by the vaginal method.

When the diagnosis between a small intraligamentous ovarian cyst and an ordinary pelvic ovarian cyst is doubtful, I should prefer opening the abdomen, and, if the cyst proves to be intraligamentous, closing the abdominal incision and operating per vaginam as already described, rather than to proceed to remove the cyst by the abdominal route. This applies with even greater force to an ovarian abscess when it proves to be intraligamentous.

PAUL F. MUNDÉ, M.D.

20 WEST FORTY-FIFTH STREET.

## OPIUM TREATMENT IN APPENDICITIS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: On page 683 of the MEDICAL RECORD for November 4, 1899, Dr. Rochester is quoted as saying that "personally he was one of those who believed that acute appendicitis should not be operated on in the acute stage, but should be treated with large doses of morphine, according to the old method of Alonzo Clark." I shall be very glad to treat my acute appendicitis cases in this way, if it is the best way. Every responsible physician and surgeon will be very glad to give up his other methods and treat the cases by Dr. Rochester's plan, if that is the best one. If it is not the best one, then Dr. Rochester perhaps has not the right to treat his cases by the opium method, or to say in the presence of hearers that that is his plan. It is too late a day for any one to base his practice in acute appendicitis upon impressions or personal observations that differ from the classified knowledge upon the subject. It is justifiable only when one can amass data of sufficient importance to change some classified point. If Dr. Rochester is to treat his acute appendicitis cases by the opium plan he must first give us the records of the cases that he has followed. We are to have a statement of the number of cases treated, of the proportion of deaths, of the comparative length of time wasted in bed, of the condition of the patient's general health after subsidence of the acute attack, of the condition of the appendix as determined by accurate palpation. Dr. Rochester is in duty bound to give us extremely accurate data upon these points, because human life is directly at stake, human happiness is directly at stake. If the rest of us are treating our acute appendicitis cases in the wrong way we wish to know it as soon as possible. If Dr. Rochester is treating his acute appendicitis cases in the wrong way he should know it as soon as possible. Patients trust Dr. Rochester. They trust the rest of us. The trust of numerous patients is violated.

ROBERT T. MORRIS, M.D.

49 WEST THIRTY-NINTH STREET, NEW YORK,
November 8, 1899.

## PHYSICIAN'S ARREST ON FALSE CHARGES.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In looking over last week's MEDICAL RECORD I could not help noticing your article on the unpardonable indignities inflicted upon Drs. Purdy and Maier. The reason I write you this is to narrate to you something of a similar nature, which happened to me about ten months ago, and also to comment on the gross injustice of the present law, which allows some over-zealous official to arrest on suspicion or the slightest pretext any physician who may have had some innocent connection with the case. In the early part of the present year I was called to attend a young woman aged twenty-two, who was suffering from hysteria. After several treatments she told me she was three months pregnant, and had had a slight show; she also declared that she was suffering from blood poison, which she said was due to the fœtus remaining after a flow had appeared. As she was in normal health I told her so, but this did not satisfy her, and I then told her either to get another physician or call in a reputable consultant. This was done, and the consulting physician agreed with me that, outside of her hysterical condition, she was in perfect health. This did not satisfy her, and she kept asking me to bring on an abortion. As soon as I saw what her purpose was I dropped the case, after warning her of the danger to her life if she persisted in her desires to rid herself of her child. She merely answered that she could get a certain doctor to do it any time she wanted.

This fellow was called in, and on being advised of her desires performed an operation and removed the fœtus. A week after the operation was performed the woman had an hysterical attack, and the scoundrel who performed the operation, thinking that she was in a dying condition, called in a disreputable lawyer and had a statement drawn up saying that I was the party who performed the abortion, and demanding my immediate arrest.

This document was taken to the police station, and forthwith my house was surrounded by almost the entire police force, headed by the captain and detectives. I was unceremoniously hustled to the lock-up, and kept there all night. In court the next morning I was released on bail, after being admonished by the detective to say nothing to reporters. This same detective had, I found out, later taken a reporter to the fellow who made the charge, and, together with the lawyer who was implicated with this criminal abortionist, they concocted a long story making all sorts of charges against me. After trial I was discharged. I have since then made ineffectual efforts to have the guilty parties indicted, but have met with nothing but rebuffs, being told that the parties had covered themselves in such a way that the law could not get at them. Is this justice? Why do not the authorities arrest the large number of professional abortionists who advertise their nefarious practices in the public press? Let a law be passed to make all public officials responsible for their acts; then possibly some protection might be afforded to our already suffering brothers.

WILLIAM I. LOUIS, M.D.

BROOKLYN HILLS, LONG ISLAND.

## MORPHINISM AND THE MEDICAL PROFESSION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the MEDICAL RECORD of November 4th is an editorial on "Morphinism, Drink, and the Medical Profession." You lay the fact that ten per cent. of the medical profession use morphine to the severe trials they undergo, and the excessive mental strain that they are so often placed under. Would it not be more rational to lay it to their constant association with it? All physicians carry morphine and a hypodermic syringe. They use it constantly and see its magic qualities; and regardless of the sad examples they see around them, if they are suffering from any pain or from insomnia they have more temptation to resort to the seductive drug than one who scarcely knows what a hypodermic syringe is. A bartender sees daily examples of the results of alcohol, but being in so favorable a position to obtain it he almost invariably becomes addicted to its use, and from the same cause. It is natural to place too much confidence in one's resisting-power, and to become too familiar with drugs, as with any other danger, by constant association with them.

"Vice is a monster of so frightful mien,
As to be hated needs but to be seen,
But seen too oft, familiar with her face,
We first endure, then pity, then embrace."

ALBERT S. PAYNE, M.D.

MANISTEE, MICH., November 8, 1899.

**Cremation in Germany.**—It is said that the adherents of cremation are rapidly increasing in Germany. Recent statistics place the number of cremation societies in the German empire at thirty-seven, with an aggregate membership of thirty-seven thousand six hundred, an increase of membership of more than twenty-five thousand since the beginning of last year.

# Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending November 11, 1899:

| | Cases. | Deaths. |
|---|---|---|
| Tuberculosis | 172 | 148 |
| Typhoid fever | 56 | 17 |
| Scarlet fever | 109 | 6 |
| Smallpox | 1 | 0 |
| Measles | 262 | 10 |
| Diphtheria | 248 | 37 |
| Laryngeal diphtheria (croup) | 11 | 4 |
| Cerebro-spinal meningitis | 0 | 9 |
| Chicken-pox | 15 | 0 |

**Is Alcoholism a Disease or Vice, or Both?**—Dr. J. F. Sutherland, speaking at the meeting of the British Medical Association on the drink question, touches on the above side of the evil, and says: "It is far from my intention to enter upon the fruitless task of attempting to determine whether the chronic inebriety which I am anxious to see restrained is a disease or vice, or both, further than to say that in those cases where the evidences of vice are strong, the vice if long indulged in leads in all cases to disease, even if to ordinary as well as to extraordinary observers the nervous and other systems do not present distinct evidence of degeneration, and in a large number of cases to mental and bodily change. You see I have said nothing about the part biology, heredity, and diseases present before the habit has been acquired play in the rôle of inebriety. In these aspects there is not only room for differences of opinion, but inconsiderable doubt. My case is strong enough without their aid; and the views I have just put forward will, I think, meet with the acceptance of all reasonable men, whether lay or medical."

**Plague Microbes Brought Back to Paris.**—The *English Pharmaceutical Journal* has the following amusing story: When Dr. Albert Calmette, director of the Pasteur Institute at Lille, returned from fighting the plague at Oporto a day or two ago, he drove straight to the *Figaro* office to shake hands with his brother, M. Gaston Calmette, before leaving Paris for Lille. He was welcomed by several journalists who happened to be present, among them M. Emmanuel Arène, who gives a description of the scene in the *Éclair*. Dr. Calmette had left his luggage downstairs on a cab, but he carried in his hand a little tin box which he put down carefully on the mantelpiece. Conversation became general. The doctor declared that all his experiments had been most successful. "So you know exactly what kind of plague you had to deal with?" asked one of the company. "Of course I do," was the startling reply, "for I have brought it back with me"; and the doctor calmly took the tin box off the mantelpiece, and, somewhat to the horror of his listeners, began to open it. He took out a little glass tube hermetically sealed, which contained something that looked very much like clear glycerin. There were millions of microbes in it, though they were not very easy to see. "You have only to dip a pin in this, and prick yourself," he said, "and in ten hours you would have the plague; in five days you would be dead. But you had better take my word for it," he added, smiling; and every one cheerfully did.

**Dangers of Tinned Meat.**—At the present time, when the armies of the American and the British in the Philippines and South Africa are consuming large

quantities of edibles put up in this form, the subject is a peculiarly appropriate one. *The British Food Journal* for September, treating the question editorially, concludes thus: "In Holland some two or three years ago, in consequence partly of the fact that after eating tinned food about seventy soldiers were attacked by severe illness at the Dutch manœuvres, the attention of the government was drawn to the matter by Drs. Van Hamel, Roos, and Hanneus, who advocated the use of enamel for coating tins. It appears that an enamel of special manufacture is now extensively used in Holland by the manufacturers of the better qualities of tinned food, and that the use of such enamelled tins is insisted upon for naval and military stores. This is a course which might with great advantage be followed in this country. While absolute safety may not be attainable, adequate steps should be taken to prevent the use of damaged, inferior, or improper materials, to enforce cleanliness, and to insure the adoption of some better system of canning."

**The British Medical and Nursing Department in South Africa.**—The *English Sanitary Record* says: "There is little fear regarding the medical and nursing department in the present war in the Transvaal. Half a century ago it may be said that both were nonexistent. Some rudimentary efforts toward a medical service had been made prior to the Crimean war, but the army medical corps as we now know it practically takes its date from that time, and it was in the Crimean war that the army nursing service—with which the name of Florence Nightingale is imperishably associated—also had its origin. . . . At the present day both departments are in an excellent state of efficiency, and the nursing service in particular has never been more highly organized than now. Naturally the training is extremely specialized. Before a lady can obtain admission to the service she must have passed through a preliminary period of general training in one of the recognized hospitals for at least three years; and this is followed by a further course of military nursing at Netley, the only school in the kingdom where military nursing is taught."

**To Avoid Nausea and Vomiting Following Anæsthesia.**—Blumfield makes the following recommendations: (1) To use as little of the anæsthetic as possible consistent with perfect anæsthesia; (2) to wash out the stomach at the close of the operation, when much mucus has been swallowed; (3) in protracted operations to substitute chloroform for ether after three-quarters of an hour; (4) to move the patient about as little as possible during and after the operation; (5) to place him on his right side in bed, with the head only slightly raised; (6) to give nothing but hot, thin liquid in small quantity for at least eight hours afterward; (7) to avoid altering the temperature of the room for several hours.—*The Lancet*, September 23, 1899.

**Poisoning from Canned Meat.**—Instances of poisoning from the eating of canned meats have become quite common. Although it may be possible that in some instances the ill effects arise from metallic poisoning, in a great majority of cases the poisonous substances are formed by putrefactive changes. In many cases it is probable that decomposition begins after the can has been opened by the consumer; in others the canning is imperfectly done, and putrefaction is far advanced before the food reaches the consumer. In still other instances the meat may have been taken from diseased animals, or it may have undergone putrefactive changes before the canning. It should always be remembered that canned meat is especially liable to putrefactive changes after the can has been opened, and when the contents of the open can are not consumed at once the remainder should be kept in a cold place or thrown away. People are especially careless on this point. While every one knows that fresh meat should be kept in a cold place during the summer, an open can of meat is often allowed to stand at summer temperature and its contents are eaten hours after the can has been opened. This is not safe, and has caused several outbreaks of meat poisoning that have come under the observation of the writer.—Dr. Victor Vaughan, *in Appleton's Popular Science Monthly*.

**Care of the Body After Death.**—It is ordinarily advisable that the cadavers of patients who have died of the most dangerous communicable diseases be at once enveloped in a sheet saturated with either five-per-cent. carbolic acid, four-per-cent. chloride of lime, or 1 : 1,000 solution of corrosive sublimate, and placed at once in the coffin in which each is to be buried. These cadavers should be buried as soon as decency permits. The law should, and usually does, forbid public funerals in these cases. With the less dangerous infectious diseases, however, such stringent measures are not observed. The body after death may be washed in either of the strong disinfecting solutions mentioned, though because of their odor the carbolic acid and chloride of lime solutions usually give way to the sublimate solution. It is not advisable, even in the milder infective cases, to expose the remains in open caskets. The body should be buried or cremated; the result of the two processes of final disposal differing, as a rule, only in the time required for their accomplishment. If buried the place selected should be so located as to not endanger neighboring water supplies.—"The Hygiene of Transmissible Diseases," by A. C. Abbott, M.D.

**Syphilis After Vaccination.**—Mr. Jonathan Hutchinson, in his *Archives of Surgery* for July, speaking of cases of syphilis recorded after vaccination, says: "It is now twenty-eight years since the two series of cases occurred which drew so much attention to the subject of vaccinal syphilis. About the same time several other isolated cases of undoubted character were recorded. Before these events almost the entire British profession had been incredulous as to the possibility of transmitting syphilis by vaccination. Some series, however few in number but quite as conclusive, had been recorded on the continent. These, supported as they were by our English experience, led to a prompt and universal acceptance of the belief that such transmission was a thing to be feared, and very probably to greatly increased precautions. It is now a matter of the deepest interest and a cause of great congratulation, that despite the vigilance of anti-vaccinators and their zeal in dragging such cases to the light, no considerable series of cases have been recorded. A few—a very few—isolated cases have undoubtedly occurred. The protracted inquiry of the vaccination commission did not discover more than three such, and in only one of these did more than a single infant suffer. At the same time it exposed the fallacies which underlay the diagnosis in several cases which had been certified as syphilis, but were not so."

**Trained Nurses the Best.**—A daughter of the Earl of Dufferin, late governor-general of Canada and viceroy of India, is training as a nurse in the London Hospital. Lord Dufferin inherits much of the wit and eloquence of his ancestor Richard Brinsley Sheridan, one of the greatest orators that that land of orators, Ireland, ever produced. When speaking recently on nursing, at some hospital function, Lord Dufferin, dwelling upon the necessity of a thorough training to fit a woman for nursing, made some amusing remarks on the incompetence of amateur nurses, who, however willing they might be, generally rendered the life of the unhappy patient miserable. He concluded by

saying that, although he was well aware of the fact that if he was ill his wife would do all in her power to relieve his sufferings, nevertheless he would much prefer the trained services of his daughter the nurse.

**Starch Digestion in Infants.**—It has long been the custom to say that no amylaceous substances should enter into a young infant's food because it has from nature at an early age no ferment capable of digesting starch. The saliva of a newly born child—and it is wrong to say that there is no saliva at this age—will dextrinize starch, as any one who wishes may prove for himself.—A. Jacobi.

**Good Effects of Singing.**—From the medical standpoint singing is a most important exercise both by virtue of its influence on the emotions, on the respiratory movements, and on the development of the lungs. Nothing better shows the beneficial effect of singing in developing the chest and warding off lung diseases than the great pulmonary development and freedom from pulmonary disease among professional singers. Their general health, moreover, is exceptionally good, and this is probably in a large measure attributable to the mere exercise of their calling. Such therapeutic importance do I attach to singing that I recommend it whenever opportunity affords. It is especially useful in defective chest development and in chronic heart disease. Provided the patient can sing with comfort I know of no condition in which singing is contraindicated, unless it be a tendency to tuberculous or aneurismal hæmoptysis. It is scarcely necessary to say that the singer should be so clad as to allow absolute freedom of the chest movements, there should be no constriction of the neck or waist, the collar should be low and ample, and the stays if worn ample and loose. —Dr. Harry Campbell.

**Ethics of the Profession.**—As far as can be gathered without the aid of a court trial or a grand jury, the trouble between the doctor and lawyer living about twelve feet apart in one of the best sections of the city was brought about by the children. The professional men were at first politely distant, then ceased to speak, and finally forbade their respective families to have anything to do with each other. One evening the doctor heard loud lamentations, and rushed out to find the lawyer's boy picking himself up after having scorched into the rear end of an ice-wagon and partially scalped himself. The doctor deftly made the necessary repairs, gave the lad a free lecture on looking where he was going, and sent him home. The very next month the lawyer received a bill for professional services from his neighbor. He thought unspeakable things, but sent a check. Some time after the doctor rushed excitedly into the lawyer's office. "I want to know," he shouted, "how I am going to keep those pesky kids of yours out of my yard? They're an unspeakable nuisance, and I won't stand it." "Tell their mother, and she'll attend to it. Just a moment"—as the doctor was about to hurry away. The lawyer wrote hurriedly and handed a bill for $5 legal services. The doctor fumbled in his pockets. The lawyer tried in vain not to laugh. Then the doctor laughed. The two voted themselves a pair of old fools, and shook hands. Now the children have suddenly become a mutual source of pleasure.—*New York Tribune*, from *Detroit Free Press*.

**War against Rats in Denmark.**—The London *News* says: "We hear that in Denmark a campaign against rats is being prosecuted with vigor. It was originally started in Copenhagen, where the alarming multiplication of the rats induced the municipal authorities to resort to a mediæval method (perhaps we should even say a prehistoric method) of freeing the community of beasts of prey. As a price was once offered for every head of a wolf, so the conscript fathers of the Danish capital engaged to pay a certain sum for each dead rat. An official report of the statistics of rat slaughter has been issued every week since the opening of the campaign. In the first week the rat-catchers, professionals and amateurs, gave in the heads of 6,000 rats, in the second week 6,616, in the third week 6,780. We are told that the average weekly bill of mortality among the rat population of Copenhagen has now risen to about 10,000. Other towns and communes followed the example of the capital, and the Danes are making a patriotic attempt to exterminate 'the petty wolf,' as Hendrik not inaptly named the rat."

**Zacharin as a Teacher.**—Dr. Rovinsky, in his introduction to the volume of clinical lectures by Zacharin just published says of Zacharin that he was connected in the capacity of instructor and professor with the medical department of the Imperial Moscow University for a period extending over thirty five years. A man of indomitable energy and very pronounced individuality, he is considered as the founder of what is known in the Russian medical world as the Zacharin school of practical medicine in whose tenets were brought up several generations of physicians scattered in every nook and corner of the great empire. He came of a poor but very old family of nobility, and was compelled from his early student days to struggle with want and privation, but, thanks to the possession of an iron will and unswerving determination, he rose to a position equal to that occupied by Botkin and Pirogoff. It may be truly said that Pirogoff, Botkin, and Zacharin form the great triad of Russian clinical medicine of the nineteenth century.

**University for Women in Russia.**—Russia, although perhaps, with the exception of Turkey, the most backward of European countries, is now making strenuous efforts to catch up with the more advanced nations. The freeing of the serfs was the first great step in this direction. In matters medical especially has she bestirred herself within the past thirty years. The position of the medical man in Russia was one of almost ignominy no longer than thirty years ago. He was looked upon as a servant, and was not even permitted to seat himself in the presence of those of higher rank who might require his professional services. All that has been changed, however, thanks greatly to the labors of such men as Botkin and Zacharin, and at the present time the Russian physician takes his proper position as an educated man. The visitors to the International Medical Congress in Moscow were astonished at the high state of excellence to which the hospitals and medical schools had been brought, and it may be said without exaggeration that, with regard to its professors and to the means afforded for scientific research, St. Petersburg and Moscow need fear comparison with no large city in the civilized world. To prove that this forward movement shows no signs of retrogression, the news has recently come that a university for women is to be founded in Moscow. A wealthy Russian has left $500,000 for that purpose, and the municipal council of Moscow has supplemented this bequest with an annual grant of $1,500.

**Danger to Health on Board Passenger Steamers.**—Dr. Anderson contributes an article with the above title to the *Journal of Tropical Medicine*. He classifies the dangers as follows: Class A—Contagion from (1) tuberculous fellow-passengers or those affected with dermatitis; (2) want of proper hospitalization of sick passengers and sailors; (3) inadequate accommodation for troops invalided home; (4) water-closet leakage; (5) cattle-pens and menageries; (6) water-closets

on the lower decks; (7) desiccated sputum on deck; (8) impure water taken on board at ports of call; (9) food and drink partaken of ashore; (10) miasma in harbor; (11) mosquito bites. Class B—Danger from imperfect ventilation. Class C—Danger from unsuitable cabins. Class D—Danger from the heat and from exposure to the sun's and moon's rays in the tropics and in the torrid zone. Class E—Danger from want of exercise. Class F—Danger from uncontrolled medication. Class G—Danger at the hands of inexperienced medical officers.

**How Brain-Workers Should Eat.**—It is all right, says a writer in the *Sanitary Record*, for the man who labors all day in the open air to eat freely; but the man of sedentary habits, the brain-worker, must adapt his way of living to his needs. He must be well nourished, for the brain is incapable of good work unless well supplied with pure blood, but such a man cannot possibly furnish vital force to digest three large meals daily. If he tries it, nature will protest at every step. The chemical changes of digestion will be imperfectly performed. The stomach will neither secrete freely nor churn the food with cheerful alacrity; the pyloric orifice contracts and allows such chyme to pass with grudging reluctance; the intestinal lacteals are ashamed to absorb such miserable pabulum, which chokes, irritates, and congests them, so the large meal remains in the digestive organs to ferment, putrefy, and steep the individual in foul gases and depraved secretions. But the system can furnish enough vital force to convert a small meal into pabulum of high standard, which will be absorbed without difficulty. Three such small meals are not enough to keep the individual properly nourished, however; four to six will be required. Each should consist of but one or at most two articles of food, the diet to be varied by changes at meals. The portion of food served must be small; the patient must stop as soon as the appetite is satisfied, and gaseous distention is proof positive that the meals are still too large or too close together.

**The Prophylaxis of Malaria; the War against Mosquitoes.**—Since the part played by mosquitoes in the transmission of marsh fevers has come to be known, many scientists have occupied themselves with the question of the measures to be taken against these insects. These measures may be divided into two classes: measures which have as their end the destruction of the mosquitoes *en masse*, and those whose object is to protect individuals from their bites. The measures advocated to destroy these insects are numerous. They comprise all the possible ways of abolishing marshes and ponds by drainage and forming plantations (principally of pine and eucalyptus). The keeping in motion of the water of pools during summer by means of water-wheels moved by small windmills (Howard) appears to be an excellent method; it has been used at San Diego in Texas. Parks or garden ought not to be made; they are nothing but receptacles for mosquitoes. As a measure against the larvæ of the pathogenic insects, the reasonable plan has been suggested of pouring into the water of the ponds common oil, or, better still, petroleum. Twenty-two litres of oil are sufficient to cover efficaciously a surface of ninety-six thousand square feet. It is important to pour in the oil at the beginning of the hot season (Howard, Smith, Weed, Kelley, Nuttall). Petroleum oil of weak consistency has no influence on the lives of the fish. Sulphate of iron and permanganate of potash, both of them highly praised, do not give results so satisfactory as those produced by oil. Fish are good auxiliaries in the destruction of the larvæ (Russell), hence the necessity of favoring pisciculture in malarious countries; the three-spined stickleback (Gasterosteous aculeatus) is especially recommended (Howard). Within the last few years particular insects (mosquito-hawks) have been employed in America to destroy mosquitoes. One of the questions to which the inhabitant of a malarious country should devote special attention is that of the choice of dwelling. He should build his house always on the hills or in elevated spots; inhabit the upper stories of his house; keep away from gardens and ponds; plant round his house trees of Eucalyptus globulus, or, better still, of the Ricinus communis (Giard); use petroleum lamps and keep them lighted in the room that communicates with his bedroom. To free a room from the mosquitoes it may contain the best process consists in burning pyrethrum (Campbell); the mosquitoes fall down and die. Howard's advice is to moisten the powder of pyrethrum, make balls of it, dry them, and burn one or two as the case may be. According to Weeder, the leaves of Mentha pulegium keep away mosquitoes. Eator, to the same end, advises putting a branch of eucalyptus under the pillow. Weed attributes more effect to daily anointing the face and hands with petroleum oil. In Canada a mixture of tar and oil or camphorated vaseline is used in the same manner. The Hudson's Bay Company recommends tar water for the skins of both men and animals. At Imibirsk excellent effects were obtained by the use of a strong infusion of roots of Triticum repens (Beutenmüller). Chappel has quite recently recommended infusion of quassia. Pednoff is emphatically in favor of naphthalin dissolved to saturation point in liquid vaseline.—*English Veterinary Journal*, translated from *Revue Scientifique*.

**The Origin of the Decimal System.**—The decimal system, it has been said, was evolved from the human hands, which with their ten fingers constituted the only counting-board used by primitive man. It is well known that the system was not perfected until ciphers were introduced. This cipher system was invented in India in the fifth century, and its introduction into Europe is generally credited to Leonardo Fibronacci, better known as Leonardo Pisano, the author of "Liber Abaci," published in 1202. Leonardo learned the Arabian tongue and art of reckoning from his father, who lived in the Arabic city of Bugia. But before Pisano's time, another "Liber Abaci" had been written by Gerbert, which is based on a cipher system. At the last Toulouse Congress, R. Astier showed that the same system had already been employed in the "Geometria" of Boethius, in the sixth century, and hence long before the introduction of Arabic signs into Europe. Astier states that the counting board (abacus) of the Greeks and Romans, which serves as the basis of column reckoning, was invented by the Babylonians, who, it will be remembered, are usually thought to have used only the duodecimal system. Astier supports his assertion by citing an old abacus which seems to have escaped the attention of such mathematical historians as Chasles, Montucla, Marie, Bossut, as well as the old lexicographers Rich and Saglio. The precious document in which the abacus is described has been preserved by a Renaissance scholar, Balsani (Pierins Valerianus) in his work, "De Sacris Ægyptorium Literis." The system which he describes contains nine numbers, running from one to nine, a cipher or zero being dispensed with by using a special column, and a decimal arrangement of figures progressing from left to right. The numerical characters of this abacus of Balsani's are in every way similar to the cuneiform letters of the Chaldeans, and entirely different from Arabic numbers. Balsani's abacus would, therefore, lead us back to Babylonian days; and the period or comma which plays

so important a part in the decimal system is really a cuneiform character. Astier has requested Assyriologists carefully to examine the statue of a builder in the Louvre, usually designated as the statue of King Gudea (2500 B.C). It is generally supposed that Gudea is here represented as a builder holding in his hands rule and compass, and on his knees a rectangular tablet on which the scale of Babylonian measurements of length are inscribed, together with a figure which has hitherto been considered the plan of the building. Astier holds that this scale is perhaps a Babylonian abacus, and King Gudea is represented as the inventor of the decimal system. So bold an hypothesis can be accepted only after a most searching investigation on the part of Assyriologists.—PROMETHEUS, in *American Druggist and Pharmaceutical Record.*

**Triplets.**—Dr. R. E. Hyde, of Beekmantown, N. Y., writes: "I was called on the night of September 21, 1899, to attend Mrs. A. A. Jubar, aged thirty-nine years, the mother of nine children. I found her in the second stage of labor. In about an hour she gave birth to a child; in twenty minutes another child presented feet first; and in less than twenty minutes more another came with a head presentation. All three were born in less than one-half hour. All were girls and their total weight was seventeen and a half pounds. There were three cords, three sacs, and one placenta. At the time of writing, five weeks after birth, all the children are well."

**A Slump in Operations.**—A veritable slump has occurred in this department during the past few years. When adenoids first came out the operation value was often quoted at 52½; then there was a drop to 31½; then to 26¼. In the present day the price is generally about 15¾, and when business is dull it may even fall to 10½. Again with abdominal operations, the proper market price of these stands at 105; at least it ought to stand at that figure, but the amount of fluctuation which takes place in this stock is, as far as I hear, heartrending. The price has been known to drop to 21 quite independently of international complications with Mr. Oom Paul. As for amputations, now seldom heard of, their price has ceased to be quoted at all. As a matter of fact, it would seem that the more the public are provided with skilled medical assistance, the less they will pay for it. The only way, therefore, of saving the situation is to increase the output of millionaires.—*West London Medical Journal.*

**The Visions of the Black Man.**—Miss Mary H. Kingsley, daughter of the late well-known author, the Rev. Charles Kingsley, has been giving some of her experiences in West Africa, where she travelled on an exploring and scientific expedition for some months. Speaking on the subject of the black man's proneness for seeing apparitions she says: "I have had an extensive and sad experience with people—white and black, strong-minded and weak-minded, educated and uneducated—suffering from delirium, which has taught me that men under certain physical conditions can and do see things that men in a normal state cannot and do not see. I also know that the African, in spite of all his hard common sense, is endowed with a supersensitive nervous organization; he is always a step nearer delirium in a medical sense than an Englishman. A disease that will by rise of bodily temperature merely give an Englishman a headache will give an African delirium and its visions. Whether this indicates a difference in physical make between Africans and Englishmen I do not know. It may be that the African, by his long process of acclimatization to malarial districts, has a chronic state of malarial delirium; or, on the other hand, it may be that his undoubtedly more sensitive nervous system enables him to see things the duller-nerved Englishman does not; or one might say the African mind may be a more perfect photographic plate on which the spirit-world can print itself."

**Causes of Constipation.**—(1) Those springing from the violation of hygienic law; (2) defective innervation, expressed either in atonicity of the muscular coats of the intestine or in decreased secretion; (3) sluggishness of the bowel function; (4) the habitual use of purgative medicine; (5) mechanical obstruction; (6) painful affections of the anus.—A. B. COOK.

**Medical Volunteers.**—A good word for the American medical volunteers is spoken by the *British Medical Journal* of September 23d, in its notice of the report of the medical work of the Massachusetts Volunteer Aid Association during the Spanish war. "The American people," it says, "with all their practical ability and unlimited resources, no more than others can successfully carry on war with an improvised army without the aid of such private enterprise. The ship fitted out by the committee was so complete that she may be looked upon as a model for future ships of the kind."

**Beer Drinking.**—Recent statistics show that the consumption of beer in Germany during the year 1897-98 was 1,383,700,000 gallons; 1,192,000,000 in Great Britain; 180,000,000 in France, and about 90,000,000 in Russia. A better notion of the popularity of beer as a beverage is to be had from the estimates of consumption "per head" of the population. It is reckoned at 36 gallons in Belgium, 32 in Great Britain, 25 in Germany, 21 in Denmark, 12 in Switzerland, 10 in the United States, 9½ in Austria-Hungary, 9 in Holland, 5 in France, 3½ in Norway, 2½ in Sweden, and 1 in Russia.

**Modern Treatment of Insanity.**—*The London Hospital*, in an article on insanity, concludes thus: "In the closing decade of our century we are standing on the threshold of a new epoch in which insanities are beginning to be studied and investigated as other diseases; progress, steadily but surely, is making its way in the growth of knowledge regarding etiology, hereditary conditions, pathology, and therapeutics; the brain as the affected organ and every other part of the body as partners in the morbid manifestations which in their totality we call insanity are receiving examination with all the wealth of methods and means that modern science supplies; statistical and sociological studies are contributing their quota toward the elucidation of the problem, and the closing years of the century are full of promise and hope for the future. Perhaps the time is not far distant when by intelligent social and legislative measures, by the growth of an enlightened public opinion, and by the spread and diffusion of medical and scientific knowledge, much more may yet be accomplished toward the treatment and prevention of the insanities. Suffice it, however, for the present century that it has completed the humanitarian epoch, and inaugurated the scientific."

**Causation of Night Terrors in Children.**—Dr. G. Graham Little read a paper before the British Medical Association on the above subject, and drew the following deductions from the cases which had come under his notice: (1) Night terrors are in the great majority of cases caused by disorders productive of moderate but prolonged dyspnœa. (2) A preponderating number of cases are found in rheumatic subjects with early heart disease. (3) A considerable proportion

of cases are due to obstruction of nasal cavities and fauces. (4) Digestive disturbances do not play the important part in causation that is often assigned to them. (5) The evidence for their causal connection with epilepsy or allied neurosis is scanty. (6) The attacks occur in the subconscious stage of early sleep, and are confined to children under puberty.

**Starvation in London.**—London, although the richest city in the world, supplies quite her fair share of deaths due to starvation. It is gathered from a parliamentary return recently issued with respect to the number of deaths in London from starvation, or accelerated by privation, that the total number of such cases was forty-eight. In the Eastern District there were fifteen deaths from this cause, in the Northeastern thirteen. These, by the way, are only the cases of death from unexplained causes which come before a coroner. Doubtless there are many others which are never known.

**Magiphonia.**—Owing to a lack of tension of the vocal cords, singers or speakers may notice that singing or forced or accentuated speaking may become at first difficult and finally impossible. The cords employed in ordinary conversation, without the added burden of increased effort, as in singing or loud declamation, respond normally. The condition is known as magiphonia, and is analogous to other occupation neuroses, such as writer's cramp, etc. The affection may simulate either the tremulous or paralytic variety of this disease, the latter form, according to Fränkel, being the more important. Massage and friction give best results in the treatment.—"Diseases of Nose and Throat," by DR. D. BRADEN KYLE.

**Wine Cheating.**—A correspondent of the London *Globe*, says the *British Food Journal*, in approving of the activity of food-inspectors and others in detecting frauds on the public, refers to some cheats which have been attempted upon himself and are presumably part of an extensively practised system. On one occasion at a restaurant he ordered à particular brand of port. On tasting the wine served to him, he discovered that it was not what he asked for, and after repeated denials the cellar-man had to confess that, being out of the wine, another had been substituted. A similar deception occurred with reference to a celebrated brand of claret, for which apparently some draught wine had been substituted. The cellar-boy admitted, on being reproached for the delay, that they had no Chateau bottled.

**Bacilli and Blackmail.**—According to a Vienna correspondent a blackmailing case with a humorous aspect has been occupying the attention of the criminal courts at Gratz. An elderly lady of great wealth one day received a letter saying that if she did not send the sum of 10,000 florins in small bank notes the writer would work a fearful revenge by opening in her room a bottle containing the bacilli of various infectious diseases, which would certainly cause her death. The lady appealed to the police, who discovered the would-be blackmailer. A bottle found in his possession really contained bacilli, which the culprit, who is a medical student, had stolen from his professor's lecture room. A sentence of eighteen months' hard labor will doubtless prevent this promising youth from further blackmailing enterprises.

**Tetanus.**—The statement is published that M. Nocard has distributed a large quantity of anti-tetanic serum which has been used for injection into various animals as a prophylactic against tetanus. He asserts that out of twenty-three hundred beasts so injected not one suffered lockjaw after operation. So far good, but we should like to be told how many of them would probably have so suffered if they had never been injected.—*Medical Press.*

**Brachycephalism** was the affection from which a man, arrested for intoxication last week, claimed to be suffering. Magistrate Pool thought that a pretty bad disease, and let him go.

**Salt for the Morphine Habit.**—Salt, according to some authorities, is one of the most efficacious remedies in cases of morphinism, and in chronic diseases attended by impaired elimination. Three to five grains per day, followed by a draught of water, will cause the glands to work more actively, and will at the same time stimulate the mental faculties.

**Embalming Fluid.**—

| | |
|---|---|
| ℞ Crude petroleum | 1 gal. |
| Camphor | 4 lbs. |
| Carbolic acid | ½ lb. |
| Fowler's solution of arsenic | 1 lb. |

M. S. Extract the blood from the body and inject.

—MARK L. NARDYZ.

**Sanatorium in the Egyptian Desert.**—*The London Hospital* says: "It will be good news to many consumptive invalids to learn that a large sanatorium for consumptives will be open, probably in November, at Helonau in Egypt. The building will be open to the desert on all sides, and the roof will be utilized as a winter garden. The window casements are to be constructed for the unrestricted admission of air. Separate rooms with bath-rooms are to be provided, and about seventy patients will be accommodated."

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended November 11, 1899:

| | | Cases. | Deaths. |
|---|---|---|---|
| **SMALLPOX—UNITED STATES.** | | | |
| Illinois, Chicago | October 27th to November 4th | 1 | |
| Iowa, Ottumwa | October 1st to 7th | 1 | |
| Louisiana, New Orleans | October 27th to November 4th | 1 | |
| New York, New York City | October 27th to November 4th | .. | 1 |
| Ohio, Cleveland | October 27th to November 4th | 2 | |
| Tennessee, Nashville | October 27th to November 4th | 1 | |
| Virginia, Portsmouth | October 27th to November 4th | 1 | 2 |
| **SMALLPOX—FOREIGN.** | | | |
| Brazil, Rio de Janeiro | September 30th to October 6th | 70 | 58 |
| Greece, Athens | October 7th to 14th | 7 | 2 |
| India, Bombay | September 23d to October 3 | .. | 6 |
| Japan, Formosa, Tamsui | July 1st to August 31st | 36 | 1 |
| Mexico, Chihuahua | October 21st to 28th | .. | 3 |
| Russia, St. Petersburg | October 7th to 14th | 4 | 1 |
| Warsaw | October 7th to 14th | .. | 3 |
| Turkey, Erzeroum | October 1st to 7th | 2 | 1 |
| Smyrna | October 6th to 15th | .. | 1 |
| **YELLOW FEVER—UNITED STATES.** | | | |
| Florida, Key West | November 1st to 6th | 19 | |
| Miami | October 31st to November 6th | 27 | |
| Louisiana, New Orleans | October 28th to November 6th | 16 | 6 |
| **YELLOW FEVER—FOREIGN.** | | | |
| Brazil, Rio de Janeiro | September 30th to October 6th | 5 | 4 |
| Cuba, Havana | October 19th to 26th | 24 | 4 |
| Mexico, Vera Cruz | October 19th to November 2d | .. | 5 |
| **CHOLERA.** | | | |
| India, Bombay | September 26th to October 3d | .. | 3 |
| Calcutta | September 16th to 23d | .. | 4 |
| Kurrachee | September 23d to 30th | 1 | 1 |
| **PLAGUE.** | | | |
| Africa, French Ivory Coast | September 16th | * | |
| Lorenzo Marquez, Magudo | September 11th to 18th | * | |
| India, Bombay | September 26th to October 30th | .. | 83 |
| Calcutta | September 14th to 23d | .. | 47 |
| Kurrachee | September 23d to 30th | 4 | 3 |
| Japan, Formosa, Tamsui | July 1st to 31st | 66 | 65 |
| Paraguay, Asuncion | September 14th | † | |

*Recurrence †Plague suspected. Has since been officially confirmed.

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 56, No. 22. Whole No. 1516. NEW YORK, NOVEMBER 25, 1899. $5.00 Per Annum. Single Copies, 10c.

## Original Articles.

### A REVIEW OF THE HISTORY AND LITERATURE OF APPENDICITIS.

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DURING the early part of the present year the writer had occasion to look up one or two points in connection with the subject of appendicitis. He became interested and more and more deeply involved in the literature, until after a number of months, during which all his spare moments were devoted to the task, he found that he had read and passed in review about all that has ever been written upon appendicitis. The magnitude of the labor becomes apparent when it is stated that the literature of appendicitis, up to and inclusive of the year 1898, embraces more than twenty-five hundred journal articles, dissertations, and books, all but a very small fractional part of which the writer has consulted in the original. As illustrating the rapid growth of the literature it may be stated that more than one-half of the twenty-five hundred journal articles, dissertations, and books have appeared within the past five years.

Upon the conclusion of the task, and at the suggestion of the editor of the MEDICAL RECORD, who thought that a historical review of the subject of appendicitis might interest some of the readers of his journal, the following notes were arranged for publication.

**Nomenclature.**—Epityphlitis, ecphyaditis, and scolecoiditis have been proposed by Kuester, Morris, and Gerster, respectively, as synonyms for appendicitis. The term appendicitis, however, though a barbarism, is too firmly established by long and universal usage, both among the profession and the laity, to be displaced at this late day. We bow to the inevitable, and, for reasons which have been well set forth by Ellis,[109] accept the term appendicitis.

**General Historical Data.**—The early history of appendicitis is merged with and emerges from that of iliac phlegmon, typhlitis, paratyphlitis, and perityphlitis. Saracenus, in a letter dated August 28, 1642, published by Roussel,[304] describes an abscess in the right iliac region with discharge of fecal matter and fourteen lumbricoid worms, possibly the most ancient clear case of perityphlitic or appendicular abscess on record. A number of similar cases were published during more than a hundred years following, before Mestivier,[234] in 1759, recognized appendicitis as a distinct entity. Mestivier incised an abscess in the right groin, in a woman far advanced in pregnancy, and on autopsy found at the bottom of the abscess the appendix vermiformis perforated by a pin. Toward the end of the eighteenth and during the early half of the nineteeth century, appendicitis with perforation and abscess formation was often found in the dead-house and described by numerous writers. Yet, as late as 1838, so learned a man as Albers,[7] writing at length on typhlitis and perityphlitis, does not even mention the appendix—proof that a knowledge of the existence of appendicitis was by no means general at that time. The complications and sequelæ of appendicitis, especially those fatal in character, were also noted during the early half of the present century. In 1846 Landsberg[191] reported two cases of hernia, one inguinal and one femoral, containing the appendix. Hall,[143] Zdekauer,[325] Monks,[236] Ohlmacher,[208] Pollosson,[277] Rotter,[303] Routier,[305] Kayser,[171] Ginnard,[110] and Gross[138] have since reported like experiences. In 1847 the diagnosis of appendicitis began to be made during life by Cless,[61] Hancock,[146] and others. In the fifties Cless,[62] Bamberger,[14] and Leudet[201] reported large numbers of personal observations of perforative appendicitis with autopsies; Leudet, for example, reporting thirteen cases of perforation and seventeen cases of simple ulceration of the appendix observed by him in three years. Skoda,[324] in 1862, noted the spontaneous cure of appendicitis by obliteration, and advises a "hardening process" treatment with that end in view. With,[367] in 1879, fully described peritonitis appendicularis, and Bierhoff,[34] in 1880, gave an excellent, full, and elaborate description of the pathology of appendicitis, modern in every respect except as to bacteriology. The classic of Fitz,[116] which appeared in 1886, may fairly be said to have given the impetus to the intense and practical study of appendicitis of latter years.

The bacteriology of appendicitis first received attention in 1891, chiefly at the hands of the Frenchmen Adenot[5] and Gouillioud,[136] soon followed by Eckehorn,[106] Weir,[360] Robb,[293] Hodenpyl,[157] and others.

The diagnosis of acute appendicitis was advanced more than by all previous knowledge combined, by McBurney,[219] when, in 1889, he discovered and established the value of "McBurney's point." The introduction and elaboration, in 1894, by Edebohls,[96] of palpation of the vermiform appendix finally placed us in a position to diagnose clearly and positively every case of chronic, and nearly every case of acute, appendicitis.

The history of the origin and development of the operative treatment of perityphlitic abscess and of appendicitis will receive full attention later on under a special heading.

**Frequency of Appendicitis.**—As regards both the frequency of appendicitis and its relative frequency in the two sexes, the most remarkable and apparently irreconcilable statements are made by various investigators. While the belief is current that appendicitis affects males in larger proportion than females, Einhorn,[105] in eighteen thousand successive autopsies, found perforating appendicitis in 0.55 per cent. of males and 0.57 per cent. of females, and Robinson[294] in one hundred and twenty-eight autopsies as they came found evidences of past peritonitis on and about the appendix in sixty-six per cent. of female and fifty-six per cent. of male bodies.

With[367] quotes Toft as finding in three hundred autopsies one hundred and ninety entirely normal appendices and one hundred and ten appendices presenting more or less evidences of disease. Wallis,[356] on the contrary, in autopsies extending over nearly five years found only 1.7 per cent. of all appendices presenting evidences of disease. Fitz,[116] in 1886, reports two hundred and fifty-seven cases of perforative appendicitis observed by him post mortem, and comments

upon the frequency with which autopsy shows long-standing chronic inflammation without acute attacks. Ribbert[257] and Zuckerkandl[376] have given us post-mortem statistics of obliterating appendicitis. The former, in four hundred autopsies, found the appendix partially obliterated in 21.5 per cent. and completely obliterated in 3.5 per cent.; the latter, in two hundred and thirty-two examinations, found 9.9 per cent. of partial and 13.8 per cent. of complete inflammatory obliteration of the lumen of the appendix. Clinically, Edebohls[101] finds that four per cent. of all women have appendicitis.

**Anatomy of the Vermiform Appendix.**—According to Kelynack,[177] the existence of the appendix does not appear to have been recognized previous to the sixteenth century, when it was described by Carpi, Estienne, and Vidus Vidius, the latter of whom applied the qualifying term "vermiform." Santorini and Sabatier described it quite satisfactorily in the seventeenth century. But it is only since the appearance of the classic of Lieberkühn,[205] in 1739, and that of Vosse,[355] in 1749, that a description of the vermiform appendix has found its way into every text-book of anatomy.

Finnell,[118] in 1869, measured fifty male and fifty female appendices, and found the appendix averaged one-half inch longer in women than in men. Mott,[241] Biggs,[55] Dade,[73] and others have put on record exceptionally long appendices. The general anatomy of the appendix has received consideration at the hands of Hewson,[154] Ribbert,[257] and many others. Ribbert's macro- and microscopical examinations of four hundred appendices deserve special mention. The variations of position observed post mortem have been minutely investigated by Bryant.[50] The peritoneal folds and fossæ in the immediate neighborhood of the appendix are fully described and pictured by Lockwood and Rolleston,[209] Kelynack,[177] and Jonnesco.[165] Swan[339] records the only well-authenticated case of congenital absence of the appendix.

**Etiology of Appendicitis.**—The causative factors in the production of appendicitis are universally admitted by all writers to be very generally local in character. Fox,[93] in 1885, called attention to the analogy between quinsy and appendicitis, in both of which lymphoid tissues identical in structure were involved. Atkinson[13] and Bloomfield,[39] in 1895, discussed heredity as a cause, and "family appendicitis" was again brought forward by Faisans[111] in 1896. In 1891 Adenot[5] and Gouillioud[136] developed the important rôle played by bacteria in the etiology of appendicitis. In 1895 and 1896 quite a crop of general causes of appendicitis sprang up in the literature. Frazer[126] writes of uratic typhlitis, Matthieu[216] of *la lithiase appendiculaire*, and Simons[323] describes a case of gouty appendicitis. Rheumatism was advanced as a cause by Sutherland,[327] followed by Beverley Robinson.[290] Byron Robinson[294] finds the chief exciting cause of appendicitis in the action of the psoas muscle. La grippe is considered by a number of New York physicians of prominence and large experience a frequent cause of attacks of appendicitis. The etiology of relapses has been carefully and minutely studied by von Mayer.[353] Goluboff[145] calls appendicitis an epidemic infectious disease. Edebohls[100] has pointed out the rôle played by movable right kidney in the production of appendicitis.

**Pathology of Appendicitis.**—The general gross pathology of appendicitis has received full attention in the writings of Leudet,[201] With,[362] Bierhof,[34] Porter,[281] Fitz,[116] and numerous others. The microscopical appearances have been carefully studied by Craig,[67] Ribbert,[257] Letulle and Weinberg.[200] The spontaneous cure of appendicitis by obliteration was noted by Skoda[324] in 1862, and the cure of perforation of the appendix by the same process was recorded by Pepper[266] in 1867. Later, Senn,[315] Zuckerkandl,[376] and Piersol[270] wrote on "appendicitis obliterans," the last-named author designating it nature's cure. Catarrhal appendicitis, though generally recognized, has received but scant description, the only noteworthy contribution, perhaps, being that of Deaver.[79] The pathology of interval cases is well described and pictured by Abbe.[1] "Appendicite sous-hépatique" is considered worthy of special description by Glantenay.[139] The homology of appendicitis with salpingitis is insisted upon by Delbet.[84] A solitary case of intramural abscess of the appendix is recorded by Pilliet,[253] and a solitary observation of suppurative typhlitis with a normal appendix by Lop.[212]

**Foreign Bodies in the Appendix.**—In former years foreign bodies in the appendix were considered under the head of etiology of appendicitis. In the light of modern views the permanent lodgment of foreign bodies in the appendix is probably more frequently the result than the cause of appendicitis. In the following list, by no means complete, of foreign bodies found in the appendix, reference to publication is omitted.

Entozoa have been found in the appendix in the following varieties: Ascarides lumbricoides (Becquerel, Patterson, Lang, Buck, Cuthbertson); Oxyuris vermicularis (Bierhof); Tricocephalus dispar (Bierhof).

Coproliths have been found by everybody who has had much to do with post-mortem investigations or with the surgery of the appendix. Next to coproliths, pins have been the foreign bodies most frequently met in the appendix (Mestivier, Hewitt, Joffroy, Legg, Boussi, Ashby, Shoemaker, McPhaedran, Calmer, Vanderveer, Park).

Other foreign bodies found in the appendix are: grape seeds (Briske, Pepper, Noyes, Hebb); melon seeds (Tavignot, Malespine, Edebohls); a chocolate nut (Prescott); a grain of oat (Price, Howe); cherry stones (Theurer, Werner, Reignier, Ferguson, Formad); raspberry seeds (Vedder, Craig); prune stones (Vidal, Stuetzle); a date seed (Leaman); orange seeds (Thornton, Service); a bean (Cliquet, Haeker, Wyman); tomato seeds (Edebohls); a fruit stone (Firket); huckleberry seeds (Brundage); blackberry seeds (Vanderveer, Wilson); shell of hazelnut (Southam); a piece of chestnut (Owens, Formad); peanuts (Rosenheimer); hair (Peterson, Hildebrandt); a bristle (Ward, Gibbons, Ulloa y Geralt); a glazier's point of zinc (Bartlett); a globule of solder (Morton); a gelatin capsule (Roberts); a piece of bone (Ferguson, Coleman); a piece of screw nail (Ferguson); a rifle cartridge (Ransohoff); fin of a fish (Ashton); knot of a heavy silk ligature from a tubo-ovarian pedicle (Edebohls).

**Pathological Conditions Other than Inflammation Affecting the Vermiform Appendix.**—For the sake of completeness I append a list of various diseased conditions of the appendix other than inflammatory, which I have found recorded in the literature: Prolapse of mucous membrane of appendix (Rolleston[300]); invagination of appendix (McKidd[225]); intussusception of the appendix (McGraw,[226] Wright and Renshaw,[371] Waterhouse[357]); cystic dilatation of appendix (Gruber,[139] Shoemaker,[321] Hawkins,[81] Coats[63]); retention cyst of appendix (Maylard,[217] Sonnenburg[329]); mucocele of appendix (Féré,[114] Vimont,[345] Baillet[16]); hydrops of vermiform appendix (Combemarle,[65] Guttmann,[141] Ribbert[257]); tuberculosis of appendix (Apert[10] and numerous others); echinococcus of appendix (Bierhof,[33] Birch-Hirschfeld[37]); actinomycosis of appendix (Ekehorn,[106] Gangolph and Duplant,[127] Czerny[72]); cystic degeneration or alveolar carcinoma of appendix (Rokitansky[229]); primary colloid cancer

of appendix (Draper[90]); primary cancer of appendix (Mosse and Daunic[217]); cancer of appendix (Stimson[336]); primary adenocarcinoma of appendix (Wright[372]); primary endothelial sarcomata of appendix (Glazebrook[134]).

**Bacteriology of the Appendix.**—Clarke[57] has felicitously entitled the appendix a culture tube. Since Adenot[5] and Gouillioud,[136] in 1891, began the study of the bacteriology of the appendix and showed appendicitis to be due, in practically every case, to bacterial invasion of the appendix walls, most frequently by the bacterium coli commune, researches in this direction have been continued with uninterrupted zeal and enthusiasm by a number of workers. Ekehorn,[106] in 1892, proved that the bacterium coli manifested different degrees of virulence in different cases, and that it is present in every form of appendicitis, from the catarrhal onward. Robb,[293] in 1892, reported a case of associated streptococcus infection of the vermiform appendix and right Fallopian tube. Morris,[239] in 1893, published the first article with the distinct title, "Infectious Appendicitis." Weir,[360] in 1893, found the diplococcus pneumoniæ in nearly pure culture in the appendix in a case of purulent appendicitis, and Ohlmacher,[259] in the same year, found the proteus vulgaris. Hodenpyl,[157] in 1893, contributed a most important bacteriological study of appendicitis based upon an examination of thirty-five cases. Achard and Broca,[1] in 1897, presented a noteworthy résumé of the bacteria found in the peritoneal exudate in twenty cases of appendicitis. Beaussenat[26] has given us the most important paper on experimental appendicitis. His experiments, supplemented by those of Josué,[171] prove that germs may invade the lymphoid tissue of the appendix by way of the blood and by way of the lymphatics, as well as through the mucous membrane. Hartmann and Reymond[150] report an observation of the passage of the bacterium coli from an appendix abscess through the intact bladder wall, causing infectious cystitis.

**Complications of Appendicitis.**—The complications of appendicitis are impressive by reason of both their number and their gravity. Mortier,[241] Little,[208] Sheffey,[318] Bennett,[28] Lincoln,[206] Perry,[268] Andrews,[9] Pitres,[275] Hendricks,[158] Englisch,[110] Dale,[74] Bierhof,[33] Murray,[253] Weiss,[362] and Morris[240] have recorded cases of intestinal strangulation, the result of appendicitis. Death from hemorrhage has resulted from perforative ulceration, due to appendicitis, (*a*) of the small intestine (Osler[260]); (*b*) of the sigmoid (Stedman[333]); (*c*) of the right external iliac artery (Powell,[283] Sourdille[331]); (*d*) of the right iliac vein (Fowler,[120] Lewis[204]).

Other complications or sequelæ noted are: Prolapse of the mucous membrane of the appendix into the cæcum (Rolleston[300]); invagination of the appendix (McKidd[225]); discharge of the gangrenous appendix per rectum (Jackson,[164] Long[210]); fæcal fistula (Long,[211] Rioblanc,[292] and numerous others); appendiculo-intestinal fistula through a suppurating mesenteric gland (Packard[261]); vesico-intestinal fistula (Keen[175]); perforation of the colon, rectum, and bladder (Rochester[297]); perforation of the bladder (Clark,[56] Boardman,[40] Cameron[53]); perforation into the bladder with formation of stone (Fowler[124]); localized and general peritonitis, by almost every writer; obliteration of the right crural artery by arteritis (Bérard[29]); embolism of the left anterior tibial artery, with gangrene of the leg (Scheibenzuber[310]); embolism of the pulmonary artery (McGregor); phlebitis of the right iliac; phlebitis of the left leg (Freeman[127]); thrombosis of the right femoral vein (Legg[194]); phlebitis and thrombosis of the vena mesenterica magna and portal pylephlebitis (Aufrecht,[14] Ssawostjanow[332]); purulent inflammation of the portal vein (Baernhoff,[15] Moers,[235] Machell,[214] Mynter,[291] Carless[71]); portal pylephlebitis and hepatic abscess (Traube,[345] Pierson,[271] Davat,[79] Boussi,[42] Jorand[170]); hepatic abscess, "la foie appendiculaire" of Dieulafoy[88] (Krakowitzer,[183] Ashby,[12] De Gennes,[82] Shoemaker,[321] Harte,[148] Achard,[1] Nuding,[248] Pilliet and Costes,[272] Sheen,[317] Morton[232]); left perinephritic abscess, perforation of the diaphragm, left purulent pleuritis (Coats[63]); right perinephritic abscess, perforation of the diaphragm, right empyema (Ardouard,[11] Shiels,[319] Rioblanc[292]); the same, with perforation of the lung (Thacher[343]); the same, with gangrene of the lung (Mader[215]); right pleuro-pneumonia (Dupré[92]); subphrenic abscess (Sachs,[307] Freiberg[125]); perforation of the eighth intercostal space and right lung (McCallum,[221] McPhaedran[229]); purulent cystitis, due to migration of the bacterium coli commune through the intact bladder wall (Hartmann and Reymond[150]); prevesical abscess (Tuffier[347]); ureteritis, pyelonephritis (Hectoen[152]); scrotal abscess and purulent pleuritis (Lemariey[197]); multiple distant abscesses (Pirard[247]); glycosuria (Leidy[196]); fusion of the appendix to the gall bladder (Czerny,[72] Edebohls). Beurnier,[30] Czerny,[72] and Shoemaker[320] have devoted special attention to the coexistence of appendicitis and membranous colitis.

**Herniæ Containing the Appendix.**—The appendix has frequently been found among the contents of a hernial sac. Landsberg,[295] Hall,[143] Zdekauer,[375] Monks,[236] Ohlmacher,[259] Kayser,[174] and Gross[138] have recorded cases of inguinal hernia containing the appendix. The case of Hall is historical from the fact that it represents the first removal of the appendix with survival of the patient. Landsberg,[191] Pollosson,[277] Rotter,[303] Routier,[305] Ginnard,[140] and Vanderveer[347 b15] have found the appendix as part of the contents of a femoral hernia.

**Appendicitis Associated with Diseased Conditions of the Pelvic Organs.**—The association of an inflamed appendix with every variety of diseased conditions of the pelvic organs, more especially of women, is a matter of almost daily observation in the practice of abdominal surgery. In some cases the appendix is the starting-point of the diseased action, in others it becomes involved secondarily to disease affecting primarily the pelvic viscera. Baldy,[17] Richelot,[291] Mixter[234], Robb,[293] Jaggard,[169] Binckley,[38] McGuire,[227] and Deaver[81] have, among others, given special attention in their writings to this aspect of our subject.

**Appendicitis Complicating Pregnancy, Labor, and the Puerperal State.**—The classical case of Mestivier,[232] the first in which a diseased appendix, in this case containing a pin, was recognized at autopsy as the cause of an abscess in the right iliac fossa, occurred in a woman eight months pregnant. The case of Hancock,[146] no less historical as representing the first successful operation for deep-seated perityphlitic abscess, also occurred in a woman eight months pregnant. The patient miscarried four days after operation. The next case recorded is that of Porcher,[279] whose patient miscarried at five months, died suddenly and unexpectedly fourteen hours afterward, and was found on post-mortem to have purulent appendicitis and peritonitis. Hirst,[156] in 1890, operated upon a woman six months pregnant for supposed acute suppurative appendicitis. He found chronic appendicitis with a few adhesions. The patient died two days after the operation; there was no autopsy. Mixter,[234] in 1891, reports a case of appendicitis originating in the seventh month of pregnancy; successful operation was performed two months after the termination of pregnancy. Wiggin,[364] in 1892, reports an autopsy upon a woman three months pregnant, who died as the result of perforative appendicitis. Petersen,[269] in 1893, records a case of appendicitis on the seventh day following a labor at term, with rupture of the ab-

scess into the bowel and recovery without operation. Krafft[182] reports a successful operation for purulent appendicitis, performed January 29, 1893, upon a woman aged twenty-five years, four and a half months advanced in pregnancy. The patient had double pleuritis and acute endocarditis immediately preceding the appendicitis. The pregnancy proceeded to term without interruption, and terminated in the birth of a boy whom the mother, in memory of her experience, christened Malgrétout. Grandin,[157] in 1893, reports a case of acute catarrhal appendicitis six days after delivery at term; recovery without operation. Also a case of miscarriage at three months complicated with acute catarrhal appendicitis. Mundé,[250] in 1894, reports the successful evacuation of a peri-appendicular abscess in a woman eight months pregnant. A dead child was born one week after operation.

From this time onward reports of cases of appendicitis occurring in pregnant women become more numerous. Hind,[155] in 1895, reports a case having medico-legal bearings. A woman, pregnant near term, was violently assaulted. Labor set in, and death followed two days after delivery. Autopsy showed an abscess due to perforation of the appendix. Bayley,[23] in the same year, records an attack of appendicitis during the sixth month of pregnancy; recovery took place without operation, followed by delivery at term. McArthur,[218] also in 1895, reports two operations for acute appendicitis in pregnant women, both fatal. Johnson,[169] in 1896, reports a successful operation for non-suppurative appendicitis in a woman three and a half months pregnant, followed by confinement at term. Robson,[256] in the same year, records a successful operation for appendicitis thirty-six hours after accouchement at the eighth month. McCosh,[223] in 1897, reports a successful operation for appendicitis during the sixth month of pregnancy, with subsequent delivery at term. Abrahams,[2] in 1897, collected the more recent cases of appendicitis during pregnancy from the literature, giving cases of his own together with additional cases of Mundé, Harrison, Thomason, Crutcher, and Hirst. For details of these the reader is referred to the descriptions and abstracts of Abrahams. Deaver,[81] in 1898, wrote a valuable paper on appendicitis in relation to disease of the uterine adnexa and pregnancy. Finally Gerster,[131] in 1899, contributes three personal observations of appendicitis successfully operated upon during the eighth, second, and fifth months, respectively, of pregnancy, with premature labor in the first and delivery at term in the second and third cases.

**The Diagnosis of Appendicitis.**—The symptoms and signs of perityphlitic abscess, especially in the later stages of the disease, have been pretty clearly understood by the profession ever since the time of Mestivier. Beginning with 1847, the diagnosis of perforation of the appendix, or of its involvement in the inflammatory process, began to be made more frequently, among the first by Cless[61] and Hancock.[146] Gibney,[132] in 1881, wrote a very creditable paper on the differential diagnosis between appendicitis and hip-joint disease. Valuable modern contributions have been presented by Morton,[245] Deaver,[78] Meek,[230] Fowler,[122] Murphy,[251] and numerous others. Fowler[122] has gone very fully into the differential diagnosis of appendicitis in the female.

The greatest advance in the diagnosis of acute appendicitis we owe to the keen observations of McBurney,[219] which, in 1889, gave us that valuable aid in diagnosis now known the world over as "the McBurney point." Rosenthal[301] makes a weak priority claim for Traube in relation to the discovery of the point.

The elaboration and publication by Edebohls,[96] in 1894, of his method of palpation of the vermiform appendix finally made those who have become conversant with the method masters of the situation as regards the diagnosis of both acute and chronic appendicitis. It is true a thickened, inflamed appendix had previously now and then been felt through the abdominal walls. Treves,[316] in 1889, and Cameron,[53] in 1893, each reported such an experience, and Duncan,[91] in 1892, says that the position of an inflamed appendix may often be felt. The positive determination of the health or otherwise of the appendix, however, by direct examination and palpation of the organ in each and every case presenting, was considered an impossibility and never attempted previous to the publication of Edebohls.

Among those who have adopted Edebohls' method of palpation of the appendix, and who depend upon it for the diagnosis of appendicitis, may be mentioned Deaver,[78] Long,[211] Halsted,[145] Shrady,[322] Morris,[240] Noble,[256] Mynter,[254] Murphy, Beck,[27] and Kelly.[178]

**The Medical Treatment of Appendicitis.**—Volumes have been written upon the medical and surgical treatment of appendicitis. The history of the origin and development of the surgical treatment of the affection will receive attention presently. The medical treatment has received full consideration at the hands of all the older and many of the more recent clinicians, and the principles supposed to underlie it are well known to every practitioner. Few physicians advocate, with With,[367] medical treatment only for all cases. A large number of prominent internists, with Eliot,[107] Fitz,[116] and others, consider appendicitis essentially a surgical affection. As long ago as 1848, Smith[325] expressed doubt as to the efficacy of all local applications, including leeches, saying of the latter: "If you are going to use leeches in typhlitis apply them at the anus, not over the swelling." The only recommendation of electricity in the treatment of appendicitis is by Williams.[365]

**The Surgical Treatment of Appendicitis.**—The earliest recorded case of operation for appendicitis is generally credited to Mestivier,[232] who, in 1759, incised and drained an abscess in the right inguinal region. The patient died, and the autopsy disclosed an appendix perforated by a pin. A few operations for so-called perityphlitic abscess which had slowly perforated the abdominal parietes and become, in part at least, subcutaneous, were reported between 1759 and 1848. Dupuytren[93] operated thus in 1815 and 1828; Ahrt[6] in 1832, and Parker[262] in 1843. In all of these cases fluctuation was distinctly made out, and pus was encountered in the subcutaneous tissues of the abdominal wall.

Hancock,[146] on April 17, 1848, performed the first deliberate operation for deep-seated suppuration of appendicular origin. He operated on the fifteenth day of illness, and before fluctuation became apparent, reaching the pus collection by a four-inch incision extending from just above the right anterior superior spine of the ilium downward and inward along Poupart's ligament. His patient recovered. On the strength of this case Hancock proposed to operate early in these cases before fluctuation appeared, remarking that patients do not usually live to fluctuation. His teaching, however, found no echo in medical literature until reiterated by Lewis[203] in 1856. His example was first imitated after eighteen years by Parker,[262] the publication of whose case, in 1867, may fairly be said to have directly inaugurated the modern surgical treatment of abscesses of appendicular origin, and indirectly to have led to the modern surgery of the appendix.

By many writers Parker is credited with the first operation for perityphlitic abscess in 1843. Parker, in 1867, reported four cases of perityphlitic abscess operated upon, the first operation being performed in 1843. In his first three cases, however, subcutaneous fluctuation or phlegmon invited the incision, as it had

done in the cases already cited as previously reported. Parker's first operation for deep-seated suppuration, prior to fluctuation, was performed in 1866, nearly eighteen years after the original operation of Hancock. His patient also recovered.

From 1867 to 1884 the initiative taken by Hancock and Parker in opening and draining so-called perityphlitic abscesses before fluctuation was evident was enthusiastically taken up and followed, especially by American surgeons, New York being at first the chief focus of the new surgical activity. Buck, Sands, Weber, Bontecou, Burge, Whitall, Ward, Kelsey, Holden, Clarke, Ely, Raub, Bacon, Clay, North, Beach, Chamberlain, Koehler, Mynter, Weir, Byrd, Pierson, were among the earliest performers or reporters of operations for the evacuation of deeply seated abscesses of appendicular origin. Noyes,[257] in 1883, collected the reports of one hundred operations for perityphlitic abscess.

Nearly all of the perityphlitic abscesses operated upon during this period were opened by the original classical incision of Hancock. Weber[358] at first contented himself with incising down to, but not through, the fascia transversalis, and this method was even advocated as the routine procedure by Whitall.[363] Kolb,[189] in 1860, practised puncture of the abscess by the trocar and dilatation of the opening with sponge tents. Muenchmeyer,[219] in 1860, was the first to practise a counter-opening in the loin to obtain better drainage, a procedure which has since found many imitators. Buck,[43] in 1861, evacuated a pelvic abscess, presumably of appendicular origin, by puncture through the rectum. Bartholow,[19] in 1866, credits Buck with approaching a perityphlitic abscess from beneath Poupart's ligament by an incision carried through the fascia lata of the right thigh, thence working his way upward beneath Poupart's ligament to the abdomen. I have been unable to find the original account by Buck of this procedure. Barlow and Godlee,[20] in 1885, operated upon a case of appendicular abscess by two incisions, one median, exploratory in character, and one lateral, over the abscess, to evacuate the pus. This procedure has been followed in a number of cases by various operators. Kroenlein,[185] in 1887, reported the first case of operation for perityphlitic abscess under Listerism. Homans,[159] in 1886, took a decided step in advance in the case of an appendicular abscess deeply situated against the posterior abdominal wall. He opened the abdomen through the usual incision above and parallel to Poupart's ligament, and evacuated the abscess across the free peritoneal cavity while protecting the latter against infection by suitably placed packing. This has become and remained standard modern practice. Not so the procedure of Edebohls,[95] who in 1889, in a similar case, closed the peritoneum by suture, dissected it up, and opened the abscess retroperitoneally. Byrd,[52] in 1881, in a case of perforative appendicitis with two additional ulcerative perforations of the cæcum, adopted the procedure, nothing less than brilliant for that day, of converting the three openings into one large one, establishing an artificial anus by stitching the bowel opening to the wound, and irrigating and draining the free peritoneal cavity. His patient recovered. Mention should, finally, be made of Kottmann's[171] plan of opening the abscess by Vienna paste, the only advocacy or practice of this method which I have found recorded in the literature.

The above data all refer to operations for the evacuation of perityphlitic abscesses of appendicular origin undertaken before the time at which operations upon the appendix itself came into vogue. The history of the surgery of the appendix itself, and data in connection therewith, will presently receive attention. Before proceeding to this chapter of the history of appendicitis, however, two subjects, that of aspiration, exploratory or curative, of perityphlitic abscesses, and that of so-called left-sided appendicitis, deserve a moment's consideration.

**Exploratory Puncture.**—Bontecou,[41] in 1873, reported two cases of operation for perityphlitic abscess in which he employed previous aspiration to determine the presence of pus. Prior to that time we find recorded, now and then, a crude attempt to establish the presence of pus by an oblique puncture with a narrow knife, a grooved needle, or a trocar. Potter,[282] in 1879, reported a cure of perityphlitic abscess following a single aspiration of the contained pus. Peltzer,[265] in 1882, observed a cure following two aspirations of the pus, followed each time by irrigation of the abscess cavity with a solution of salicylic acid. Bull,[46] in 1886, advocates dropping all time limits and operating as soon as pus can be discovered by the needle. At about this period exploratory punctures for diagnostic purposes were much in vogue. Gradually, however, they yielded place to the increasing positiveness with which diagnosis could be reached without their aid, until at the present day probably no surgeon of any prominence either employs or recommends the needle for diagnosis.

**Left-Sided Appendicitis.**—As regards left-sided appendicitis the only genuine case thereof on record is that of Biegi,[61] which occurred in a soldier who died of appendicitis and was found on autopsy to have a complete transposition of all the viscera. The case of Bontecou,[41] in which death resulted from ulcerative perforation of the small intestine into the left iliac fossa; that of Traube,[349] of a perityphlitic abscess pointing on the left side; and the three cases reported by Fowler,[119] in which the cæcum and appendix were displaced to the left, all originated primarily in the right iliac fossa. So did the case of Coats,[69] in which empyema of the left chest followed perforation of the diaphragm by pus from an abscess of appendicular origin.

**Surgery of the Appendix.**—We have finished with the history of the era when operations for the evacuation and drainage of perityphlitic abscesses constituted, with the few exceptions mentioned, the sole surgical resource in the treatment of appendicitis, or rather of its results. We come now to the period which saw the birth of the surgery proper of the appendix itself. We will consider the surgery of the appendix as applied, first, to the treatment of acute appendicitis, and, secondly, to the treatment of chronic, relapsing, and interval cases.

The first recorded operation upon the appendix itself was planned by Dr. Mahomed and executed on August 24, 1883, by Symonds.[340] Mahomed diagnosticated a stone in the appendix. Symonds removed the stone, three-fourths by one-half inch in size, through the ordinary incision for tying the external iliac artery, approaching the appendix from behind, through peritoneal adhesions, opening the appendix, extracting the stone, and closing the opening in the appendix by Lembert sutures. The patient recovered and was cured of all his symptoms. In connection with this case Symonds becomes prophetic in relation to the future removal of the appendix in similar cases. I have found but three other instances of operation upon the appendix stopping short of its removal. Morton,[242] on April 27, 1887, removed the larger part of an appendix containing a perforation, between two ligatures, one applied near the base and one near the distal free end of the appendix. Sands,[309] on December 31, 1887, closed a perforation of the appendix by suture. Tait,[341] in 1889, slit open and drained an appendix. All three patients recovered.

**Excision of the Appendix.**—Kroenlein,[184] on February 14, 1884, performed the first removal of the ap-

pendix for acute appendicitis. He was followed in 1886 by Weir,[361] Bryant,[51] and one or two others. These earliest appendicectomies for acute appendicitis had one discouraging feature in common; they were all fatal.

The first successful removal of the appendix was performed by Hall,[143] on May 8, 1886, in an operation for the relief of a strangulated hernia. The appendix, with an abscess around it, was found among the contents of the hernial sac, tied off, and removed.

Morton,[242] on March 19, 1888, and Sands,[309] on April 17, 1888, performed the first successful appendicectomies for acute appendicitis, the correct diagnosis having been made in both cases before operation. To Morton belongs priority of performance, to Sands priority of publication. Other successful appendicectomies for acute appendicitis were performed during 1888, in the order named, by Hoffmann,[158] McBurney,[242] Cutler,[71] and Weir.[361] Hoffmann removed the appendix through a median incision, and the case of McBurney was the first in which an acutely inflamed appendix, full of pus, was removed entire and without rupture.

Thereafter removal of the appendix in acute appendicitis rapidly became a recognized and oft-undertaken procedure. As early as 1889, McBurney[219] reported seven appendicectomies of his own with six recoveries and one death, and Morton[243] four appendicectomies with two recoveries and two deaths. Since that time scores of operators number their appendicectomies for acute appendicitis by the hundreds.

Treves,[346] on June 29, 1888, performed the first appendicectomy for relapsing appendicitis. The operation as described would be classed as modern even at this day, the stump end being closed by suture instead of ligated, the abdominal wall closed for primary union, and the patient recovering. The rapidity with which operations for relapsing appendicitis, or interval operations, were adopted, and the success with which they were practised by surgeons the world over, are best evidenced by the fact that Bull,[47] as early as 1894, was able to collect four hundred and forty-four interval operations with eight deaths. It is safe to say that at the present day several thousand such cases could be collected from the literature alone.

**The Technics of Appendicectomy.**—The various surgical procedures for the simple evacuation and drainage of a peri-appendicular abscess have already been considered. It remains to record the history of the development of the technics of the operation for the removal of the appendix.

**Appendicectomy for Acute Perforative or Gangrenous Appendicitis.**—During the two or three years immediately following the first removal of the appendix for acute perforative appendicitis by Kroenlein,[181] in 1884, and the early, equally unsuccessful imitations of his example, the advocates of appendicectomy in pus cases were few indeed. The first successful cases, reported in 1888, furnished a new stimulus to surgical activity in this direction, and within two or three years thereafter the number of cases reported slowly increased. Since 1890 the large majority of surgeons with a name advocate removal of the appendix in acute appendicitis as the routine procedure, always to be attempted save under most exceptional conditions. A few surgeons claim that it is always both possible and better to remove the appendix in acute appendicitis. This advice and practice are based upon the fact that a second operation for appendicitis has become necessary in some cases in which the appendix was left at the first operation. Comparatively, however, the cases in which such a secondary operation was called for or performed are very few. Morton,[243] Patel,[263] Homans,[160] and Wolf[369] among others have put on record such secondary operations. The expedient adopted by Wyeth[374] of operating at two sittings represents an unnecessary compromise.

In direct opposition to the modern tendency to remove the appendix whenever feasible, and vainly attempting to stem the tide, we find Barton,[21] as late as 1894, and a few others even more recently, preaching the doctrine of leaving the appendix in operations for acute appendicitis, claiming better results from this practice. That this claim does not hold good in the work of the better operators goes without saying.

**The Incision in Acute Appendicitis.**—The early incisions employed in operations for acute appendicitis, when abscesses were emptied and drained only, as well as when the appendix was removed, always divided all the various anatomical layers of the abdominal wall in one and the same directions: either a little above and parallel to Poupart's ligament, or nearly vertically, just external and parallel to the outer border of the right rectus abdominis muscle. Aside from the counter-opening in the back more or less frequently practised by a number of surgeons, Dejacé[73] in one case practised lumbar incision of a perityphlitic abscess, and Gerster[130] speaks of Lange as in one instance having to abstain from removing the appendix through an anterior incision, later on removing the organ successfully through a posterior wound. Vischer,[360] in 1897, proposed a new site for the incision, placing it above and parallel to the iliac crest and running from the outer edge of the external oblique inward to the anterior superior iliac spine. The median incision has also been practised, now and then, by Hoffmann[158] and others, but has found no enthusiastic advocates.

The gridiron incision of McBurney,[220] published in 1894, represents the most modern thought and fully satisfactory technics in regards to the incision of the anterior abdominal wall practised anywhere between the outer borders of the recti and the erector spinæ muscles on either side, not only for appendicitis, either acute or chronic, but also for other intra-abdominal conditions exceptionally best approached within the limits stated. McBurney at first thought his incision unsuitable for pus cases calling for gauze packing. This judgment, however, has been reversed by the further experience of a number of American operators, among them the writer, who constantly use this incision in cases of acute appendicitis, and consider all the other incisions already mentioned as antiquated and out of place in up-to-date surgery. The slight modification of the gridiron incision proposed by Elliot,[105] who cuts the fascia of the external oblique horizontally, while attempting to refine on the principle enunciated by McBurney, is of no practical importance.

**The Incision in Chronic Appendicitis.**—The comments made anent the first incisions practised for acute appendicitis hold good also for those made for the removal of the appendix in interval cases, with this important exception: that, beginning with the very first removal of the appendix for recurrent inflammation by Treves, the abdominal wound has been very generally closed for primary union without attempts at drainage. The gridiron incision, originally devised and brought forward by McBurney for cases of appendicitis not requiring drainage, but equally applicable to pus cases, represents the first giant stride forward in the surgery of the incision made for the removal of the appendix in chronic appendicitis. Battle,[23] in 1895, gave us the incision through the right rectus abdominis muscle, which in chronic appendicitis has become the successful rival of the gridiron incision of McBurney. The rectus incision of Battle may be found admirably pictured and described as the simple incision by Deaver[79] in 1896. Curiously enough, in 1897, Jalaguier,[166] Kammerer,[127] and Lennander[195] published the Battle incision, each apparently under the

impression that the incision was original with himself. The lumbar incision for chronic appendicitis was brought forward by Edebohls,[100] in 1898, as applicable to cases in which right nephropexy and appendicectomy were called for in the same patient.

About ten centimetres seems to be the length of incision usually accepted as required in acute appendicitis. In the surgery of chronic appendicitis Morris,[230] in 1893, first recognized that such long incisions were unnecessary, and loudly called for the one-and-a-half-inch incision. He has since been outdone in this direction by Scott,[311] who writes on "the incision less than one and a half inches long in appendicitis." The writer[103] has recently recorded his views on the subject, and will close with the statement that the only incisions necessary and permissible in the modern surgery of the appendix are the gridiron incision of McBurney, the rectus incision of Battle, and, perhaps, the lumbar incision of Edebohls.

**Technics of the Stump.**—The treatment of the stump left after amputation of the appendix has occupied a great deal of the attention of surgeons. In some cases of acute appendicitis, with gangrenous destruction and disintegration of the entire appendix and even of greater or less areas of the cæcal walls, the question of a stump and its treatment does not arise. In such cases the damage must be repaired by suture, and the danger must be minimized by the usual gauze packing and drainage, or by suture of the damaged bowel to the abdominal wall as practised by Byrd,[32] Bunner,[19] and others. Simple ligation of the stump, though still very generally practised, cannot be considered a perfectly safe procedure. Dock[79] has put on record a death from simple ligation, and the writer knows of another unpublished case in which intestinal leakage and fatal peritonitis followed the slipping of a ligature placed around an appendix stump.

The example of Lautard,[174] who amputated the tip of the appendix and sewed the long stump to the abdominal walls, has found no imitators.

Invagination of the ligated stump has been attempted by Smith[58] and many others since his time. All such attempts are illogical and have necessarily met with failure, as complete invagination of a ligated stump is an impossibility. The most that can be accomplished is to depress a ligated stump and cover it over with peritoneum, a procedure which Stimson[287] was the first to condemn as "bottling up" of the appendix.

Closure of the open ends of the appendix by suture was practised by Treves[346] in the very first case of removal of the appendix for recurrent appendicitis, the mucous and muscular coats being united by suture. Treves, however, found it impossible in his case to sew the peritoneum over the free end of the stump, which procedure appears to have been first accomplished by Allingham. Monks,[236] in 1890, improved this step of the technique by first inverting the cut end of the appendix and then closing the inverted edge by suture. Ruth,[306] in 1895, sutured the cut edges of the appendix stump, inverted the stump, and approximated the peritoneum by suture.

Inversion of the appendix stump without previous ligation and suture was practised by Dawbarn[76] as far back as 1890 or 1891. The correct principle underlying Dawbarn's method was clumsily imitated by Plummer,[276] who slits the appendix stump upward at two opposite points, trims and inverts the flaps, and sutures the serosa—and by Bloch,[18] who uses a temporary suture through the lips of the appendix stump, passes the threaded suture through the cæcal wall opposite the appendix, from within outward, withdraws the suture, and closes the peritoneum over the inverted stump.

Price[284] and Eastman[84] do away entirely with a stump by excision of the entire appendix and suture of the resultant hole in the bowel wall. Edebohls[99] originated inversion of the entire, uncut appendix, the only procedure which does away with the necessity of opening the bowel and with the resultant risk of infection. His procedure, so far as I am aware, has found but one imitator, Fowler,[121] whose first and only case of inversion of the entire appendix for chronic appendicitis ended fatally as the result of the operation. Against this, however, stand considerably more than one hundred cases of inversion of the entire, uncut appendix for chronic appendicitis, at my own hands, without a single death.

**Septic Peritonitis; Drainage; Accidents.**—The treatment of the diffuse septic peritonitis accompanying appendicitis has received attention at several hands. McBurney,[221] in 1895, wrote the most important clinical contribution to this aspect of appendicitis, advocating free flushing of the peritoneum with drainage, procedures practised by Byrd[32] as early as 1881. Pond[278] added to these resources, in extremely bad cases, incision of the intestine and suture of the incision lips to the abdominal wound, permitting of the direct introduction of salines, stimulants, etc., into the intestine.

Gauze drainage is all but universally used in pus cases, either alone or combined with rubber or glass drainage tubes. Morris[240] first employed an iodoform wick, and later a special device consisting of a slender piece of gauze wrapped about with perforated rubber tissue. As regards the use of iodoform gauze, opinions of experienced men vary widely. Morris, for instance, in 1897, published a tirade against the use of gauze, iodoform and plain, while Murphy, in the same year, returns to the use of iodoform gauze after having completely discarded it for a time.

Very recently a tendency to close immediately the abdominal wall for primary union in some cases of appendicitis with pus is becoming manifest. Schueller,[313] in 1889, was the first, I believe, successfully to close the abdomen at once and entirely after an appendicectomy at which he found turbid serum in the peritoneal cavity. Clark,[55] in 1897, alludes to instances of similar practice, and Boldt informs me that he has several times operated successfully in the same manner in cases in which a small amount of pus was present.

A curious accident, tearing off of the distal end of the appendix during enucleation of the latter, and failure to find again the distal end, is recorded by Huntington.[163] The writer has had a similar experience; both cases ended in recovery, without drainage. Hutchinson[162] reports an operative case in which he found the appendix at some distance from the cæcum, from which it had entirely separated by sloughing.

**Statistical.**—Autopsy statistics of appendicitis, large and important for the time at which they were presented, have been given by Leudet,[201] Finnell,[115] Toft,[311] Fitz,[116] Einhorn,[105] Wallis,[356] Ribbert,[287] and Robinson.[295] Kleinwaechter[197] and With[367] have furnished statistics regarding the duration of appendicitis under medical treatment, while Sands[308] and Fitz[117] investigated the mortality under medical and under surgical treatment. McBurney[221] presents personal statistics of operations for appendicitis in the presence of diffuse septic peritonitis. Von Mayer[354] gives us a very unique, practical, and interesting study of seventy-five operative cases of chronic appendicitis. Of these, thirty-three presented clinical symptoms corresponding to the lesions found, thirty-two presented no clinical symptoms, and ten had severe symptoms with no lesions. Statistics of operative cases, with mortality, have been published by Clay,[59] Bull,[47] MacDonald,[213] Murphy,[252] Johnson,[169] Kuemmell,[188] Sonnenburg,[330] Deaver,[80] Halliday,[141] and very numerous others.

**Illustrations.**—Appendicitis has furnished a favorite subject for the artist's pencil and brush, and it is not too much to say that perhaps upon no other subject in the entire range of pathology has such widespread, profuse, elaborate, and beautiful illustration been lavished. I call attention in the following to those illustrations which have struck me as particularly noteworthy; they constitute, however, only a modicum of the whole.

The anatomy of the appendix and its vicinity has been thoroughly illustrated by Little,[208] Schueller,[313] Lockwood and Rolleston,[209] Levings,[202] Kelynack,[177] and Jonnesco.[168] The general pathology has been well pictured by Fenger,[112] Fowler,[121] Jessop,[167] Plummer,[276] Lannelongue,[193] Smith,[326] and Sonnenburg[325] among others, while the histo-pathology has been especially well delineated by Letulle and Weinberg.[200] Chronic appendicitis has received the artistic attentions of Foges[118]; interval appendicitis those of Abbe[1]; appendicitis obliterans those of Senn[316] and Zuckerkandl[376]; and the location of abscesses those of Harris.[147] Intestinal strangulation following appendicitis has been pictured by most of those already enumerated as having described cases, while some of the operative sequelæ have been delineated by Peck.[261] Cysts and cystic degeneration of the appendix have been well pictured by Gruber,[139] Gouillioud,[136] Shoemaker,[321] Sonnenburg,[327] and Coats.[63]

Among illustrations of other pathological conditions affecting the appendix the following may be mentioned: Invagination of the appendix, by McKidd[225]; prolapse of mucous membrane of the appendix, by Rolleston[300]; thrombosis of appendicular vessels, by Dieulafoy[87]; tuberculosis of the appendix, by Apert[10]; and primary cancer of the appendix, by Mosse and Daunic.[247] The technics of the operation for appendicitis have been abundantly illustrated by many writers, among others by Ruth,[306] Deaver,[79] Fowler,[124] and Morris.[240] The article of Ruth contains beautiful illustrations detailing the technics of the stump. Deaver's admirable plates are the only ones I have found illustrating the rectus incision. Five cuts detailing post-operative sequelæ in a very interesting case are given by Peck.[261]

**Literature.**—The entire literature of appendicitis, complete to the beginning of the year 1899, and including, in addition, about fifty numbers appearing during the present year, has been consulted in the preparation of this article. This vast literature embraces, as already stated, more than twenty-five hundred journal articles, dissertations, and books. A complete bibliography, prepared by the author, may be found in the library of the New York Academy of Medicine, where it is at the disposal of any one who may wish to consult it.

The appended bibliography of three hundred and seventy-six references is believed to include nearly all of real value that has been published upon the subject of appendicitis. It includes papers and books important and valuable for the time at which they were published, together with a number of articles to which reference became necessary in the preparation of this historical review.

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## MORPHINISM AMONG PHYSICIANS.[1]

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In 1890 I was appointed chairman of a committee to collect and study statistics of the prevalence of alcohol and opium inebriety. During this interval of nine years a large number of statistical observations and data have been gathered. From these facts I present a preliminary report confined exclusively to the study of morphinism among physicians. I shall give conclusions rather than tables, and general facts rather than exhaustive studies. These data came almost exclusively from physicians who were requested to ascertain the number of medical men of their acquaintance and vicinity who used alcohol and opium, also to give a percentage of the whole number.

In this way a history of thirty-two hundred and forty-four physicians residing in the Eastern, Middle, and some of the cities of the Western States was obtained, of whom twenty-one per cent. were found using spirits or opium to excess. Six per cent. of this number used morphine or opium persistently. Ten per cent. were using opium or other drugs secretly outside of this number. Over twenty per cent., including this number, used spirits in so-called moderation. In another study of one hundred and seventy physicians, seven per cent. used opium or morphine, and six per cent. were secret drug takers. From the personal observation of a number of city physicians who have a large acquaintance with medical men, from eight to ten per cent. were found to be either secret or open drug and morphine habitués.

These figures appear to be approximately correct, and show that from six to ten per cent. in this country are opium inebriates. This is considered a conservative statement, considering the fact that drug takers, and physicians in particular, are secretive and conceal their use of drugs, especially when it implies weakness and reflects on their social standing.

There are many reasons for the support of the statement of Dr. Elain that a large percentage of physicians suffer and die from drug treatment of themselves. They begin to use spirits, opium, and other drugs for functional and transient disturbances, and later contract serious organic disease, the early drug-taking having been a contributing cause. A physician who in middle life is excessively neurotic and neurasthenic, or who is rheumatic, has organic heart disease or neuritis, or chronic gastritis, is often suffering from the results of excessive spirit or drug taking in early life. The early user of morphine, chloral, cocaine, and other drugs of this class, who after a time stops all use of them, suffers later from varied and complex neuroses. In the same way the spirit drinker finds in later life serious organic diseases springing up without any apparent cause. In reality they are traceable to the poisonous effects of drug taking early in life, although a period of abstinence may have intervened. Such cases are not uncommon, and occur in persons by whom this drug taking is concealed to a large extent. There is no doubt a great deal of invalidism, diseases, and failures among medical men that are due directly or indirectly to secret drug taking. Morphinism among physicians is usually associated with the use of the drug by the needle. Opium in the tincture and gum is also used, but less prominently. The effects are the same, only varying in intensity and rapidity. The opium users are often alcoholic inebriates switched on to a parallel road. After a period of so-called moderate or excessive use of beer, wine, or strong spirits, either secretly or openly, they turn to the tincture or powdered opium. From this time their career is one of progressive organic degeneration. The tendency is toward imbecility, and, although they may be active for years, a low form of invalidism follows, and acute, fatal inflammations are always impending.

The physician who uses opium is always somnolent, serene, and meditative in manner. Except an increasingly defective memory and degenerating ethical sense, and irregularities of conduct, with a certain lividity of face, there is little to indicate his condition.

On the other hand, the morphinomaniac shows great extremes of emotion. At times he will be talkative, and sensitive to his surroundings; then silent, indifferent, irritable, or violent in his impulses and talk. He will at times be very brilliant, make a clear diagnosis, perform a difficult operation, and even deliver a lecture with spirit and energy. The same impaired memory and ethical sense appear, although more concealed.

Morphinomania tends toward acute mania and suicide, with the same impending acute inflammations. A certain number of morphinists have been wine, beer, and spirit drinkers, and while suffering from the effects of excesses have found quick relief from morphine. Later they have in part or altogether given up spirit and used morphine. Periodical drinkers not infrequently find the same relief from morphine and use it to break up the drink storm or lessen its effects. They begin at intervals to use morphine and continue it steadily. Another class suffer from some neuralgic affection or spasmodic pain, for which morphine gives instant relief, and use it afterward as a specific remedy. A class quite as numerous find in morphine a supposed stimulant when exhausted, but in reality a narcotic which covers up the protests of nature. They continue its use until it is difficult to stop. Insomnia, strains, and drains, and all the complex symptoms of exhaustion and poisoning, find most fascinating relief in using morphine by the needle.

Morphinism is clearly built up from a foundation of neurasthenia, anæmia, hyperæmia, and from hereditary nerve defects; also from drug taking and intoxicants, nutrient derangements, and the complex injuries to the nerve centres. To this are added the various disturbances which come from irregularities of life and living and from the nerve shocks of failures, successes, and emotional strains. Following these states are both physical and psychical pains, brain and nerve perturbations, muscular and organic weariness, with depressions. For these the needle is a panacea.

There is a painful fascination in the rapid, complete change and transition which follow the needle. To the psychopath, inherited or acquired, this is a revelation, and no other form of administering morphine can be compared with it. This actually develops a needle

[1] Read at the meeting of the New York State Medical Association, October 25, 1899.

mania, and nearly all morphinists are hypodermatic maniacs. The withdrawal of the morphine is unnoticed as long as the needle is used. In a certain case, a physician used the needle with water, supposing it to be morphine, for two years after the withdrawal of the drug, under the direction of his partner.

It is the common experience to keep up the use of the needle for its mental effect long after the morphine is abandoned. Even then it is difficult to break up the mania for this form of drug using. It has been stated, with some basis of fact, that the constant administration of drugs by the needle, and particularly morphine, is a prominent symptom of a morphinomaniac physician. The observation is often made that some of the most enthusiastic defenders of the use of morphine by the needle were confirmed users of the drug. Two therapeutists and authors who praised this form of medication died from the excessive use of the drug. Thus the needle delusionist is often his own doctor and patient. This is true of other drugs, in which the physician's personal experience is reflected in his enthusiastic use of the same drug upon his patients.

The medical morphinist may succeed in concealing his use of morphine for a variable time, but its effects on his thoughts and conduct cannot be long covered. He will early begin to show carelessness in conduct, neglect of duty, loss of personal respect, and emotional changes. Along with this appear a childish egotism and a disposition to criticise and to expose the weaknesses of others. A recent incident of this nature was the sudden slanderous disposition manifested by a quiet physician, who was previously reticent as to the faults of others. For two years he created a good deal of bad feeling by his foolish criticisms and falsehoods. He was arrested for slander, and his morphinism was discovered. The egotism grows, and becomes a veritable delusion that his condition is concealed and unknown to others.

In some cases intense aversion exists to acknowledging the fact of using morphine, and keen pleasure in concealing and denying its use. This low regard for the truth is an ethical defect common to nearly all cases of morphinism. It usually is childish and apparent, but often extremely subtle and cunning. In most cases it applies to all the relations of life; in others it is partial, and confined to the morphine addiction. It shows the damage to the sensory and reasoning centres as well as the effect on the higher psychical brain. The defect also grows, and the danger of his condition is minimized, while his ability to stop and to treat himself increases in his own opinion. Credulity alternated with distrust follow each other, and at one time a good physician will accept and use secret drugs, and do many unreasoning things. Later, he will doubt everything, and be suspicious of every condition of his surroundings and his relations to them. This erratic conduct will be seen in his indorsement of new and strange theories. His former politics and religious views will change, and he will show distrust, and deceive his nearest friends. He will make strange acquaintances, write eccentric papers for the journals, or read them to the local society. A study of papers in medical journals will show the writing of concealed morphinomaniacs and cocaine takers. The one will be startling, inconsistent, and assertive; the other will be a continuous, monotonous flow of words, pointing in every direction, and never ending. A voluminous medical writer under my care for morphinism has never written a line since his recovery. Before, he wrote from one to two papers a week, and read them before all the societies in his neighborhood. Often morphine and opium are the subjects of their writings, and while they may read voluminously on this subject, they write strangely and erratically. The proportions are distorted. Insignificant parts of the subject are exaggerated, and central truths minimized.

Morphinists are also prominent as writers on several topics in medicine, and report extraordinary gynæcological cases and many startling conclusions. In their personal intercourse they are boastful, and have marvellous experiences, and lead all others in business and mental activity. With these mental changes there is increasing abruptness and coarseness of manners and language, and neglect of personal appearance. The untruthfulness merges into deceit and dishonesty and often senseless stealing. There is increasing suspicion and distrust. Physically, there is general anæmia, with digestive disturbances, and neuralgias, both general and local, are prominent.

After a time the medical morphinist will accede to the pressure of friends and try to stop its use. He may succeed, but soon relapses. Then he will try again with the same results. Or he will turn to spirits or other drugs, and after a time give them up, only to return to morphine. All sorts of plans and specific remedies are tried, but all fail. The gradual reduction, extending over months, ends in disgust and a return to large doses. All this experience increases his egotism and confidence in his ability to escape by his own powers, if he can only have his own way and control the conditions. Finally, after trying various means and measures, he consents to go to an institution for legitimate treatment. He is either skeptical and suspicious, and secretes morphine in his clothes for emergencies; or he is credulous, and has exaggerated notions that the morphine can be taken away without the slightest discomfort, or even without his knowledge or without his feeling it.

Such have a fixed conviction of mental strength equal or superior to others regarding the use of morphine, particularly from experience enabling them to decide on the measures and means for successful treatment. Like many alcoholists, they assume superior knowledge of their own case and how they should be treated, and constantly review their own symptoms and reason out the means for successful treatment. As the symptoms change, the diagnosis and treatment should change; the result is that they soon become disappointed or dissatisfied, and secrete morphine for possible emergencies of the future, or go away condemning the asylum and its management for their failures. In this way the deceptive egotism and secretiveness, with delusional reasoning, make the medical morphinist a most difficult patient to treat.

The removal of the morphine and the restoration of the functional derangements are practically simple with the full control of the patient and his surroundings. The treatment and after-care require far more skill and tax on our therapeutic resources. The abandonment of the needle at the start, and the change to some other form of opium or other narcotic to lessen the acuteness of the withdrawal symptoms, then the slow or rapid withdrawal of the drug, are the most practical means. The hot-air bath with massage daily, and more frequently if necessary, is the most valuable. Strychnine, acids, and some of the bitter tonics are useful. The bromides of sodium, cannabis indica, hyoscyamine, and the milder sedatives, such as valerian and lupulin, may all be used to relieve the acuteness of the withdrawal symptoms.

The mental effect of remedies and efforts are often more effective than in any other disturbance, and constitute a very important means of treatment. The power of suggestion, and faith in certain drugs, will overcome the most distressing symptoms. An unknown drug has often broken up the insomnia and the reflex disturbances. One of the specific opium drugs, which has brought great wealth to the proprietor, contains only lupulin and acid, but is given with great

minuteness of direction, and sustained by a large book of most extravagant certificates of former cures.

A boisterous, emphatic clergyman impressed a morphinist doctor that he would be lost if he did not give up morphine at once. He went to bed, and from the dominance of this idea overcame all the common symptoms, and made a good recovery. A physician under my care, on the eve of marriage, gave up at once the use of ten grains of morphine daily, and had none of the common after-symptoms from some mind effect. The hypersensitiveness, both mental and physical, requires mental means in the treatment as well as exact surroundings and exact care.

The medical morphinist is dangerous to himself and to others, and should place himself under treatment at once. It is folly to attempt to do this at home and under his own care. He may succeed in withdrawing the drug; but relapse will be certain, and the failure will leave him worse than before. He should go under the care of some one in whom he has confidence, where special surroundings and special means can be used, and where the work of recovery can be made exclusive. Then he should give up all ideas of self-treatment, and trust to others without question or doubt. The morphine can be removed in a few days, and then the real treatment will begin; and this can be carried on in lines familiar to the patient, and with his full co-operation. The morphinist will discover the damage done to his system only when the drug is removed, and with a good adviser may do much permanently to repair it and be a healthy man in the future. As in other cases, permanent restoration depends upon an early recognition of his trouble, and the prompt use of exact means under the control of the best men, in the best surroundings, carried on for a sufficient length of time to insure permanent results. Particularly the causes for the using of the morphine must be removed.

I cannot stop without calling attention to the fact that morphinism is increasing among physicians. The reports from private asylums and public hospitals show that within five years medical men form a considerable part of their inmates. Specialists of nervous diseases sustain the same fact. The young and the middle-aged men are the most common victims. Often they are from that class of delusional therapeutists who want to prove everything by personal experience, or who have exalted conceptions of the power of drugs, and believe that researches in that direction will open the road to a physical millennium.

Perhaps morphinism among physicians is rather a sign of the stress and nervous strain in the world incident to civilization, or common to the overcrowding and overwork demanded of the successful man. At all events it is one of the most fascinating and serious modern diseases which can come to the professional man. Teachers of therapeutics by their graphic descriptions have roused a morbid curiosity which has been fatal to the student in after-life. I have collected a number of instances of this kind, showing that the danger of making morphinists in this way is not only possible but is a reality to an unknown extent.

I conclude with a caution which cannot be stated in words too strongly: Never use morphine by the needle on yourself, and never use it except by the counsel of a trusted medical adviser. Never give morphine to a neurotic or psychopathic physician until you are satisfied that it is the best remedy that can be used. If you are using morphine, abandon it at once, or make every effort to do so at the earliest moment.

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**Catheters** may be at once sterilized and lubricated by immersion for six hours in a one-per-cent. solution of corrosive sublimate in equal parts of glycerin and water.—*Medical and Surgical Monitor.*

## AN EPIDEMIC OF INTERCOSTAL NEURALGIA (?).[1]

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SPORADIC cases of intercostal neuralgia with an accompanying herpes zoster are of tolerably frequent occurrence, and attract little attention. It was the good fortune of the writer to observe during the early part of the past summer a series of cases of a disease that was similar, in some respects, to the classical zoster and neuralgia, but differing from it in several important features. About the middle of June cases began to present themselves with the following history. After a few hours of malaise and chilliness, a sense of uneasiness, and later of pain, manifested itself in the side, usually over the left hypochondriac region. This increased in severity, and within half an hour became almost unbearable. The pain was continuous, with frequent exacerbations. The sensation, as felt by myself (having been one of the early sufferers), was such as one would expect if the spleen was swelling rapidly, and pushing out the ribs, producing the pain characteristic of distention. The pulse was 100, respirations 24, and temperature 101° F. Every movement intensified the pain; deep inspiration or coughing rendered it excruciating. After two or three hours a profuse sweat appeared, and the pain began to diminish. Three or four hours later the pain had entirely vanished. However, the general sense of uneasiness, coated tongue, and gastric disturbances continued, while the temperature dropped to 99.5° F. The next afternoon, or that of the following day, the paroxysm was repeated. On the second or third day a herpetic eruption usually appeared. Four paroxysms were the largest number that I observed in any case. For a period of a week or more following the last paroxysm there was a sense of uneasiness with an occasional pain in the affected region. This was usually more marked in the morning. From the beginning to the end of the disease perspiration was very profuse and more or less constant. It had about the same odor in all the cases. The prostration was very marked throughout the whole course of the disease. Most of the cases were not so severe as the foregoing, and toward the end of the series usually but a single paroxysm occurred.

I observed fourteen such cases within a period of five weeks. Several of my friends each treated a similar number. All of the cases occurred in the upper part of the city on the west side.

It has been customary to regard herpes zoster as a necessary accompaniment of this form of neuralgic pain, and the affection is usually described as zona or herpes zoster. In four of my cases a herpetic eruption did appear along the course of the intercostal nerves in the painful region. In eight cases the herpes appeared on the face or mucous membranes, and some of the severest cases were in this group. In two mild cases I did not observe the herpetic eruption. This is opposed to the view formerly held, that the herpetic eruption must needs appear over the nerve tract of the painful region. In more than half of the cases a pharyngitis appeared on the seventh day. Pruritus of the entire body occurred in five cases. In three cases a small papular eruption, general in distribution, made its appearance toward the end of the second week. In three cases the pain extended over the region of the seventh, eighth, and ninth intercostal nerves on the right side, extending from the mid-axillary line forward. In three other cases it attacked both sides alternately during the same paroxysm. Obstinate constipation was a marked feature in all of the cases.

[1] Read before the New York State Medical Association, October 26, 1899.

Vomiting was a prominent feature in four cases. All of the patients were in good health previous to the attack. As far as I could ascertain there were no sequelæ.

Epidemics, similar in many respects to the foregoing, have been reported by Kaposi, Wetz, and others, but a zoster always accompanied the cases reported. There is a wide divergence of opinion as to the nature of the disease. Much of this confusion in the past was due to the confounding of ordinary, simple neuralgia with this disease. That it is not a neuralgia, in the ordinary sense, is evident for the following reasons: In all cases of neuralgia examined at the Massachusetts General Hospital by Cabot, leucocytosis was not found in a single instance. All of the cases examined in this series showed leucocytosis. In the second place, the presence of continued fever, gastro-intestinal disturbances, sweating, and prostration are evidences of a general toxæmia. Again, in true intercostal neuralgia the so-called Valleix points of tenderness where the nerve becomes superficial can be demonstrated. In no case could I elicit this sign, although always examined for.

The trend of recent opinion is to regard it as a constitutional disorder, due to an acute infection. Paul Gerne has pointed out that it corresponds in every particular to the acute exanthemata; that one attack generally confers immunity, and that the disease often occurs in epidemics lends color to this view. In passing, it may be mentioned that three of my cases occurred in one house, and two in another. Hay has called attention to the general glandular enlargement in these cases. As a result of microscopical examination of a gland from such a case, he has discovered a bacillus which he thinks may possibly be the cause of the disease. Kaposi states that epidemics occur in Vienna in the spring and autumn, and thinks the outbreaks are influenced by atmospheric conditions. Wishing to ascertain if there was any connection between the atmospheric conditions and the present epidemic, I wrote to Local Forecaster Emery, of the United States Weather Bureau, for the requisite data, which he very kindly placed at my disposal. From a study of this material I find that the mean temperature for the period from the middle of June to the middle of July was slightly higher than was usual. The number of cloudy days during the two months was 41; the average humidity, 70: mean atmospheric pressure, 30. There were no great sudden variations in either temperature or pressure. The prevailing winds were south and northwest. The velocity of the wind was a trifle higher than usual. Finally, to use the words of the forecaster, this period does not show any unusual meteorological conditions.

Winfield found the plasmodium malariæ in seventy-five per cent. of his cases, and thinks that this is the usual cause of the disease. The paroxysmal nature of the affection is a point in favor of this view. In the blood of a few patients examined, I failed to find the plasmodia, but, on the other hand, noticed a marked leucocytosis. Quinine seemed to have no effect and a previous malarial history was rarely obtainable. In none of my cases could the spleen be palpated. The immunity from further attacks, that is said to follow this disease, is strong evidence against the malarial theory.

Since writing the above my attention was called to two articles in the *Münchner medicinische Wochenschrift* for August and September, describing an epidemic of neuralgia in a small German city. Over one hundred cases are reported in detail. Various parts of the body were involved. The presence of herpes was variable, and did not seem to bear any relation to the nerves affected. The observers did not notice any rise of temperature accompanying the disease. More females than males were affected, and genital disturbances were present in many cases. The epidemic was restricted mostly to one quarter of the city, and the observers think it was due to an acute infectious agent.

**Treatment.**—After the useless employment of quinine in massive doses, I had recourse to salol and phenacetin, with an occasional dose of chlorodyne or morphine. Strapping the side with rubber plaster gave relief at once, and when the zoster was not present did more to shorten the disease than all other measures. A mustard plaster applied over the affected region during the paroxysm was also of some service in relieving the pain.

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## HYPERTROPHIES IN THE TONSILLAR RING.*

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This subject is presented from the standpoint of the general practitioner whose work, whether in city or rural district, lies outside the great centres; who has not the specialist readily accessible; and upon whose knowledge and skill the larger portion of his clientèle is immediately dependent. At a recent meeting of the British Medical Association the president in his address placed the consideration of these growths in equal prominence with the great medical topics of the day. The general interest of the topic alone is pleaded in apology for this paper.

At either side of the pharynx, between the anterior and posterior pillars, are the faucial tonsils; at the centre of the roof of the naso-pharynx, the pharyngeal or Luschka's tonsil: at the base of the tongue, the lingual tonsil. These are structures of the same histological character—a collection of lymph follicles or adenoid tissue held together in a loose fibrous network of connective tissue. In the faucial tonsils the lymph follicles are arranged in groups which occasionally sink below the general surface of the mass, thus forming crypts. Such tissue usually marks the opening of canals either embryonic or permanent, upon the mucous-membrane surface. The faucial tonsils mark the openings of the gill-slit orifices of the embryo; the third tonsil, that of a duct which in the embryo traverses the floor of the pituitary fossa and opens upon the roof of the pharynx. The so-called tonsillar ring, or ring of Waldeyer, is completed by small cushions of lymphoid tissue about the orifices of the Eustachian tubes. Kirkes and Flint state that the function of these struc-

* Read at the semi-annual meeting of the Orange County Medical Society, October 10, 1899.

tures is the production of a lubricant to aid in deglutition. Other physiologists say that all lymphatic tissue, whether in the form of a simple collection of lymphatic cells scattered through the nose, Eustachian tubes, or pharynx, or collected into prominent groups as in the naso-pharynx, fauces, or at the base of the tongue, are germinating centres for leucocytes. Again, the position has been taken that these masses of lymphoid tissue are abnormal and of pathological import alone. Flagg[1] classes them "among the dangerous rudiments in man." It is argued that the tonsils were of use in a gill-breathing period of evolution; but now the embryo, while in its development ridding itself of the gill slits, has not disposed of the structures marking their termini. The tendency toward the disappearance of the pharyngeal tonsil in the first few years of life, and of the faucial tonsils at puberty, as well as the fact of their larger relative size in the embryo, strengthen the contention of their rudimentary and obsolete nature.

In hypertrophy there is an increase in all the tissues that constitute the structure. The follicles occasionally become over-distended with secretion, giving rise to a fetid discharge. The enlargement of the third tonsil has been termed adenoid vegetations. The frequency of its occurrence and its clinical importance were first brought to the attention of the profession by Meyer, of Copenhagen, in 1868. It is essentially a disease of childhood, though not confined to that period. Hypertrophies of the faucial tonsils have a greater tendency to continue into adult life, and Bosworth distinguishes in this situation a hyperplastic following the hypertrophic form, and in which the new connective tissue takes the place of the lymphoid. In these cases the glands become hard and fibrous in character.

There is an hereditary element in the causation. The affection tends to occur in several members of the same family. The most frequent cause is repeated and neglected attacks of catarrhal inflammation of the nose and throat. The infectious diseases of childhood are also causes. The obstruction from acute rhinitis by rarefying the air in the naso-pharynx causes distention of the post-nasal lymphoid tissue, and the hyperæmia thus produced aggravates the condition.

Hypertrophy of the lingual tonsil is comparatively infrequently encountered, and is essentially a disease of adult life. Enlarged faucial and pharyngeal tonsils obstruct nasal respiration, and thus produce mouth-breathing. This may be constant or limited to the period of sleep. During sleep the mouth becomes dry; snoring is induced; and the subject, usually a child, is restless. At times somnambulism results. Nocturnal enuresis occurs in some cases. The obstruction to respiration may be great enough to produce dyspnœa. The child is unable to run about without distress, remains relaxed, and sweats easily. Cough is a common symptom, and is often paroxysmal. There may be difficulty in swallowing. The voice may be muffled and suggestive of encroachment upon the naso-pharyngeal space.

Inability of mental application, accompanied by an expression of stupidity in the facies, as a result of enlargement of the pharyngeal tonsil, is well known to occur. Irregularities in the development of the palate, alveolar arch, and teeth have been shown to result.

In assigning to hypertrophy of the tonsils, more especially of the third, the primary cause of the most common ear diseases, there is unanimity of opinion. Miller[2] says that acute otitis media "comes most frequently by extension from the naso-pharynx. Hypertrophied tonsils undoubtedly have a similar effect upon the ear, but adenoid growths, which so often coexist with them, are no doubt more frequently responsible."

Dench[2] affirms of chronic catarrh of the middle ear: "My own belief is that certain conditions of the nose and naso-pharynx, such as enlargement of the faucial tonsils, etc., are hereditary. Any of these conditions predispose to inflammation of the middle ear"; also that "of local causes the most important is probably enlargement of the pharyngeal tonsil."

Buck[2] assigns as the three factors in perpetuating chronic suppuration of the middle ear: "First, lowered vitality; second, intra-tympanic stagnation of the discharge; third, the presence of a mass of hypertrophied lymphoid tisssue in the vault of the pharnyx"; and states that "the discharge in the cases where the main cause is to be found in hypertrophied tissue in the vault of the pharynx consists largely of ropy mucus. The discharge is apt to be intermittent, sometimes stopping altogether during the summer months, and is entirely free from any unpleasant odor."

As hypertrophy in the tonsillar ring, especially in the vault, is the most important local cause of inflammation of the middle ear, it follows that such hypertrophy is more remotely the chief local factor in producing deafness.

The frequency with which subjects of enlarged tonsils suffer from recurrent attacks of acute tonsillitis is a matter of general observation. Newcomb[2] says: "Chronic enlargement of the tonsils naturally invites recurring inflammation." F. Jessen,[3] senior physician to the Vereins-Hospital of Hamburg, sums up the literature and reports a number of cases showing that the tonsils are places of entrance of infection in many instances attributed to different origin, some of them even without any manifestation of disease upon the surface of the tonsils. He likewise contends that many and varied cases of so-called scrofula are generally infections from some portion of the lymphoid ring and often promptly cured by removal of the diseased tissue.

The lower segment of the ring is easily viewed, the faucial tonsils are seen with moderate, the lingual with forced, depression of the tongue. The pharyngeal tonsil is difficult of examination. Excepting in very skilled hands the use of the post-nasal mirror is usually unsatisfactory and often impossible. The same may be said of the examination with the finger tip without anæsthesia. Moreover such an examination renders subsequent measures more difficult. Farlow[2] remarks that "the child has usually had all the examination it will submit to when the finger has once been behind the palate." Frequency of association of hypertrophy of the lateral tonsils with that of the superior will be the most constant guide to diagnosis of the latter.

Dench[2] states "that an enlargement of the faucial tonsils is almost invariably accompanied by a similar condition of the pharyngeal tonsil"; Dawbarn,[4] that "nine out of ten pharyngeal tonsils are also cases of large faucial tonsils." The ground was taken by Rice at the recent meeting of the New York State Medical Society, that when from examination of the faucial tonsils, and the presence of symptoms, hypertrophy of the pharyngeal tonsil can be inferred, the diagnosis is best made with the curette. Operative relief may be secured in appropriate cases, and in the few instances in which diagnosis is not established no injury will be done.

The treatment of these hypertrophies is removal. Cousins,[5] in referring to pharyngeal vegetations, asserts "that the number of young persons who have been saved from life-long deafness by the removal of these obstructing glands amounts already to hundreds of thousands, and that hundreds of thousands more will be delivered from this terrible affliction in future times." Senziak[6] sums up the advantages of removal of these same growths as follows: Re-establishment of nasal respiration; improvement of the general health;

favorable influence on the intellectual faculties (relief of nasal aprosexia); improvement of hearing and removal of certain diseases of the ear; favorable effect on deaf-mutism; disappearance of local disease of the nose and pharynx; relief of certain reflex neuroses such as asthma, cough, enuresis, etc.; cessation of local hemorrhages, and improvement of defects in speech.

For the removal of the faucial tonsils the guillotine tonsillotome is the accepted instrument. For pharyngeal hypertrophy Phillips[7] states that a few years ago nearly all operators in the country used the Hooper modification of the Lowenburg forceps. Valuable improvements have been made in the forceps by Brandegee and others. At present the Gottstein curette or some modification is most in use. Many make use preferably of the finger nail. The adenoid knife, such as used by Jansen and others in the clinics in Berlin, is a simple instrument, comparable in its action to the Mackenzie tonsillotome, and when of proper size for the case at hand, and used with sufficient force, will usually remove the pharyngeal tonsil at a single stroke. The danger from hemorrhage in these operations is small. Sajous[8] has seen but two serious hemorrhages from removal of faucial tonsils, neither of them fatal. The series from which J. Wright collected thirty-one cases of bleeding, two of them fatal, numbered probably one hundred thousand operations, according to Roe.[2]

Although cases resulting fatally from hemorrhage following operation on the third tonsil have been reported by Kenefick and others, the total of all operations from which these cases have been collected would, no doubt, show a similarly low proportion. Würdeman[9] reports that in the several hundred operations he has done there has been no case giving rise to any anxiety on that account.

I believe that the removal of these structures is best performed without an anæsthetic. The danger of inhalation of blood-clot, which Delavan says is by no means imaginary, must be increased by anæsthesia. Newcomb[3] gives as his experience that "tonsillotomy may be more satisfactorily accomplished without anæsthesia than with it." Hinckel[10] gives a list of eighteen deaths under chloroform in these cases, and concludes that "the general use of chloroform in the operation for hypertrophied tonsils or naso-pharyngeal adenoids is inadmissible." Cocaine is not without its danger, does not greatly diminish the pain, and in the case of children is likely to give alarm.

The pain attendant upon removal of these lymphoid masses is frequently borne by children without protest. Once removed, though there is a certain danger of recurrence, estimated by Douglass[11] as three in one hundred in the course of one year, no fear need be entertained from loss of the tissues. Freeman,[2] while considering that the pharyngeal tonsil is a normal structure, and that its function as a germinating centre for leucocytes is often overlooked, admits that "its enlargement interferes so markedly with the vital processes of free nasal breathing and normal ventilation of the ears that its physiological functions should not weigh against such important considerations when damage is threatened by its presence."

Hypertrophy of the lingual tonsil, occurring in the adult, may be removed under cocaine anæsthesia with the galvano-cautery.

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## Progress of Medical Science.

**The Protracted and Chronic Forms of Influenza.**—Prof. Nil Filatow (*Deutsche Mediz.-Zeitung*, August 28th) states that under the name of protracted influenza are understood such cases as last a considerable length of time, that is to say, those whose febrile stage is of much longer duration than the average case. The protracted form shows itself more frequently without catarrhal symptoms, but rather with fever which progresses for a long time without intermission; in other instances the chronic form shows itself by severe but short (one to three days' duration) attacks of influenza, which recur at intervals of months or perhaps years. In the first form, which is the more frequent, the history is somewhat as follows: In a certain family a febrile disease occurs which to all appearances is influenza; this affects young and old. In one, the disease is characterized only by general weakness, in another cough and coryza are added; sooner or later all, with the exception of one or two, recover. Despite the disappearance of the cough, complete recovery does not occur; loss of appetite and general weakness remain, and these increase at certain periods of the day, for example, from 12 to 3 P.M. At this time, headache and chilly sensations sometimes occur, and the weakness reaches such a height that the patients gladly seek their bed. Two to four hours afterward, this increase in the symptoms disappears with more or less sweating, whereupon the patient at once assumes his previous condition of a relatively well person. The temperature at this time shows a slight increase, whereas during the exacerbation it rises to 38°–38.5° C., but after this it does not fall to normal. In general, the disease resembles an atypical malaria, but despite the many weeks of fever the spleen remains of normal size. The plasmodia are not found in the blood, and quinine given per os or subcutaneously has no visible effect upon the course of the disease. The main symptom is the fever, for which no local cause can be found. This fever is characterized by two points: (1) It lasts a considerable length of time—from six weeks to three months and longer; (2) the fever rises very little or not at all, and yet the patients are febrile; this is seen by the malaise and weakness, which reach their climax at a certain period of the day; sometimes little chills are complained of, and more frequently sweating is observed. As far as the second form is concerned, it may be said that the individual attacks, which are characteristic of the disease, do not differ materially from the ordinary attacks of acute influenza; in some cases the temperature rises rapidly to 40° C., and even higher; in others it remains perfectly normal. Catarrh of the respiratory apparatus is often absent, as are the initial chill and final perspiration. The attack lasts from one to three days. The diagnosis, in cases in which the influenza occurs epidemically in certain families, is not difficult. The diagnosis of individual cases rests upon the character of the fever (moderate rise, paroxysmal course), its duration, and upon the possibility of excluding other causes for its presence. At the beginning, typhoid and malaria must be thought of and later miliary tuberculosis. As to typhoid, a negative Widal and diazo reaction are of great significance. The absence of plasmodia speaks against malaria, it is true, yet is not absolute, since in protracted malarias

which have been treated with quinine they are not infrequently wanting. If, however, the etiology is not clear, the treatment with quinine and arsenic (particularly subcutaneously) is not productive of good results, and the course of the disease is not characteristic of a typical malaria, then the absence of the plasmodia may be of great importance in the diagnosis. In cases of chronic influenza which are characterized by short recurrent febrile attacks, the absence of enlarged spleen, of malarial cachexia, and the fact that the attack lasts the same length of time whether the patient receives quinine or not, speaks directly against malaria. If the attack lasts two or three days, the temperature remains high during the entire time, and the characteristic febrile malarial periods are wanting. At times it is very difficult to exclude miliary tuberculosis, particularly when the chronic form of influenza attacks one with a tuberculous family history, or one who is predisposed to tuberculosis (a scrofulous subject with a history of repeated attacks of bronchitis). The disease begins with catarrhal symptoms and the cough continues; it then becomes very difficult to decide whether we have a protracted influenza or a tuberculosis. If the patient is not predisposed to tuberculosis, if the influenza runs its course without catarrhal symptoms, if during the entire time the temperature reaches only a moderate height and does not remit, and particularly if the same fever exists in other members of the family, then it is not difficult to exclude acute tuberculosis. The prognosis is for the most part good, but the duration of the disease cannot be foreseen. Inasmuch as the disease might be complicated with tuberculosis, pneumonia, and pleurisy, an absolutely good prognosis must be cautiously given.

**Effect of Gout upon the Heart.**—Dr. Karl Grube (*Deutsche Medizinal-Zeitung*, July) says that gout may affect the heart: (1) By giving rise to an organic affection of the coronary arteries and thereby a disturbance of cardiac nutrition; (2) by causing chronic granular kidney with its accompanying cardiac changes; (3) by a direct influence of the poison—which must be recognized as uric acid at present—upon the nervous apparatus of the heart.

**Treatment of Phlegmasia Alba Dolens.**—Professor Pinard (*Bull. Méd.*, 38, 1899) summarizes the curative treatment as follows: (1) Immobilization of the limb in an obliquely inclined position. (2) Alleviation of the pain with morphine if necessary. (3) Injection of antistreptococcic serum as long as the fever continues. (4) Wrapping the limb in cotton saturated with ammoniated chloral hydrate until an eruption appears. (5) Rest in bed for one month after the last trace of elevated temperature due to the phlegmasia has disappeared. (6) Wearing an elastic stocking or underdrawers from the moment the bed is left. The prophylactic treatment consists of: (*a*) the most careful antisepsis during labor, particularly in women predisposed to albuminuria and hemorrhage; (*b*) preventive injections of antistreptococcic serum in women who have suffered from phlegmasia during a previous confinement, or in those in whose family the condition is hereditary, so to speak.

**Bremer's Reaction of the Blood in Diabetes Mellitus.**—Carl Hartwig (*Deutsche Medizinal-Zeitung*, September 18th) as the result of observation concludes as follows: (1) Bremer's reaction is found constantly in diabetes mellitus. Whereas Bremer states that the characteristic color reaction remains even after the disappearance of the sugar, it was found that in the latter instances the color reaction was that of normal blood. Even in alimentary glycosuria Bremer's reaction occurs. (2) This reaction occurs in other conditions as well without sufficient explanation. Thus in three instances of leukæmia the first specimen of blood stained normally, the second like that of diabetes. In three instances of Basedow's disease three gave a normal, one a Bremer's reaction. (3) That the reaction is connected with the hæmoglobin, that is, with its chemical composition. (4) That the cane sugar is certainly a cause of the reaction; that other similar changes in the hæmoglobin could give rise to the conditions is at present very questionable, though not unlikely. (5) The concentration of glucose which is necessary to produce the reaction with pure hæmoglobin is 0.15 to 0.2 per cent.

**The Treatment of Pulmonary Tuberculosis with Camphorated Oil.**—Von Criegern (*Berliner klinische Wochenschrift*, October 23, 1899, p. 939) reports the results of his experience in the treatment of pulmonary tuberculosis among dispensary patients with camphorated oil. Cases of uncomplicated tuberculosis, that is, unattended with ulceration, were uninfluenced by the treatment. In cases with ulceration complicated by hæmoptysis it appeared as though the treatment rather predisposed to the occurrence of the hemorrhage. In cases with cavities, however, the treatment proved distinctly useful. Great symptomatic relief was afforded in cases in the last stages of the disease. The presence of nephritis is a contraindication to the employment of the treatment. Subcutaneous injection of camphorated oil is painful, and the preparation is too irritating to be administered by the mouth, but made into an emulsion with yolk of egg it can be readily given by the rectum as an enema.

**Value of the Tuberculin Test in the Diagnosis of Tuberculosis.**—Edward O. Otis (*Journal of the American Medical Association*, October 28th) summarized an article on this subject as follows: (1) The tuberculin test indicates tuberculosis by a general reaction before it can be detected by other methods, except the *x*-ray, in a large majority of cases, with a dose of from 5 to 10 mgm. of Koch's original tuberculin. (2) No injurious results occur from the use of tuberculin in these cases. (3) Proved tuberculosis in a more or less advanced stage may fail to give the general reaction from doses of from 10 to 12 mgm. (4) Syphilis gives the reaction in an undetermined proportion of cases. (5) There is a dose, undetermined, at which a non-tuberculous person may react or simulate a reaction. (6) The reaction may be deferred from six to twenty-four hours. As rules to be observed in making the test: (1) Always use the same tuberculin of a standard strength. (2) Use aseptic precautions in giving the injections. (3) Make the injections deep into the muscles of the back, arm, or leg. (4) Keep a two, three, or four hourly chart of the temperature, if possible, beginning twenty-four hours before the injection. (5) Allow several days to elapse before repeating the test. (6) In early cases depend on general reaction; in late cases, if the general health fails, carefully look for the local reaction.

**Action of Anhalonium Lewinii (Mescal Button).**—Of recent years the mescal button has excited some degree of interest mainly because of the pleasurable visual hallucinations that it has excited. W. E. Dixon (*Journal of Physiology*, vol. xxv., No. 1, p. 69) has studied the action of the various alkaloids, first isolated by Heffter. These are anhalonine and anhalonidine, both having the same formula, being isomeric; lophophorine, belonging to the same series, differing only by the addition of a $CH_2$ group; and mezcaline, which is closely allied, especially physiologically, to

anhalonine, though structurally it differs somewhat. The animals experimented upon were mainly dogs. The differences between the alkaloids were as follows: Anhalonine and anhalonidine have an action which seems to be the same in each case, but lophophorine, while behaving very similar to these, is probably about twice as active. It has greater nerve-irritating powers, since muscular twitchings and the reflexes are more markedly heightened following its use. Mezcaline, while agreeing precisely with the other alkaloids as regards cardiac and respiratory action, appeared more effective in the production of color visions. Respiratory depression is manifest. This is apt to persist as an after-effect. Circulatory depression is less than respiratory, though it is also present. Nausea is generally present after a large dose, but vomiting is rare. Small doses rarely produce unpleasant after-effects. It seems that mescal acts differently from any other substance, although in its isolated properties it resembles many. Cannabis indica, which at first it was thought most closely to resemble, differs from it in the delusions of merriment and in its hypnotic effect, whereas "mescal" never rises to merriment, but rather to a condition of ideal content, and produces wakefulness. It is allied to strychnine by its effect on the brain and cord, though in this respect its action is more cerebral than spinal. Opisthotenos never occurs with mescal. In its action on nerve fibres it resembles the paralyzing action of nicotine. In some respects it acts as a stimulant, similar to digitalis and cocaine, and its use in therapeutics seems from Dixon's investigations to be fraught with much promise. Its gentle stimulating effect indicates it in diseases of the nervous system, and more especially by its diminution of the kinæsthetic sensations, it is called for in melancholia. Further, its effect on slowing the heart by a direct action on the heart muscle, and in small doses increasing the force of the beat, may be of some use in circulatory therapeutics.

**The Treatment of Goitre.**—Bouffleur (*Medicine*, November, 1899, p. 881) submits the following conclusions, based upon existing knowledge of goitre: Successful treatment depends upon accurate and early diagnosis of the nature of the goitre. Struma should be treated by the internal use of iodine or thyroid extract, and the parenchymatous injection of iodoform or carbolic acid. If these fail, either enucleation or partial thyroidectomy is indicated. Adenoma should be treated by enucleation if the tumor is small, and by partial thyroidectomy if large. Cysts should be treated by evacuation and injection of carbolic-acid solution or iodoform emulsion. If this fails, the cysts should be enucleated. Sarcoma and carcinoma should be treated by complete removal of the thyroid gland, with subsequent administration of thyroid extract. The treatment of exophthalmic goitre is generally unsatisfactory, and at present surgical measures promise the best results. Undifferentiated goitre may be treated with thyroid extract and iodine, but parenchymatous injections, and if necessary operative treatment, should be employed early. The surgical treatment of all varieties of chronic goitre is, generally speaking, the most successful and most satisfactory.

**The Pathogenesis of Yeasts.**—It is daily becoming more apparent that other of the lower forms of vegetable life than bacteria are the cause of disease in man and animals. Since the recent work of many observers on the parasite of carcinoma the yeasts have come to occupy an important rôle in the eyes of bacteriologists. Recent work by M. P. Uesczadimento (*Centralblatt für Bakteriologie und Parasitenkunde*, 1899, vol. xxv., 2, 3, p. 55 *et seq.*) shows that if pure cultures of yeast be injected into rats, mice, guinea-pigs, dogs, and rabbits, there result a number of pathological processes, most of which cause the death of the animal in from eight to twelve days. Infection of the peritoneum in rats and guinea-pigs produces a peritonitis with productive inflammation of the omentum. In the guinea-pig pus develops, which gives pure cultures of the yeast on subsequent cultivation. Abscesses may also develop as a result of subcutaneous injections of pure cultures. The individual yeast cells undergo many morphological changes; many involution forms are apparent, and a number of forms which closely resemble those recently described as inclusions in the cells of carcinomata were observed by the writer. It seems probable from the author's work that yeast cells play a much more important rôle in pus formations than has hitherto been supposed.

**Uncontrollable Vomiting, due to Gastric Obstruction by the Pressure of an Aneurism, Relieved by Cœliotomy and Manipulation.**—Ewart and Jaffrey (*Lancet*, October 28, 1899, p. 1155) report the case of a married woman, forty-nine years old, who was thought to be suffering from intestinal obstruction, with constipation and persistent vomiting of a week's duration. The patient had been abstemious, but had suffered from jaundice in childhood and from rheumatism at the age of forty. Nine months before coming under observation she had passed through a prolonged attack of vomiting and constipation. For a year previously there had been morning vomiting after taking tea. The patient was wasted and prostrate. The pulse was large and tense, and the radial artery tortuous. The costal arch was depressed, and the abdomen flat, tender, and tense. A pulsating mass, with a systolic bruit and thrill, could be felt indistinctly in the left epigastric and umbilical regions. The vomiting of all ingesta and even of plain water persisting in spite of the ordinary measures of treatment and diet, malignant disease or ulcer of the stomach was suspected. Exploratory cœliotomy was decided upon, and an incision from four to five inches long was made above the umbilicus. The stomach presented in the wound, and on examination it was found to be quite healthy though dilated. Its walls did not appear to be materially thinned. The colon appeared to be normal. An attempt to press some of the fluid present in the stomach into the duodenum was unsuccessful, and on further examination the swelling that had been felt through the abdominal wall proved to be a large fusiform aneurism of the abdominal aorta. This commenced about half an inch below the aortic opening of the diaphragm and extended to the level of the umbilicus. The pyloric extremity of the stomach was flattened over the convex surface of the aneurism, so much so as to cause obstruction to the passage of the contents of the stomach into the duodenum. This seemed to be partly due to the weight of the dilated stomach and its contents and of the colon and the omentum. As much as possible of the stomach was pulled over to the right side of the aneurism so as to relieve the pressure, and as the stomach seemed inclined to remain in its new position it was not thought necessary to fix it in any way. The patient rapidly recovered from the operation. The wound was dressed with dry cyanide gauze, and the sutures were removed on the eighth day. For several days there was slight vomiting, in connection with nausea excited by the smell of brandy, but the alarming symptoms disappeared, and the patient slowly improved, and began to take solid food, and to walk for short distances. She complained of burning sensations in the epigastrium, and had general hyperæsthesia of the abdomen, but the pulsating mass was less easily felt, no doubt in consequence of the fundus of the stomach being placed between the aneurism and the abdominal wall.

MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 51 Fifth Avenue.

New York, November 25, 1899.

## INFLAMMATION OF THE PONS VAROLII.

INFLAMMATION of the brain may be excited by traumatism, by extension from adjacent disease or, through the blood-vessels, from remote disease, and by general infectious processes. It may be purulent or non-suppurative, and it may involve principally either the white or the gray matter. There are certain points of analogy between inflammation of the brain and inflammation of the spinal cord, and both brain and cord may be involved conjointly.

We may thus have in combination myelitis and encephalitis, or poliomyelitis and polio-encephalitis. The symptoms will vary in accordance with the structures attacked. Thus, the cortex may suffer most, or the basal ganglia, or the third ventricle, or finally the nuclei in the pons and medulla, and the symptoms will naturally vary in accordance with the localization and the extent of the lesions. The onset may be acute, with convulsions and loss of consciousness, followed by paralysis of varying distribution, cerebral suffering equally with spinal nerves. On the other hand, the symptoms may set in insidiously, and we may have presented the clinical picture of progressive muscular atrophy, progressive bulbar paralysis, ophthalmoplegia, alone or in varying combination. It is not impossible, further, that in some cases multiple foci of inflammation have preceded cerebrospinal (insular) sclerosis. A case of so-called polio-encephalitis inferior presenting some unusual features has recently been reported by Oppenheim.[1]

The patient was a girl, nineteen years old, who gave a history of having been seized with loss of consciousness and convulsions, lasting several days, at the age of one year. Subsequently the left side of the face was found paralyzed; the left eye remained open, and the mouth was drawn toward the right. It was thought also that the right eye was turned inward. Gradual improvement followed, and the patient learned to close the eye, and the mouth in time became drawn toward the left. As the girl grew up, she became annoyed by twitching and tremor of the muscles of the left side of the mouth and chin, and by a sensation as if the upper lip was too thick and too hard, and there was also some embarrassment of speech. The face presented a peculiar indefinable asymmetry; there was slight flattening of the left side of the mouth and chin, while the contour of the muscles of the left side of the chin, especially the quadratus menti, was well marked in consequence of constant tension. The left angle of the mouth was lower than the right, and active movements of the lower part of the face were more marked on the right than on the left. The orbicularis palpebrarum was equally active on both sides, although the left eye was opened less quickly than the right, and the frontal furrow was wanting on the left. Almost constant fibrillary twitching was visible in the muscles of the chin and lower lip of the left side, with tic-like movements occurring synchronously with closure of the eyes. The tongue, when protruded, deviated somewhat toward the left, its raphe forming a concavity toward the left posteriorly, and toward the right anteriorly, the tip being directed toward the left. The left half of the tongue was thinner and smaller than the right, presenting depressions and elevations, and fibrillary tremor. On the floor of the mouth the tongue deviated somewhat toward the right, so that its tip was directed toward the right half of the lower jaw. The raphe of the floor of the mouth passed obliquely from in front and the left toward the right and behind. The uvula, at rest, was deflected slightly toward the left, but in phonation no difference in the motility of the two sides was discernible. In speaking, the left omohyoid became especially prominent. Electric examination disclosed quantitative diminution in the irritability of the left facial nerve on both direct and indirect stimulation with both faradic and galvanic currents. The diminution was most marked in the platysma myoides and particularly on the left. The contractions on direct stimulation with the constant current were lightning-like on both sides. On stimulation of the right facial nerve with weak currents, a contraction occurred in the muscles of the left side of the lip and chin, and with such current strengths as induced in the corresponding muscles of the right side slight if any contraction, and which were entirely without effect on direct stimulation of the muscles and nerves of the left side. This crossed, or contralateral, contraction occurred only in those portions of the muscles in proximity to the median line; it appeared also in a portion of the muscles of the upper lip, and in the corrugators of the brow. Closure of the constant current on the outside of the neck, with either cathode or anode, induced movements of deglutition, and with feebler currents on the left than on the right. The knee jerk and the Achilles tendon jerk were more pronounced on the right than on the left. A blow on the right patellar tendon caused at times a contraction of the left tendon, but the opposite condition was not present.

The lesion in this case was believed to be cerebral, on account of the acute onset in childhood with convulsions, loss of consciousness, followed by paralysis of the left facial and hypoglossal nerves, with recession of the symptoms and degeneration of the affected muscles. That it was not cortical in situation seemed to be indicated by the fact that the upper branch of the facial nerve was involved, and by the occurrence of degenerative changes. Further, the reflexes were

[1] Berliner klinische Wochenschrift, No. 29, 1899.

increased on the side of the body opposite to that affected by the paralysis. That it was nuclear (bulbar) rather than peripheral, was rendered probable by the acute onset, and the occurrence of convulsions. It appeared that the muscles most needed and most exercised recovered in greatest degree. The reaction of some of the muscles of the left side of the face close to the median line to currents not affecting even the healthy right side is considered due to innervation of the facial muscles of the left side close to the middle line by the facial nerve of the opposite side, as a result, perhaps, of the growth of the branches of the nerve.

## THE EVOLUTION OF THE BEDROOM AND BEDSTEAD IN ENGLAND.

The late Lawson Tait was a man of many parts, and if he could not wield the pen so skilfully as the knife, at any rate as a writer he was by no means to be despised. There can be small room for doubt at least that his opponents held this opinion. Unfortunately a great deal of his writing, as his speaking, was of an aggressive and polemical character. However, when he chose he could write in a quiet, fascinating style, especially on matters concerning social reform and hygiene. Perhaps the last article contributed by him was on the "Hygiene of the Bedroom and Bedstead," which has appeared in several British and American medical journals, and, if such a term is allowable, may be regarded as a domestic classic. It traces almost lovingly and in language picturesquely descriptive the evolution of the bedroom and of that now necessary article of furniture in Great Britain, the bedstead itself. It tells us that in the days of the cave-dwellers, and through the various stages of savage and nomad life, the dwelling space was used for all purposes in common, and that it was not until the wandering hunter had, so to speak, settled down that he saw the advantage of setting aside a portion of his dwelling for sleeping purposes. After a brief reference to the times of the Briton in Britain, the story brings us to the Norman era in that country, and shows us that the Norman—albeit his castle might be grim and forbidding outwardly—yet had a very fair notion of what constitutes a comfortable bedroom and bedstead, as well as more than rudimentary ideas on effective hygiene. The walls of their castles were thick and solid, thus securing a fair uniformity of temperature, while the downfall of cold air was modified by the hangings of tapestry. For their bedsteads there was no need of hangings. We are told that the Saxon farmer, on the contrary, had perforce to live under very different conditions. His houses were of wood, and as he was no adept at carpentering the doors and windows were ill-fitting, and draughts were in consequence the rule rather than the exception. Hence was evolved that abomination of abominations, the four-poster bed, or, as Lawson Tait preferred to put it, "A small apartment was constructed inside the bed room in the shape of a huge four-poster hung round with curtains, into which a whole family must have crowded, possibly with the addition of occasional visitors." It is shown how strenuously the conservative Britisher clung to his time-honored four-poster until the fifties, when, as Tait satirically said, the dawn of domestic sanitation as we know it occurred, and was not fully appreciated till well on in the seventies. A pathetic picture is drawn of the trials attending the unwary visitor to London even in the seventies, when it was the rule to have vermin in all bedsteads used by the public, and bugs were made the subject of chronic jokes in all humorous writings and pantomimes. The story goes on to tell that the first step in the right direction was the introduction of metallic bedsteads, and Tait related that he remembered very well the furore of indignation with which they were met—for nothing annoys an Englishman so much as any interference with his personal habits or belongings. It is related, however, that finally all scruples were overcome, and that at last metal bedsteads have had their way. Thus is traced in brief the evolution of the bedstead in Great Britain.

## IS COMMERCIALISM GROWING?

Is it becoming necessary for a patient to ask himself whether a scheme may not be hatching when the family physician advises the consultation of a surgeon or specialist. It would be sad indeed if the general public comes to believe that the majority of physicians are constantly working in their own interests, from mercenary motives, and entering into conspiracies with still more unscrupulous persons to "do" the unfortunate sufferer.

The effrontery of certain quacks and those who are so short-sighted as to imitate their methods has led to the belief that much more is being done in the commercial spirit, and under the division-of-fee policy, than is actually the case. Those in the reputable ranks who publicly defend such a course of action are few indeed. Still there must be a certain number of supposedly reputable physicians who enter into it in a silent-partner sort of way, since financial propositions from those possessing a secret process or unusual knowledge and facilities for effecting rapid cures seem to abound. These persons would scarcely persist in bidding for support from the honorable portion of the medical profession, unless there were some returns.

The proprietor of a sanatorium in this city has just issued a circular offering a discount of twenty per cent. on collections to physicians referring patients for operation. In Chicago a woman who cures cancer by a secret method appeals to the profession by an offer of twenty-five per cent. on all cases that pay over $300. She says: "Let me know when the patient comes how much he is able to pay, and about what he is safely considered worth." The enterprising lady evidently does not believe in working a man for all he is worth unless she knows approximately for what amount she is working. In following the excellent advice given to surgeons back in the sixteenth century by Guy de Chanliac, she has omitted such distasteful words as

"merciful" and "moderation." This writer of four centuries ago said: "Let the surgeon be chaste, pitiful, merciful; not covetous or extortionate, but rather let him take his wages in moderation, according to his work and the wealth of his patient and the severity of the disease, and his own worth."

Bids for patronage "on shares" would seem of late to have increased in number and in brazen effrontery. Any one who might fear falling to this form of bribery in an unguarded moment of weakness should strengthen his manhood by reading the following extract from the by-laws just adopted by the St. Louis Medical Society:

"Publicly boasting of cures or remedies, or adducing certificates of skill or success, or paying or offering any salary, bribe, or commission in return for patients procured, or accepting the same, or employing others to do any of these things, shall, among other things, be considered gross misconduct."

## CULTURE IN THE MEDICAL PROFESSION.

The writer of an article in a recent number of *The Lancet* was somewhat severely "hauled over the coals" by some of his medical contemporaries for asserting that "the great majority of those young men who elect to follow medicine as a profession are by no means distinguished by culture or polish, but are for the most part drawn from the lower middle classes." This expression of opinion did not meet with general approbation, and it was pointed out that the type of medical student depicted so ably in the person of Bob Sawyer and Ben Allen by Dickens in the "Pickwick Papers," no longer exists, and that the rowdy, saloon-haunting embryo physician is almost as extinct as the dodo. We take it, however, that this was not intended to be the interpretation placed upon the offending editorial. Doubtless the meaning intended to be conveyed by *The Lancet* scribe was that the medical profession does not hold out sufficient inducements for the "*jeunesse dorée*" of Great Britain either in the way of social position or so far as pecuniary advantages are concerned. This view of the situation is probably correct. In no other profession are the prizes to be gained or the value placed upon the ordinary everyday labors so incommensurate with the difficulties to be overcome in gaining an entrance into the ranks as in that of the medical profession. The work to be done in order to become a minister is child's play in comparison; and the same may be said, although in a lesser degree, in regard to the legal profession. A writer in the September edition of *The Medical Magazine* agrees with *The Lancet* that the medical profession in Great Britain does not attract the young men who have received their education at the large fashionable schools, as Eton and Harrow, and furthermore points out that there is an increasing dearth of culture among the leading practitioners of the day, and that the old scholarly physician of forty years ago is almost extinct. This same writer goes on to say: "I do not want to run down my professional brethren, for harder-working, keener, kinder-hearted, and more philanthropic men do not exist; but their lack of general information is often deplorable. The practitioner becomes keen, self-reliant, full of resource, but he often becomes rough and too frequently coarse." Whether a medical man needs culture, or whether it is better that all his time should be spent in mastering his profession, is a point concerning which there is much divergence of opinion. Lawson Tait, who in everything was original, suggested that part of the curriculum of a medical student should consist of working as a blacksmith or carpenter for the sake of training the eye and acquiring dexterity with the fingers. On the contrary, many shining lights of the healing fraternity hold that a degree in arts should be a "*sine qua non*" for those who intend to follow the doctor's calling. For the man whose aim it is to practise in a large town and among the educated classes, there can be no doubt that a liberal education will at any rate be no drawback, while on the other hand the man whose lot is cast "far from the madding crowd" will probably do better to spend his time in thoroughly learning all the practical details of his profession rather than in endeavoring to gain a smattering of Greek and Latin.

## News of the Week.

**Smallpox** is reported to have broken out at Cape Town, the disease having been brought by refugees from the Transvaal.

**Fécondité.**—M. Zola may be interested to learn of a woman in Mountain Top, Pa., who recently gave birth to her twenty-fifth child, a strong and healthy boy. He has twenty-one brothers and sisters living, three of the family having died.

**Dr. Pepper's Estate.**—The estate of the late Dr. William Pepper, of Philadelphia, formerly provost of the University of Pennsylvania, has been appraised at $670,888. This includes a life insurance policy of $50,000.

**Marriage of a Medical Missionary.**—The Hong Kong correspondent of the London *Mail* says there is indignation in missionary circles at Canton over the approaching wedding of an American female medical missionary to a Chinese coolie, who was formerly employed by her as a cook.

**A Label for Doctors.**—The trustees of the American Medical Association have adopted an official button with which the members are requested to label themselves. It is of gold with red, white, and blue enamel. In the centre is a lance-pointed cross, the ends of which point to the word MAMA, which is probably not a term of endearment, but is formed of the initial letters of "Member of the American Medical Association."

**Embalmed Beef in England.**—According to London despatches to the daily press much indignation has been aroused in England by the bad quality of

the food supplies furnished by the contractors engaged to fit out the transports carrying troops to the Cape. One vessel last week had to be delayed twenty-four hours, owing to the fact that fifteen thousand pounds of rotten colonial beef and mutton had to be replaced. All the meat was taken out of the ship and dumped overboard at sea.

**Errata.**—In the report of Dr. Smith's paper on pneumonia, in the RECORD for November 18th, p. 757, first column, line twenty-seven, for digitalin read digitalein, and in line twenty-nine for *rather* read *less*. This last correction reverses the meaning of the passage.

**An Anti-Vaccination Story Spoiled.**—Two children died not long ago, one at Brewster's and one at Geneva in this State. The deaths occurred after vaccination, and were said by the anti-vaccinationists to have been caused directly by this operation. The State board of health has, however, investigated the cases, and finds that death in each instance was due to the neglect, ignorance, and filthy habits of the parents, and failure on their part to carry out the instructions of the physicians who performed the vaccination. One child died of tetanus, and the other of septicæmia. The parents of one of the children failed to remove the soiled bandage from the arm, and kept adding others until no less than seven were counted.

**The Plague** continues in Portugal, two or three deaths a day being reported at Oporto. The death of the director of the Bacteriological Institute at Lisbon from plague is announced. Santos, Brazil, has become a new distributing centre for the disease. The captain of the Austrian Lloyd steamship *Bernice*, from Santos for Trieste, reported from the Cape Verde Islands, on November 5th, that he had the plague on board and that three of the persons attacked had died. The Lamport and Holt Line steamer, *J. W. Taylor*, also from Santos, arrived in New York on November 18th with two cases of plague on board. The sufferers are the captain and the cook; the disease in them is mild, and it is believed both will recover. There had been no deaths during the voyage. The ship left Santos with a cargo of coffee on October 24th and sailed direct for this port. She had on board twenty-nine persons. On November 1st the steward was taken ill with headache and high fever and the symptoms of bubonic plague soon developed. The man, who was twenty-two years old, had been in hospital at Santos for two weeks with what was diagnosed as eczema, but was sufficiently improved to be discharged just before his ship sailed. He was cared for by the captain and the cook, both of whom took the disease. The passengers and crew will be detained at quarantine for some time, and the ship will be disinfected. It is probable that she will not be allowed to come to her dock, lest some infected rats escape and so carry the disease into the city. In this connection the following report from United States Consul Heenan, of Odessa, is interesting. It was printed in a recent bulletin of the Marine Hospital service, being taken from advance sheets of Consular Reports, No. 549. He writes under date of August 28, 1899: "I saw the other day a curious device attached to the mooring rope or cable of a steamer which was loading at this port. The cable was run through a piece of iron pipe about a foot in length, and welded on the end of the pipe was a flange or funnel which looked like the end of a trumpet, with the wide end facing the ship. The iron pipe was stuffed with oakum, to prevent it from slipping and also to prevent rats from passing through it. This novel construction was quite close to the ship. On inquiring what purpose this device served, I was informed that the Russian authorities furnished these appliances and obliged all ships to use them whenever they came from a port infected with the plague, in order to prevent the rats on the ship from coming on shore. It is generally conceded that the plague has been carried and spread by rats which have left ships coming from infected ports. It is known that rats make use of the cable to come on shore, and this iron pipe with its funnel-shaped arrangement was employed to prevent such visits, if possible. These devices were attached to each cable by which the ship is moored. In addition to this precaution, the master of the ship is obliged to take down his loading stages every night and erect them again the following morning, in order to prevent the rats from coming on shore during the night. I do not know whether this device is known to our sanitary authorities, and I send this description of it in the hope that it may be of service."

**A Medical Consultation Bureau.**—It has been proposed to establish in Birmingham, England, an institute where a consultant's opinion can be obtained for 10*s.* 6*d.*, or just half the regular rate. The medical men of the city have held a meeting and passed resolutions that, with the exception of the senior and most prominent consultants, all the others were willing to visit the poor in consultation for the same fee of half a guinea. This has had no effect upon the promoters of the scheme, however. They propose to pay two consultants, a physician and a surgeon, £500 a year each, and expect to make quite a handsome profit out of the undertaking.

**The Medical and Chirurgical Faculty of Maryland.**—At the semi-annual meeting of the Medical and Chirurgical Faculty of Maryland, held at Westminster, November 14th, Dr. William Osler, of Baltimore, read a paper on "The Home Treatment of Consumption," in which he said that ninety-five per cent. of the sufferers from tuberculosis seen by physicians were unable to afford treatment away from their homes in the cities, therefore as much as possible should be done to promote a cure in their own homes. He said that a life in the open air had long been known to be the means of the arrest and sometimes of the cure of the disease, and this might be attained even in cities, by arranging a couch for the patient, with plenty of blankets, on a porch, under a shed, or even in a sunny room with wide-open windows. From two hours after sunrise to an hour before sunset the patient, well wrapped up, might sit in the open air even on the

coldest days. The diet, he said, was extremely important, but the treatment varied with each patient. As much nourishing food as possible should be taken, particularly raw eggs three times daily. The number could be increased until the patient might eat as many as two dozen a day. He said that little medicine was required, and the remedies might be placed under three heads: first, those assisting the digestion; second, those for promoting general nutrition, such as cod-liver oil, hypophosphites, and creosote; and third, remedies for relieving cough, pain, and night sweats. Dr. Simon Flexner, formerly of the Johns Hopkins University, now of the University of Pennsylvania, gave an account of investigations in the Philippines, made by himself and Dr. L. F. Barker, of the diseases prevalent there. Their work was carried on among the American soldiers and the natives, the latter being studied for beri-beri, also leprosy and skin diseases. One of the commonest forms of skin disease is an itch or ringworm, which is communicated by the washerwomen, who use only cold water for washing clothes. Dr. Flexner exhibited tubes in which were grown colonies of the germ which is supposed to produce tropical dysentery. Dr. Barker described the three forms of beri-beri and showed photographs of the natives who suffered with the disease at Cavite.

**A Case of Anthrax.**—A 'longshoreman died a few days ago in the Long Island College Hospital of anthrax. He had been engaged in unloading hides from a vessel, and it is supposed that he became infected in that way.

**A Gift to the Red Cross Society.**—The Central Red Cross Society of Geneva has received from the French Red Cross Society, through its president, the Duke of Auerstadt, the gift of a complete equipment of medical appliances, instruments, etc., sufficient for two field hospitals.

**A New York Graduate Refused a License in Nebraska.**—At a meeting of the Nebraska State board of health at Omaha on November 3d, the application of a recent graduate of the University and Bellevue Hospital Medical College of this city for a license to practise medicine was refused. The applicant attended two courses in the Creighton College at Omaha, the last in 1897–98. The Nebraska schools all require four years' attendance before graduation, but the student came to New York and graduated in the spring of 1899 on one additional course of lectures. As the Nebraska statute requires four courses before a certificate can be issued, the applicant was refused.

**The Rank of the Naval Pharmacist.**—Until very recently all pharmacists in the United States navy have been enlisted men, the highest rank to which they could attain being that of chief petty officer. The recent naval personnel act created twenty-five warrant pharmacists. A warrant officer in the navy ranks next below the commissioned officer, but much above the petty officer. A warrant, like a commission, carries with it many privileges; it makes its possessor a responsible party in the eyes of naval regulations; it cannot be taken away at the whim or caprice of a superior without due process of law; and it is a life guarantee that during good behavior the remuneration connected with it shall continue. The warrant officers have comfortable quarters, rooms to themselves to sleep in, and a mess room, and servants are assigned to them. Measures have been taken to petition Congress to raise all the naval pharmacists to the rank of warrant officer, after they have passed a satisfactory examination. The request would certainly appear to be a reasonable one.

**Navy Department,** Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending November 18, 1899. November 10th.—Medical Director C. J. Cleborne placed on the retired list of officers of the navy from November 10, 1899, under section 1453, Revised Statutes, for incapacity incurred in the line of service; with the rank and three-fourths the sea pay of the next higher grade under section 11, navy personnel law. Passed Assistant Surgeon L. L. Young placed on the retired list of officers of the navy from November 10, 1899, under section 1453, Revised Statutes, for incapacity incurred in the line of service. Assistant Surgeon H. E. Odell appointed from November 8, 1899. Assistant Surgeon J. S. Taylor appointed from November 10, 1899. November 11th.—Passed Assistant Surgeon R. G. Brodrick placed on the retired list of officers of the navy from November 11, 1899, under section 1453, Revised Statutes, for incapacity incurred in the line of service. November 15th.—Passed Assistant Surgeon J. C. Rosenbleuth, sick leave extended two months. November 16th.—Passed Assistant Surgeon G. B. Wilson detached from the *Constellation* and ordered to the *Dixie*. Passed Assistant Surgeon R. P. Crandall ordered to the *Constellation*.

**Obituary Notes.**—Dr. William C. McDuffie, of Fayetteville, N. C., died on November 3d at the age of seventy years. He was a graduate of the New York University Medical College in 1855. He was president of the North Carolina State Medical Society in 1885, was chairman of the board of commissioners of Cumberland county, physician for the county poor for a great number of years, and a member of the board of aldermen of Fayetteville.

Dr. Matthew J. Smith, of Jersey City, N. J., died at his home in that city on November 16th. He was born in Jersey City in 1859, and was graduated from the College of Physicians and Surgeons in this city in 1890.

Dr. D. Webster Prentiss, of Washington, D. C., died on November 19th, at the age of fifty-six years. He was a graduate of the Medical Department of the University of Pennsylvania in 1864. Immediately upon graduation he entered the Union army and served on the medical staff until the close of the Civil War. In addition to many medical articles he was the author of a work on the song and game birds of Maryland and the District of Columbia.

## Surgical Suggestions.

"Pigeon-Toeing" is a conservative effort on the part of the child who is rachitic, because it finds that it can best support the weight of the body by turning in the toes. This should not be corrected, for it will take care of itself when the general condition is improved by proper diet, hygienic surroundings, and constitutional treatment.—R. H. Sayre.

**Fissure of the Anus.**—Keep the stools watery and apply ichthyol in its full strength daily; subsequently every second day.—Conitzer.

**Paraphimosis** from a constricting metallic ring can be relieved by applying metallic mercury to the ring until it is disintegrated.—*Cincinnati Lancet-Clinic.*

**Chronic Ulcer of the Leg.**—I have laid down this rule: An ulcer situated above the middle of the leg is syphilitic, regardless of history. I make it a rule to examine the heart, lungs, and kidneys in all cases, as disease of any of these organs interferes with the local treatment. For instance, if the heart is diseased, passive congestion and œdema of the lower extremities are of frequent occurrence. Proper attention, then, to this organ, when compensation is possible, will greatly facilitate getting rid of the ulcer. But simplicity, cleanliness, and the proper time to interfere are the sheet anchors in all cases. But, as to drugs, I have as yet to find one which will equal pure carbolic acid.—John B. Corsiglia, *New York Medical Journal*, March 25th.

**Colles' Fracture.**—In seeking to repair a Colles' fracture every effort should be directed toward: (1) Complete reduction of both fractured radius and dislocated ulna. So essential is this that if successfully accomplished the treatment is usually uncomplicated and the results are all that one could desire. (2) The use of simple but effective means to keep the fragments in apposition and to prevent recurrence of the dislocation of the ulna, care being always taken not to have any undue pressure interfere with the return circulation. (3) Prevention of adhesions of tendons by early passive motion of the fingers, thumb, and wrist. (4) Removal of the mechanical appliances as soon as practicable after the fragments have united.—E. M. Dooley, *Buffalo Medical Journal*, March, 1899.

**Prostatic Enlargements.**—In a personal examination of the prostates of three hundred and sixty men over fifty-five years of age, the large majority being between sixty-five and seventy-five years, I found two hundred and eighty-six, or $75\frac{1}{9}$ per cent., to have very perceptible enlargement of the prostate. In sixty-five, or $18\frac{1}{18}$ per cent., there was urinary disturbance. In fifty-six, or $15\frac{5}{9}$ per cent., the prostate was so large that it could not be outlined by digital examination per rectum. Of these fifty-six, fourteen, or twenty-five per cent., had urinary disturbance constantly, such as dysuria, frequent micturition day and night, rectal and vesical tenesmus, retention at times, with residual urine and cystitis. In two hundred and ten, or $58\frac{1}{3}$ per cent., the prostate was very perceptibly enlarged; forty-three, or twenty per cent., had urinary disturbance of a milder degree than those above mentioned. The right lobe was markedly more enlarged than the left in seven, or $1\frac{7}{18}$ per cent. Of the seven, five, or $71\frac{3}{4}$ per cent., had urinary disturbance. The left lobe was also enlarged in seven, or $1\frac{7}{18}$ per cent., but one had urinary disturbance. The middle lobe was slightly enlarged in five, or $1\frac{7}{18}$ per cent. None complained of vesical distress. The prostate was found to be normal in forty-four, or $12\frac{2}{9}$ per cent. It was atrophied in thirty, or $8\frac{1}{3}$ per cent.; of these thirty, two, or $6\frac{2}{9}$ per cent., had slight enuresis.—George W. Johnson, *International Journal of Surgery*, April.

**Hemorrhage Following the Operative Removal of Adenoid Vegetations.**—H. Cordes (*Deutsche Med.-Zeitung*, No. 25, 1899) states that hemorrhage under such conditions may be due to—(1) General disease, hæmophilia. (2) Cardiac disease, more especially hypertrophy of the left ventricle and arteriosclerosis. The latter conditions apply only to adults and need not be considered in children. (3) Anomalies in the course of the internal carotid. In some cases there exists beneath the posterior pharyngeal wall, on a level with the anterior part of the atlas, a bony crest which by its prominence renders the operation difficult in many cases, and causes alarming hemorrhage if cut. (4) A preparatory application of cocaine may be followed by a severe hemorrhage. (5) Small shreds of vegetations remaining partly attached to the pharynx may give rise to hemorrhage, which ceases when they are removed. (6) Occasionally severe hemorrhage results in females if performed at the time of the menstrual period. (7) In many cases hemorrhage occurs without assignable cause.

**Gall Stones.**—Dr. Joseph Ransohoff, of Cincinnati, considers the etiology, diagnosis, and operative treatment of gall stones (*Journal of the American Medical Association*, September 16th) and feels warranted in submitting the following propositions: (1) The gall stones found in a gall bladder are generally formed together, that is, about one and the same time. Their removal will not be followed by recurrence unless a reinfection of the biliary ways occurs. (2) Cholecystotomy with drainage should be regarded as the normal operation. (3) Save in exceptional cases, the operation should be done at one time. (4) Ideal cholecystotomy or cholecystendesis is not to be recommended. (5) Cholecystectomy is rarely indicated in acute processes. It is more dangerous than cholecystotomy. Since most stones are formed in the gall bladder, cholecystectomy is the more radical operation. It should be reserved for chronic cases in which a restitution of the gall bladder to the normal cannot be expected. (6) Cysticotomy is a safe supplement to incision of the gall bladder for stones of the cystic duct. (7) Choledochotomy with suture and drainage should be considered the routine procedure in common-duct stones. Incision of the duct through the duodenum or from an incision in the loin (Tuffier) will rarely be needed. (8) Cholecystenterostomy has a limited but distinct field of application, *i.e.*, obstruction jaundice from malignant disease or impermeable cicatricial common-duct stenosis.

**Surgical Hints.**—Examine the urine in all cases of pruritus, eczema, gangrenous lesions, furuncles, and anthrax. A certain proportion will show the existence of diabetes.—Remember how frequently constipation aggravates prostatic obstruction. Some prostatic cases are immensely benefited by careful attention to this important detail.—In appendicitis, when the pain keeps on increasing, the pulse remains rapid, and the temperature remains high, delay in operating will soon be considered, and very justly so, as amounting to malpractice.—Slight rises of temperature after an operation, even in cases which give no septic results, warn the surgeon that he is probably erring in some way, and that his methods and material should be pretty thoroughly overhauled.—Make a habit of washing your hands in vinegar or dilute acetic acid before touching septic cases. Slight cuts and abra-

sions, whose presence was not suspected, are thus revealed, and you may better protect yourself.—In dislocation of one side of the jaw the chin is deflected away from the dislocated side. In bilateral dislocation the chin is advanced forward. In the former the face is distorted, while in the latter there is a peculiar expression of fear and distress.—It is sometimes very difficult to remove foreign bodies broken off under the finger-nails. The best way is to apply carefully a ten-per-cent. solution of caustic potash and scrape away the softened portion. This is repeated until the foreign body is exposed.—Seventy-five grains of picric acid dissolved in two ounces of alcohol, to which a quart of water is added, makes an excellent application for burns. There is nothing which deadens the pain better. It should not be used after granulation begins to take place.—After a blow upon the head, the hardened margin of a blood-extravasation is sometimes mistaken for a protruding edge of fractured bone. If in doubt, press gently upon the spot, steadily and continuously. If it is an extravasation it will gradually become pitted by the pressure.—A starch bandage will not set so fast as a plaster one, but except for this it will do everything that may be done with the latter. Wet your bandage slightly before applying it, and then spread the starch paste over every layer. It has the great advantage that the materials for it are found in every house.—If you expect to use a thermo-cautery during an operation, see that your assistant wraps the handle in a sterilized towel before handing it to you.—Don't spend half an hour in carefully sterilizing your hands, and then wipe them on any old towel that is lying around. Work with wet hands if you can't obtain a sterile towel.—An enlarged prostate often projects, as it were, into the bladder, thus increasing the length of the urethral canal. Hence an instrument must often be introduced farther than usual in order to reach the urine.—Look at the foot when a patient complains of enlargement of the femoral lymphatics. A suppurating ingrowing toe-nail or any other septic condition of the toe or foot is probably at fault. If this is properly attended to the glands will soon subside.—Large glands in the neck of adults or old people are very apt to signify that a malignant process is taking place in the neighborhood; hence it is always well to examine the mouth, the tongue, the nose, and the throat carefully in such cases.—In general operative work, it is always useful to have two kinds of artery forceps, pointed and blunt-jawed. The pointed artery forceps are most useful for vessels in and near the skin, as they crush less tissue. The blunt-jawed forceps permits more rapid and efficient hæmostasis in the deeper tissues.—In the treatment of fractures of the long bones, it is practically impossible to bring the broken surfaces end to end in perfect approximation. Our object is simply to accomplish this as nearly as possible, and in the lower limbs to secure such extension as will result in a bone of normal length.—After amputations never wait to apply an artificial limb beyond the time when the stump is well healed and the patient is strong again. Disuse of the stump for too long a time makes it less able to stand the artificial limb. The only exception to this rule is when the operation was done for malignant disease, where early pressure and concussion might favor a return.—In injuries of the skull requiring operation, it is well to remember that the prognosis depends a good deal upon the region involved. Thus in a series of over eight hundred cases it was found that the mortality was one to sixty when the anterior brain was affected, whereas it was one to thirteen in injuries of the central and posterior regions, and one to four and a half in those situated at the base.—*International Journal of Surgery*, September, October, 1899.

## Reviews and Notices.

A Compend of the Practice of Medicine. By Daniel E. Hughes, M.D. Sixth Physician's Edition, thoroughly revised and enlarged. Including a Section on Mental Diseases and a very Complete Section on Skin Diseases. Philadelphia: P. Blakiston's Son & Co. 1899.

The sixth edition of a medical work scarcely calls for any review, for it has already been judged by a host of readers and has been found satisfactory. Certainly that is the case with Dr. Hughes' handy little compend. Originally intended for the use of medical students, its conciseness and completeness soon appealed to the practitioner as well, and the author has consequently added certain subjects, such as insanity, which are not often included in students' manuals. The book is of convenient size and attractively bound in flexible covers.

Traité de Médecine. Publiée sous la direction de MM. Bouchard, Professor à la Faculté de Médecine de Paris, Membre de l'Institut, et Brissaud, Professor à la Faculté de Médecine de Paris, Médecin de l'Hôpital Saint-Antoine. Deuxième édition. Tome III. Paris: Masson et Cie. 1899.

The third volume of the new edition of this great work contains articles on diseases of the skin by Georges Thibierge; venereal diseases, by the same; diseases of the blood, by A. Gilbert; and poisons, by H. Richardière. The first two of these occupy more than two-thirds of the volume, about one hundred pages being devoted to each of the other subjects. Each of these articles is a treatise in itself, and one that is fully up to the times and satisfactory in every respect. The second edition of this work is a true revision and rehandling of the different subjects, and not merely a reprint of the first.

Encyklopaedie der Therapie. Herausgegeben von Oscar Liebreich, Dr. Med., Geheimer Medicinalrath, o.o. Professor der Heilmittellehre an der Friedrich-Wilhelms-Universitat; unter Mitwirkung von Martin Mendelsohn, Dr. Med., Prof., Priv.-Doc. der inneren Medicin an der Friedrich-Wilhelms-Universität, und Arthur Würzburg, Dr. Med., kgl. Sanitätsrath, Bibliothekar im kaiserlichen Gesundheitsamte. Dritter Band, II. Abtheilung. Berlin: August Hirschwald. 1899.

This most useful and practical encyclopedia of treatment is nearing its end, the present part carrying the titles on from Pharyngitis to Secale Cornutum. Some of the most important of the articles are: phlebitis, phlegmon, mushroom poisoning, pneumonia, proteids, ptomains, mercury, management of convalescence, the Roentgen rays, salicylic acid, scarlet fever, serpent venom, sulphur, consumption, scoliosis, and ergot. When this work is completed it will undoubtedly be without a superior among works of the kind in any language.

The Medical Directory of New York, New Jersey, and Connecticut. Edited by E. Eliot Harris, M.D. New York: Trow Directory Printing and Bookbinding Company. 1899.

This new medical directory is gotten out under the auspices of the New York State Medical Association. It contains several lists of physicians as follows: in the Boroughs of Manhattan and the Bronx, of Brooklyn, of Queens, and of Richmond, in New York State outside of the city, in New Jersey, and in Connecticut. The State lists are arranged by cities, towns, and villages, and are supplemented by alphabetical lists. There are also street lists of the physicians in the Boroughs of Brooklyn and of Manhattan and the Bronx. In addition to this the book has lists of dentists and of pharmacists in the three States, the by-laws of the medical societies, and the laws relating to the practice of medicine in New York, New Jersey, and Connecticut. Physicians admitted to the book are regular practitioners only, no mention being made of licensed physicians of other schools. There is an omission which we hope to see supplied in subsequent volumes. The information regarding the hospitals and dispensaries is exceedingly meagre, nothing but the location being recorded. A physician who is sending a patient to a hospital usually knows where the hospital is, but he fre-

quently wants to know the requirements for admission, and also who are the members of the attending staff, as he may wish to refer the patient to one of them. The book is neatly bound in green cloth, and resembles the old "green book," except that it is double the thickness. We welcome this excellent directory, which was so badly needed, and we wish it a very long and useful existence.

THÉRAPEUTIQUE DES MALADIES DU CŒUR ET DE L'AORTE. Par le DOCTEUR ERNEST BARIÉ. Deuxième édition. Paris: Octave Doin, éditeur. Pages 480. 1899.

THIS work is uniform with that of Dr. Auvard, and is one of the same library brought out under the direction of Dujardin-Beaumetz and Terillon. It has the same flexible morocco covers, but is not illustrated. The therapeutics of heart disturbances and diseases have been more carefully considered in the last ten years than ever before. Owing to the prevalence of grippe and the use of the coal-tar products and the increased strain of modern living and working, all physicians find a greater amount of heart troubles to contend with than ever before, and are obliged often to call to their aid every resource conceivable to achieve results for their patients. It is therefore valuable to find in a small compass, ably elucidated and concisely and intelligently stated, as in this book of Monsieur le docteur Barié, heart medication as advocated by the French.

DIAGNOSTIK UND THERAPIE DER DARMKRANKHEITEN. Von DR. I. BOAS. II., Specielle Diagnostik und Therapie der Darmkrankheiten. Leipzig; Verlag von George Thieme. 1899.

THE first part of Boas' work on "Diseases of the Intestine" was favorably reviewed in this journal about two years ago. The present work forms the second part on the same subject, dealing specially with the different diseases of the intestines and their treatment. The writer is one of the best recognized authorities on digestive disorders, and his book on the stomach has won world-wide recognition. As in his first work, Boas here also excels in the practical way in which every subject is discussed. The diction is clear and precise. The work is divided into the following chapters: 1. Acute and Chronic Enteritis. 2. Habitual Constipation. 3. Intestinal Ulcers. 4. Round Ulcer of the Duodenum. 5. Intestinal Neoplasms. 6. Intestinal Obstructions and Occlusions. 7. Appendicitis. 8. Diseases of the Rectum. 9. Nervous Diseases of the Intestines. In the treatment of acute intestinal occlusion or ileus, Boas permits the administration of liquid food in small quantities per os. Lavage of the stomach and high injections of water into the bowel may be tried in appropriate cases. The use of cathartics is deprecated, while opium is highly recommended. Surgical intervention must be given due consideration. We do not hesitate to recommend this work in the highest terms to the medical profession, and to say that it marks great progress in medical literature.

A TEXT-BOOK OF DISEASES OF THE NOSE AND THROAT. By D. BRADEN KYLE, M.D., Clinical Professor of Laryngology and Rhinology, Jefferson Medical College, etc. With 175 illustrations, 23 of them in colors. Philadelphia: W. B. Saunders. 1899.

THE clinical side of this special field of medicine has been fully written up, we might say over-written. There has been a duplication of text-books, many of which have been entirely devoid of original work. It is agreeable to note that there is now a tendency to cultivate more carefully the ground which has already been superficially covered. This latter sentence expresses the feeling which comes to one who reads Dr. Kyle's book. He has deservedly enjoyed a reputation as an expert microscopist, and the volume before us attests his diligence and accuracy as a clinician. Each chapter treating of actual diseases begins with a classification of the affections of the tissues studied. Such a classification is necessarily somewhat of a personal one, but it outlines the task the writer has in mind and makes it easier to follow his lines of reasoning. Many of the illustrations are from his own specimens or have been made from cases immediately under his personal observation. In the matter of treatment, he has purposely gone into details. We especially commend his pathological studies, for on no other foundation can there be erected at the present day a superstructure worth considering. Space does not permit an extended analysis of this work, which is creditable alike to Dr. Kyle and American laryngology. Its clearness of type, vividness of illustrations, and the possession of a model index are all worthy of praise.

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## Society Reports.

### NEW YORK ACADEMY OF MEDICINE.

*Anniversary Meeting, November 16, 1899.*

WILLIAM H. THOMSON, M.D., PRESIDENT.

**The Surgery of the Kidney.**—DR. LEWIS S. PILCHER delivered the anniversary discourse, taking the above for his theme. He said that his attention had been first directed to this subject twenty years ago by a case of calculous kidney. This period had been the dawning of a new surgery which had made possible most of the modern surgery of the kidney. In July, 1869, a woman, named Marguerita Kleb, had appealed to Simon, of Heidelberg, for relief from a ureteral fistula left after operation. Many perpexing questions had arisen, and it was not until Simon had nephrectomized thirty dogs that he had been willing to attempt upon a human being so serious an operation. But oh, the blessings that had flowed from this pioneer work! Would any one say that the sacrifice of those thirty dogs was too high a price to pay for the many lives saved and made happy and useful thereby? This same surgeon had, for the first time in the history of surgery, removed a calculous kidney on August 8, 1871, and the patient had done well for twenty-one days, and had given every indication of recovering. But at this time the surgeon had yielded to the custom of that time and had inserted his finger into the wound for the purpose of examining it. A few hours later the woman had had a chill, and this had been followed by general sepsis and death in ten hours. Although this surgeon had never again had an opportunity to extirpate the kidney, the seed sown by him had borne abundant fruit. Touching upon other portions of the field of renal surgery, the speaker said that whether a stone-bearing kidney should be excised or not depended largely upon the state of the kidney tissue itself. When suppuration had already supervened, incision into the organ could be expected to give only temporary relief. The question of the early diagnosis of a renal calculus and the importance of prompt interference could, therefore, hardly be estimated. Likewise in tuberculosis of the kidney it was undeniable that the earlier such a kidney could be removed the better, provided the other kidney was competent to act as an excreting organ. The difficulties attending diagnosis during the earlier period were certainly many, and as both kidneys were often implicated, the results were not commonly very brilliant. An exploratory incision was warranted whenever there were present polyuria, frequent urination, recurrent hæmaturia, and aching loins, even though pus had not appeared in the urine, and no tumefaction could be felt in the region of the kidney. According to the statistics collected by Bangs recently, in about half of the cases operated on a lasting recovery had followed, and in an additional equal proportion of cases great improvement had been effected for the time. In cases of pyonephrosis he favored doing a nephrotomy at first, and later, if nephrectomy seemed absolutely demanded, it should not be undertaken until the surgeon was assured that the other kidney was competent to carry on the work. A very large operative mortality had thus far attended nephrectomy for carcinoma, but

this was largely because the patients had not presented themselves to the surgeon until the disease was far advanced. No more brilliant achievement in surgery had been recorded than the successful efforts of Abbe in removing sarcoma of the kidney. During the past twenty years the conservative surgery of the kidney had been developed as much as had the destructive surgery of this organ. Thus, since 1881 much had been done in the way of fixing movable kidneys. Plastic operations on the pelvis for the relief of valvular obstructions to the inlet of the ureter had been done, but were of still later origin. Methods of diagnosis had improved, surgeons having learned better to interpret the subjective symptoms. Between the years 1890 and 1898 at the Roosevelt Hospital the nephrectomies done there had yielded a mortality of less than nineteen per cent., while of seventeen consecutive nephrectomies done at the Presbyterian Hospital between 1893 and 1896, all the patients had recovered. Chemistry had lent test tubes and reagents, optics its microscopes and reflecting mirrors, bacteriology its plates and incubators, mechanics its cystoscopes, and electricity its light to aid us in the field of renal surgery.

## SECTION ON SURGERY.

*Stated Meeting, November 13, 1899.*

CHARLES N. DOWD, M.D., CHAIRMAN.

**Incision of the Pericardium under Local Anæsthesia.**—DR. H. LILIENTHAL presented a boy of fifteen years who had been admitted to the service of Dr. Morris Manges at the Mount Sinai Hospital on July 6, 1899, with pneumonia of three lobes. The temperature at the time had been 104.5° F., and the pulse rapid. On July 11th the pulse had been 120, the respirations 68, and the temperature 103° F., and pneumococci were found in the sputum. Repeated examinations at that time, and later, failed to show the presence of tubercle bacilli. On July 14th a pericardial murmur had been heard for the first time, and on the 17th the pulse had been irregular, and there had been an increase in the precordial dulness. The pneumonia, however, was resolving. On August 3d streptococci as well as pneumococci had been found in the sputum, but no tubercle bacilli. On August 5th the pericardial friction sounds, which had been absent for a time, had returned, and on the 9th the pulse had reached 132, the respirations had been 32, and the temperature 102° F. On August 13th the pulse had been 142, feeble and irregular. The next day the pericardium had been aspirated and 18.5 ounces of pus removed. Examination at the time had shown numerous pneumococci. On the following day he had been transferred to the surgical side and had come under the speaker's care. At that time there had been some cyanosis, and his condition had been so grave that general anæsthesia had seemed inadvisable. Eucaine beta had been the anæsthetic selected. The boy's face had been screened off and his attention distracted by conversation. About ten minutes before the operation he had received ten minims of Magendie's solution of morphine. One drachm of a six-per-cent. solution of eucaine had been used. An incision over two inches long had then been made from the third to the fifth intercostal space, about half an inch from the sternal border, and another horizontal incision along the fifth interspace. About three-quarters of an inch of the fifth intercostal cartilage had been removed with a scalpel about one-fourth of an inch to the outside of the sternum. The hemorrhage during the operation had been insignificant. The mediastinal tissues, which had become infiltrated and adherent to the pericardium, had then been incised. After passing through about one inch of thickened tissue, under the guidance of an aspirating needle, the pericardium had been opened and the pus had gushed out very freely. The quantity of pus evacuated was enormous, at least forty ounces. Part of the wound had been left open for drainage. About August 22d the pulse had fallen to 110, and at this time daily irrigations with decinormal saline solution had been begun. On September 7th he had been allowed out of bed for the first time, and on the 27th he had been discharged cured. At the present time the pulse was good, and his general condition was most satisfactory. Dr. Lilienthal said that, so far as he had investigated, the case was wholly unique.

**Remarks upon the Surgery of Gall Stones.**—DR. MAURICE H. RICHARDSON, of Boston, presented a paper on this subject, but only read portions of it. He said that a search through his private records had shown one hundred and fifty-three cases of suspected gall stones, eleven of which had been reported prior to 1892. Of these one hundred and fifty-three ninety-five had been operated on. The records of the Massachusetts General Hospital showed that out of a total of seven hundred and twenty-one abdominal operations performed in the year ending June 1, 1899, thirty-four had been for suspected gall stones and fifty-four had been hysterectomies. He mentioned this to give an idea of the comparative frequency of the two operations. Of two hundred and seventy-seven abdominal operations performed in his own service at this hospital during the past twelve months, twenty-one had been for suspected gall stones, with two deaths. Of seventeen deaths from gall stones occurring in his service at the Massachusetts General Hospital since 1892, death had been due to peritonitis in six; to abscess of liver in one, sepsis one, embolism of the pulmonary artery one, œdema of the lungs one; exhaustion without peritonitis, two; shock, two; hemorrhage from the portal vein, one; general capillary oozing and jaundice, one; uræmia, one. It seemed, therefore, that the mortality in operating for gall stones was more influenced by the length of time the condition had existed than by the operative interference. Dr. Richardson said that gall stones might cling very closely to the duct, rendering their removal exceedingly difficult. There had been several cases of spontaneous fracture of the gall stone during its passage downward. The largest stone he had removed had weighed five hundred and forty grains. It should be remembered that the absence of facets did not prove that other stones were not present; he had found as many as ten unfaceted stones in the gall bladder. He had removed one stone large enough to obstruct completely the small intestine, where indeed it had been firmly impacted, and yet the most thorough inquiry into the history had failed to show the slightest evidence of its presence. In one case he had removed three quarts of changed bile in a case of acute cholecystitis. At times the gall bladder would be contracted down so small and hard as to suggest to the examiner the presence of malignant disease. The friability of the wall was important. In acute infections of the gall bladder in some prolonged cases the gall bladder would be so friable that the sutures would be retained with difficulty. He had very frequently observed hemorrhage from the mucous membrane itself after the removal of tension, but, as a rule, it was controlled without much difficulty. The infectiousness of the fluid was indicated more by the constitutional symptoms than by the gross appearances of the fluid. Gall stones might often exist for years without causing much trouble, and then suddenly excite an acute inflammation. The earlier the operative interference the better the chance for recovery. It

was not uncommon to find the gall bladder distended obliquely in the direction of the foramen of Winslow.

Diagnosis: Regarding the diagnosis the speaker said that in typical cases there was rarely any difficulty because of the character of the pain, yet even here it was prudent to search the stools for the passage of stones. The chances of error in diagnosis were slight if the history were reasonably clear. In some instances, although the pain was localized in the epigastrium, operation would show the vermiform appendix alone to be at fault. In connection with the history of intermittent colic the occurrence of pain and jaundice was almost sure to mean gall stones. In many cases a tumor in the region of the gall bladder would be the chief or perhaps the only physical sign. However, the mere presence of a tumor in this region suggested necessarily a great variety of conditions.

Treatment: Surgical relief, Dr. Richardson said, was called for whenever gall stones were believed to be present, for nature was a clumsy operator in such cases. The chief dangers were from shock, hemorrhage, and sepsis. On the side of operative intervention the dangers were trivial and the chances of recovery great, whereas on the other side were many and grave dangers and uncertainties. Even in cases of suspected malignancy exploration was indicated, because one often found only gall stones, and could then give complete relief. The patient should be given the benefit of the doubt. His custom was to make a vertical incision between the fibres of the rectus, at first only large enough to admit of the introduction of the fingers. The gall bladder should be aspirated, for sometimes stones that could not be felt at all before such aspiration could be easily detected after this operation. In most cases considerable hemorrhage occurred from the gall bladder after the introduction of the scoop or even of the finger. It was especially liable to occur if the gall bladder had been overdistended. Having removed from the gall bladder all of the stones, the bladder should be temporarily packed with gauze while a digital exploration of the ducts and of the pancreas was made. To close the normal gall bladder and leave it in the abdominal cavity and close the abdominal wound had been, in his experience, a dangerous proceeding, one causing the surgeon much anxiety. A colleague had reported to him a death occurring after this so-called ideal operation. A number of the surgeons at the Massachusetts General Hospital had a feeling of great distrust regarding immediate closure of the gall bladder, with or without closure of the external wound. One reason for this feeling was the tendency after suturing for hemorrhage to take place from the inverted edges of the mucous membrane, and by distending the gall bladder so to stretch the sutures as to allow of leakage of bile. In some instances he had closed the gall bladder and fastened it to the wound in such a manner that if bile should escape it would come out through the external wound. So far as he knew, there had been no trouble from the insertion of gauze to guard against such accidents.

Biliary Fistula: In one or two instances biliary fistulæ had persisted. If bile escaped from the sinus and none was found in the stools it was clear that there was an obstruction of the common duct. Such a condition after an operation for gall stones, if associated with jaundice, pointed strongly to a stone left behind in the common duct. In one case of persistent biliary fistula the patient had been well so long as the bile had escaped, but as soon as the flow of bile had been obstructed she had become ill. She had not desired an operation, so she had been fed on ox gall and the bile allowed to escape. In cases of this kind in which the presence of a stone was doubtful this treatment seemed quite proper. Contamination of the operative field in ordinary operations on the gall bladder seemed to him not very likely to occur; it was quite different from operations on the appendix. In infections of the gall bladder the operation could be done without much danger of infecting the abdomen, no matter how bad the local infection might be.

Stones in the Ducts: When stones were impacted in the cystic duct they might be squeezed up into the gall bladder with the thumb and finger. Sometimes the stone would be so intimately adherent to the altered mucous membrane as to necessitate cutting down upon it and removing it piecemeal. He was not sure that it would not be well to remove the gall bladder in all cases in which it was necessary to incise a duct. In some instances the gall bladder would be apparently malignant. A thickened, adherent gall bladder containing stones should be removed, whether malignant or not. When the symptoms indicated obstruction in the common duct it was necessary to make a long incision. He had not found it necessary to cut across the rectus above, or deviate from the straight line below, as had been suggested. Digital exploration for malignant disease was sometimes misleading and unsatisfactory. When incision into the duct was made, great care should be taken that the large veins were not in the way. All incisions made around the foramen of Winslow should be made with the greatest intelligence and caution. While no doubt the hemorrhage could be checked by ligation of the portal vein, the patient would die as a result of this ligation. By means of fine sutures a rent in the vein could be satisfactorily closed.

Hemorrhage: He had always been taught that it was dangerous to operate in cases of jaundice, yet he had learned to operate with great confidence in such cases, and had done so successfully for ten years. He had then operated upon what had appeared to be an exceptionally favorable case in every respect, yet the patient had died within twelve hours from a most extensive capillary hemorrhage. It was prudent to tie all points showing any tendency to bleed.

Dr. Robert F. Weir said that he agreed with the reader of the paper that in cases of gall stones affecting the gall bladder, after incising the gall bladder and removing the stone it was well to stitch the bladder to the external wound and leave the latter open. It was sometimes well to drain the gall bladder by the introduction of a tube. With the gall bladder left open there would not only be an exit for the escape of bile, but an opportunity would be afforded for overcoming a subsequent obstruction. Lately he had adopted the plan of throwing a quantity of water into the bladder and suturing it. He had only once used the injection of air for this purpose, or for the detection of the point of resistance or obstruction in the common duct. Cases of obstruction of the common duct were of two classes, those presenting few adhesions, and those having many adhesions. In the former class, with the finger in the foramen of Winslow the surgeon could command the gall passages fairly satisfactorily. With obstructions in the upper portion of the duct there was likely to be hemorrhage. It was also in the lower half that risk from the near presence of normal or aberrant vessels was the greatest. He had found it difficult by the ordinary method to close up the opening in the duct after the extraction of the stone. Finding that failure to close the duct in such cases did no harm provided a free escape for the bile was secured, he had more recently adopted the practice of not attempting to close up the opening in the duct. So far this practice had proved entirely satisfactory. For cases of obstruction of the ducts or of extensive adhesions, he favored the more extensive opening known as the "Bevan incision."

**Prevention of Gall-Bladder Fistula.**—Dr. Charles McBurney said that he had been very much impressed with the reports of some surgeons, because of the extraordinary freedom from mortality which they had secured in operating upon these exceedingly difficult cases. Such results were probably best explained by supposing that there had been a most careful selection of favorable cases made. He thought there could be no doubt that quite a large number of cases of gall stones experienced no harm from the presence of the stones; the difficulty was to determine what cases were of this class. That this was so was proved by the frequent discovery of gall stones at autopsies in cases giving no history pointing to such a condition. He felt, therefore, inclined to leave certain of these patients entirely alone, particularly the elderly ones, or those very fat persons in whom the symptoms had been quite slight. With these exceptions he believed thoroughly that the earlier the operation was undertaken the better the results. It was far better to operate upon gall stones in the bladder before the supervention of jaundice, because of the increased likelihood of hemorrhage during operation. He had seen a number of cases of annoying biliary fistula following incision into the gall bladder. Dr. William Jones, of Rising City, Neb., had made some interesting experiments with a view of preventing the long continuance of fistula after operations on the gall bladder. These experiments had been made upon dogs with great success. Dr. McBurney said that he had tried the method on the human subject, and with perfect success. The method was applicable only to cases in which the gall bladder was still fairly flexible. The method was to invert the orifice made by the surgeon's knife so that on closure of the wound this orifice was inverted and the peritoneal coats were brought in contact. Through this inverted orifice the drainage tube was inserted for the short period required. When treated in this way the fistula would close within forty-eight hours after the removal of the tube. The speaker said that after the great dangers depicted by Dr. Richardson as attendant upon incision of the common duct, he could not see why such a method should be practised when it was so easy and so comparatively safe to go into the duodenum and remove the stone from below. He had done this operation six times without the slightest difficulty from closure of the wound. One patient had died of persistent vomiting of obscure nature, but apparently due to complete intestinal paresis.

**Hemorrhage and Jaundice.**—Dr. B. Farquhar Curtis said that he had operated upon a very stout elderly woman with a history of impacted gall stones in the common duct, dating back for some months. The symptoms had been very ill defined. The operation had proved to be difficult because of her obesity. The stone had been removed from the duct, but it had been impossible to close the opening. About one week after the operation marked oozing had begun from the granulations in the wound. This hemorrhage had been kept in check as far as possible by packing, and about ten days after the operation he had ventured to plug the wound tightly so as to prevent the escape of bile. After a few hours the bile had escaped into the bowel. The hemorrhage from the granulations had continued at each dressing for two or three weeks afterward. The patient had recovered and the wound had closed, but she had gone on to the later stages of cirrhosis, which had been distinct at the time of the operation. It had occurred to him that possibly the hemorrhage had resulted from cirrhotic obstruction. The mere presence of jaundice did not seem to account for the hemorrhage, because of the few cases of this kind in comparison with the many operations on those suffering from jaundice.

Dr. Robert Abbe said that he had twice seen enormous masses of hypertrophy of the gall bladder in long-standing cases. In one of these there had been a mass double the size of the fist presenting all the appearance of malignancy, but the patient had subsequently recovered, and a secondary laparotomy had proved its non-malignancy. He had had considerable experience with the removal of stones from the common duct and suturing of the opening. Such stones were quite commonly strictured on both sides. In several cases he had left the wound in the duct open, and it had closed subsequently without any untoward result.

Dr. Robert T. Morris suggested that in the case in which non-faceted stones had been found there might have been adhesions in the gall bladder limiting the mobility of the latter.

Dr. J. B. Murphy, of Chicago, said that in cases in which there was jaundice he did the least possible operating. If the stone had existed in the common duct for a long time, he did a cholecystotomy and cured the patient of jaundice, and then he felt that he could go down with safety and remove the stone. He had had a very sad experience with hemorrhage, and was greatly afraid of it in this class of cases. He had been particularly pleased at the candor with which the reader of the paper had detailed his failures.

Dr. Richardson said that he too would object most strongly to operating upon elderly people except when there was much urgency. The wounds in the duct should be allowed to close just as wounds in the urethra. While he thought very highly of Dr. McBurney's operation for approaching the stone from the duodenum, he had had only one case in which the stone had been in the lower portion, and hence he could not speak regarding this operation from personal experience.

## NEW YORK STATE ASSOCIATION OF RAILWAY SURGEONS.

*Proceedings of the Ninth Annual Meeting, Held at the New York Academy of Medicine, November 16, 1899.*

The association was called to order by the president, Dr. Theodore D. Mills, of Middletown, N. Y.

"The Physical Fitness of Railway Employees" was the special topic for consideration during the morning session.

**As Viewed from the Operating Department.**—R. R. Richards, Esq., of Chicago, Ill., general claim agent of the Chicago and Northwestern Railroad, read a paper with this title. The last report of the Interstate Commerce Commission told us that there were 189,396 miles of railroad in this country, and that 874,558 men were employed in the operation and maintenance of the same; that last year 489,444,189 passengers were carried and 741,705,946 tons of freight moved; that during the year 1898 there were 1,958 employees killed; 31,761 injured; 221 passengers killed, and 2,945 injured; 4,680 other persons killed and 6,176 injured, making a total of 6,859 killed and 48,882 injured. This frightful loss of life, together with the great loss to property, suggested that some standard of efficiency should be demanded from the employees. If a system of examination and the adoption of an age limit were established, the following benefits would be secured: 1. The company would secure the services of men who were physically capable of performing their duties properly, and who would in all probability be able to do so for many years. 2. Men who were physically unfit for the work would be kept out of the service, and the risk that their employment would necessarily entail would be

avoided; and at the same time the company would be protected from fraudulent claims for injury which this examination would detect. 3. The number of accidents and resulting expense would be reduced. 3. By reducing the number of accidents and making the business less dangerous a higher class of men would be encouraged to enter the service. 5. In case of injury it was well known that a sound man would get well quicker and make a better recovery than an infirm or diseased one, thereby reducing the expense of adjusting his claim, as well as the cost of caring for him.

**As Viewed from the Surgical Department.**—Dr. G. P. Conn, of Concord, N. H., chief surgeon of the Boston and Montreal Railroad, read this paper. He said that physical fitness, good discipline, and an intelligent understanding of the duties to be performed were as necessary in the case of railroad employees as in the army, navy, or civil service. Dr. Conn assumed and demonstrated—first, that it was desirable to have only good, sound men as employees; second, that in having due regard to physical fitness, many men that were mentally incompetent and constitutionally unsound would be rejected; third, that the establishment of such a service would, in the long run, be a source of profit rather than of loss to a railroad company.

**As Viewed by the Oculist and Aurist.**—Dr. Joseph White, of Richmond, Va., ophthalmic surgeon to the Chesapeake and Ohio Railroad, read this paper. The following conclusions were drawn from his remarks: 1. That perfect color perception (not color knowledge) for red and green, vision of $\frac{20}{20}$ without glasses, and with hyperopia over 2 D barred, normal visual fields, and good hearing should be requisite to prove the physical fitness of all applicants for any position in railway service in which they may be connected with the signal service of running trains, or who may be in the line of promotion to such positions. 2. That they should be re-examined when they were promoted to engineman, conductor, etc., and the same standard should be required. 3. That a re-examination should also be made after injury or illness of any kind that might cause depreciation of the color sense, sight, or hearing. 4. That, if addicted to the constant use of liquor or tobacco, they should be examined at stated intervals, such intervals to be fixed by the results of experience. 5. If in these re-examinations the color sense should be found to be impaired, or the vision lower than $\frac{20}{40}$, or hearing less than two-thirds of normal, they should be relieved of duty in running trains or transferred to some other position. 6. That employees not directly engaged in running trains, such as telegraph operators, station agents, baggage men, etc., should have normal color sense, but that a vision of $\frac{20}{40}$ or hearing less than two-thirds of normal, will do. 7. That these examinations should be conducted by a surgeon of the road, or by some responsible employee who had been thoroughly instructed in the methods of making them, and whose own color sense, vision, and hearing should be up to the highest standard, and who should refer all cases about which there was the slightest doubt to an ophthalmic and aural surgeon in the employ of the road. 8. That all railroads should adopt these or similar regulations for testing the physical fitness of their employees, both for their own interests and those of their patrons. 9. That whenever and wherever practicable legislation should be encouraged to bring about a general acceptance of the much-needed reform.

**The Medico-Legal Features of Physical Fitness.**—L. L. Gilbert, Esq., of Pittsburg, Pa., read this paper. He said that if, by physical examination and record, some of the uncertainties which beset the attorney and adjuster of claims could be removed, it would be comparatively easy to determine what should be done by way of compensation for an injury. With a proper and thorough physical examination, and the employment of the sound and healthy only, the possibility of fraud would be greatly reduced, the service be bettered, and the corporation could perform more satisfactorily the duties for which it was created. The medico-legal features of the subject were, in a great measure, negative in their character; if the physical features were removed, the legal will to a great extent disappear. One factor must, however, be noted: the employer was responsible for an accident caused by defect in material or construction. Now the question might justly be asked: What was the difference whether the cause contributing to the injury of a third party was an imperfect tool or an imperfect man, provided the imperfect physical condition had caused the injury to the third person? Mr. Gilbert did not think that men already in the employ of a company should be discharged for causes which would prevent new men from entering. He confessed himself unable to cope with this question, or to determine what the new standard should be.

The subject was discussed by Clark Bell, Esq., of New York; Dr. J. F. Valentine, of Richmond Hill, L. I., chief surgeon of the Long Island Railroad, and George Marsden, claim agent of the New York, Ontario, and Western Railway.

**President's Address: The Railway Surgeon, His Relation to the Railway Companies.**—Dr. Theodore D. Mills, the president, made the following address: That a competent corps of experienced surgeons was needed in connection with the operation of every large railroad, was a fact patent to every one. The railway companies were quick to appreciate this fact, as was shown by the large number of companies which had a systematic surgical service. The regular surgeon of a company felt a sense of responsibility, and responded with more readiness to calls, than a chance surgeon, and his large experience with this kind of injuries made him more efficient than the surgeon who handled only a few cases. The statement that "corporations have no souls" was false. As a rule railway companies were just in befriending those who had been injured, and in many cases had given a substantial gratuity when employees had retired from the service. When we consider the way in which railway companies were imposed upon by designing lawyers, who too often found willing coadjutors in the medical profession, we could not wonder that they would not pay out money unless forced to do so. The railway surgeon was of service to the company, in these claims for personal injuries, by giving full information as to the exact nature of the injuries and the effect they were liable to leave on the person injured. When placed upon the witness-stand the surgeon of the company would state facts with impartiality and endeavor to make the case clearly understood by the average juror. The railway surgeons through their associations should co-operate with the managers and employers in reducing the number of accidents occurring each year on the different roads of the country. The occupation of railroading had become safer than it formerly was, and it followed from this that the class of men applying for these positions must have improved in like proportion. The subject under discussion might well have included mental and moral fitness as well as physical. The railroad surgeon owed a duty to the travelling public in protecting them from disease as well as injury. The association should discuss the most thorough and efficient means of disinfection of the passenger and sleeping coaches. It was a fact that there was probably greater danger of contracting contagious diseases while in transit by rail than in many other places. The repeated draught of

air through the coaches widely disseminated the infection, and the reason so many escaped was because they were immune, from having had the disease early in life. The meetings of the association were calculated to stimulate its members to render better service to the roads which they represented, and whatever was recommended as of practical value in the care of the injured or in safeguarding the travelling public would be appreciated and acted upon by railway managers.

Other papers read were: "Where Hydrogen Dioxide is Harmful," by Dr. Robert T. Morris; "Dislocation of the Shoulder, with Fracture of the Neck of the Humerus" (three cases treated by operation), by Dr. B. F. Curtis; and "Emergent Surgery," by Dr. John Eddy.

The following officers were elected for the ensuing year: *President*, John L. Eddy, of Olean, N. Y.; *Vice-Presidents*, W. R. Townsend, of New York; H. P. Jach, of Canisteo, N. Y.; *Secretary*, C. B. Herrick, of Troy, N. Y.; *Treasurer*, Theodore D. Mills, of Middletown, N. Y.

## Correspondence.

### OUR LONDON LETTER.

(From our Special Correspondent.)

RADSHAW LECTURE ON CARDIAC MURMURS—SOCIETIES, OPHTHALMOLOGICAL, CLINICAL, GYNÆCOLOGICAL, BALNEOLOGICAL—OÖPHORECTOMY, AFTER-EFFECTS—ACCOMMODATION FOR LUNATICS—MATRON AND SURGEON—SURGEONS FOR AFRICA.

London, November 3, 1899.

Yesterday Dr. A. Foxwell delivered the Bradshaw lecture at the Royal College of Physicians, taking as his subject "The Causation of Functional Heart Murmurs." Dr. Foxwell has for years devoted attention to this obscure subject, and has now arrived at definite conclusions. As he would not in one lecture deal with all such murmurs, he took up the commonest and most obscure, that heard over the second and third left spaces, systolic, never accompanied by a diastolic element, and which he called the pulmonary murmur. Excluding by arguments and cases other causes, he came to the conclusion that this murmur is due to dilatation of the conus arteriosus and pulmonary artery, with carrying up of the root of the artery, so that in the supine position it tends to lie directly over the bifurcation. This abnormality Dr. Foxwell has constantly found in patients who died with this functional murmur, and he gave a good deal of circumstantial evidence in support of his opinion. To this he added experiments to show that the murmur can be heard after death in a heart over which it was present during life; that it cannot be heard after death in a healthy heart; and that it can be produced in such healthy heart by locally dilating the conus and pulmonary artery. To prove these statements, twenty-one experiments he had carried out were described. The lecturer also quoted with various degrees of fulness thirty-one cases, so that from a clinical as well as an experimental standpoint his views demand the attention of teachers and text-book writers as well as practitioners.

Mr. Anderson Critchett, the new president of the Ophthalmological Society, gave an address at the opening meeting of the session in which he paid a tribute to his predecessors. He also expressed the regret he felt that his honored father had not lived to occupy the chair. That feeling is natural to the members of the society, but George Critchett's fame is world-wide, and to those who knew him his memory is dear as a man, while as one of the great pioneers of ophthalmology his name is deeply engraved on the history of the specialty. That specialty is well to the fore now—Anderson Critchett president of one society, and his colleague, Mr. Juler, of another, the Harveian.

There was an interesting exhibition of cases at the Clinical Society on Friday evening. Mr. Turner had a case of actinomycosis in process of cure. A supposed abscess in the neck had been opened. A fistula discharging a thin, purulent fluid was left. On admission to hospital this was examined and the ray fungus found. Iodide of potassium was given and the cavity scraped with satisfactory result. Mr. Slater observed that the fungus was not readily found in man, and questioned whether the disease was caused, as supposed, by the fungus. It might be due to more than one organism. Mr. Barker suggested that the fungus entered by the alimentary canal, as the disease usually occurred in some connection with this.

Mr. Turner also showed a case as osteitis deformans. There was swelling of the upper jaw of eight weeks' duration, and some also of the head. The tibiæ and ribs were also affected. The patient improved under iodide, but there was loss of weight, and it was admitted that the case might turn out to be one of malignant disease.

Dr. Herringham showed a man, aged thirty years, with symptoms of chronic rheumatism, followed by "deadness" of the hands coming on at times. Raynaud described local syncope, but in this case the skin seemed to be the seat of the appearance, and it was observed in other parts, such as the back. The radial pulse was normal. The wrist flexors were contracted, and the tendons grated in the sheaths on movement. The attacks had subsided since the man had been kept in bed.

Mr. Eve showed a woman, aged forty-four years, with recurrent cancer of the breast. She came to him in 1895 with ulcerated scirrhus. He removed the breast and cleared out the axilla. In 1898 nodules appeared above the scar with infiltration at its centre, and the supraclavicular glands were enlarged. He removed the ovaries and gave thyroid extract, gr. xv.–xx. daily. In three months the infiltration and glandular enlargement had disappeared. In March last she seemed free from disease, but nodules have since formed round the scar, and the glands in the posterior triangle have enlarged. It seemed as if the disease had been delayed or rendered latent for a time.

Mr. Boyd said that oöphorectomy had a marked effect in some cases, and none at all in others. It was impossible to say in advance which cases would benefit. Some of the most unlikely-looking cases had given good results.

Mr. Watson Cheyne mentioned cases he had had this year. One improved for six months and then rapidly went back; in another case the breast was removed six years ago; five years afterward another operation was performed for recurrence; six months later glands deep down in the neck enlarged. Oöphorectomy was done in July, and when the patient was seen the other day the disease seemed to have quite disappeared. In a third case the patient had undergone several operations and came to him first in May with a large inoperable mass. She had also a large fibroid and was losing much blood. He therefore felt justified in removing the ovaries and at the same time as much as possible of the cancerous mass. That was six months ago, and the fibroid has disappeared and the cancer has not yet recurred. He agreed that it is impossible to say beforehand whether a case will benefit by oöphorectomy.

In connection with the foregoing discussion another question just raised at a sister society, the Gynæcological, may be considered. This is the after-effects of

removal of the appendages, which was brought forward by Mr. Furneaux Jordan in a paper embodying statistics of all the cases in which he had performed this operation, as well as those in which he had removed the uterus. The tables include thirty-eight cases of the former and twenty-four of the latter. Of these, various particulars are classified bearing more or less closely on the point, Mr. Jordan's main object being to determine whether patients suffered more after one operation than the other. His own conclusion was that it is not simply a question as to which organs are removed, but as to the age of the patient; the nearer to the time of the natural menopause the less being the disturbance. He found post-operative troubles less after oöphorectomy for myoma than after removal of diseased appendages, but then patients of the latter class are generally older.

Other questions naturally arose from Mr. Jordan's tables, and were duly discussed, but on the point here considered the speakers mostly agreed with his views.

The president, Dr. Macnaughton-Jones, in the course of his remarks expressed surprise that the teachings of Battey, Tait, and many of the American school had been overlooked, and said it was a growing opinion both here and in America that the uterus had often been removed when it would have been better to have left it alone.

At the Balneological and Climatological Association the announcement was made that the editor of the *Journal*, Dr. Hyde, of Buxton, was dangerously ill, and a vote of sympathy was unanimously passed. The October number of the *Journal*, just out, contains a note by the secretaries of the association, dated October 14th, expressing their sympathy on his critical condition. I have just heard that he is somewhat better.

The alleged great increase in lunacy has been a good deal discussed. The enormous and rapid growth in the cost of providing accommodation is continually being brought home to rate payers. Here is another example. The Surrey County Council has just purchased Netherne House estate for £10,000, so as to provide further accommodation for eight hundred or one thousand asylum patients. Some of us will soon be inquiring whether it is not possible to diminish the cost of asylums by utilizing the work of some of the patients—a plan, I understand, that is on trial on your side of the Atlantic.

It is an ancient proverb that a woman is at the bottom of every piece of mischief. In hospital management the proverb is apt to be verified. The matron, or lady superintendent, or chief of the nursing staff, however designated, is too often insensible to the duty of yielding to discipline, though ready enough to enforce it with the utmost rigor against her subordinates. There has been trouble of this sort at Lowestoft, where the committee of the hospital, after investigation, found that charges brought by the matron against one of the surgeons were not proved, but that two out of six charges against the matron were proved; one of them being the use of insulting language about one of the staff, requiring an apology. When will committees learn that discipline must be enforced even against women? Such a breach should have entailed dismissal.

Mr. Makins and Mr. Treves are going to South Africa. Mr. Makins is to set sail to-morrow with Sir W. MacCormac, and Mr. Treves to-morrow week. These civil surgeons are to be paid for their patriotism at the rate of £5,000 a year and allowances. There are army surgeons both on the active list and retired who would be delighted to go on such terms, and whose experience is greater than that of their civil confrères.

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**Puerperal Endometritis.**—Injection of alcohol in a fifty-per-cent. solution into the uterus.—AHLFELD.

## COMPARATIVE CHEST MEASUREMENTS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In looking over some back numbers of the MEDICAL RECORD, I find in the issue of July 29, 1899, some statements from the pen of Dr. H. M. Lee, under the heading of "Comparative Chest Measurements," which are so far from what my experience seems to have taught, that I cannot but believe it contains some typographical errors.

Dr. Lee gives us the results of chest measurements of eight hundred men between the ages of eighteen and fifty years—the average age being twenty-six. These eight hundred men were all passed for enlistment in the army by the board of examining surgeons. The "majority were accustomed to heavy exercise in their daily work, many being much in the open air, all well built and muscular."

Their average chest measurement at full expiration was $29\frac{2}{5}$ inches (about 746 mm.), and full inspiration he gives at $33\frac{1}{5}$ inches (about 844 mm.)

College students as a class are not such physically favored men as are those whose measurements have been quoted. Their average age would be probably between eighteen and nineteen years (actual average not made). They, like the enlisted men, come from all classes of society, but are far from all being "well built and muscular"—a majority of them having been engaged in no occupation which would tend toward good physical development, but in many cases exactly the reverse. Unfortunately the figures at my command do not give the average chest at full expiration, but only that at repose, that is, the measurements were taken while the subject was quietly talking. The averages of these measures, taken from several thousand students, give for chest at repose 887 mm., and chest expanded 924 mm., or about $34\frac{2}{5}$ and $36\frac{2}{5}$ inches respectively. Or, stated in another way, the chest in repose of these students in five inches larger than the collapsed measure of the soldiers, while the expanded chest of the former is $3\frac{1}{5}$ inches greater than that of the enlisted men.

Of course it is understood that the tape in all cases was passed next the skin, but unless the measures for the two classes of men were made at very different anatomical points (that in the case of the students alway being across the nipples) it would seem necessary, in order to account for the great differences in the records of the two observations, to think the types were at fault.

E. HITCHCOCK, JR., M.D.

ITHACA, N. Y., November 9, 1899.

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## OPIUM TREATMENT IN APPENDICITIS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In to-day's RECORD under the caption, "Opium Treatment in Appendicitis," Dr. Morris makes some very positive remarks which seem to me, a general practitioner, unjust in their ethical aspect and incorrect from a practical view-point. Dr. Morris is dealing with an abstraction for which there is a positive remedy. What this remedy is in Dr. Morris' hand we all know. But all of us do not meet with acute appendicitis as Dr. Morris sees it. Some cases are so mild that they get better with bed rest and dieting. Others demand opium; and still others cannot get well unless the surgeon's knife and technique help them to do so. All grave cases are not severe, nor are all acutely severe cases grave in their course, or after the attack is over. It is not rational to make diseases fit our remedies. When we do so we are taking huge liberties and much for granted. Cases differ, and consequently they demand different methods or plans of treatment. There is no one best way of treating ap-

pendicitis, because there is no one uniform entity to treat.

Of course, if appendicitis were a disease of uniform phenomena evolved from a certain set of conditions always the same, there would be only one uniform method of treatment, and, if all this were so, then, if practitioners did not practise the established uniform rule they would abuse the trust of their patients—ay, as Dr. Morris puts it, violate those trusts. But, judging as matters are met with individually and in the concrete, I must say that Dr. Morris' dictum is a slur. Furthermore, every practitioner must judge in these matters, not by the expressed tastes and teachings of this or that surgeon, this or that physician, but by the facts as they present themselves. Statistics avail nothing in individual cases. They are not diagnostic guides. Statistics simply illuminate the impressions that have been developed by observation, good or bad, or both. When the general practitioner tries to defend his practice, he has one great disadvantage to contend against, and that is his inability to produce a great array of statistics. But it should not be overlooked that statistics from hospitals and other sources are verified or negatived by his cases, and his cases are verities. All statistics are to him only compendious abstractions of added individual cases. No sensible general practitioner bases his impressions on his own personal observations, although he attaches a good deal of importance to them. His impressions are largely nourished and shaped by what he reads and what he sees. And not the least important and instructive data have never been found in print—his own mistakes and the mistakes of others, his consultants and teachers.

Dr. Morris' letter is brimful of sincerity and energy, but his contentions lack a due sense of justice, and his language is violent. Neither he nor men who think and do as Dr. Rochester does and thinks "violate the trust of numerous patients." Dr. Morris is dealing with abstractions, and his conclusions cannot be made to square with all the facts. Nothing facilitates the settlement of empirical questions so easily as abstract means. The diagnosis and treatment of appendicitis are altogether empirical matters. Therefore, let's be practical and diffident.

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426 WEST THIRTY-FOURTH STREET,
NOVEMBER 18, 1899.

## Therapeutic Hints.

**Pruritus.**—

℞ Methyl salicylat ..... 2 gm.
Zinci oxidi,
Vaselini.....āā 20 "
M. ft. ung.

—LEREDDE.

**Enteroptosis.**—The indications for the treatment of enteroptosis, as originally recommended by Glénard, are as follows: (1) The intestines must be elevated and kept in their new position. (2) The abdominal pressure must be increased. (3) The bowels must be regulated. (4) The secretions of the intestinal glands must be increased. (5) The digestion and nutrition must be regulated and stimulated. (6) The whole organism must be strengthened. These indications, in many instances, are met by the body binder so applied as to exert upward pressure and thus support the prolapsed organs while it increases the intra-abdominal pressure. It may be made by ordinary gray cotton pinned firmly about the body.—W. F. HAMILTON, *The Montreal Medical Journal*, September.

**Chronic Laryngeal Phthisis.** — As a calming measure:

℞ Cocain. hydrochl ..... 2 gm.
Morphin. hydrochl..... 1 "
Antipyrin..... 1 "
Glycerin. neutr..... 60 "
M. S. A teaspoonful in half a glass of distilled water as a gargle or spray before meals.

As a general measure if eating becomes impossible because of pain:

℞ Beechwood creosote ..... 2 gm.
Salol ..... 2 "
Iodoform ..... 0.05 cgm.
Olive oil..... 200 "

To be used as a rectal injection; also nourishing enemata with eggs, milk, rum, or peptone in bouillon.—CASTEX, *Gaz. des Hôpitaux*, September 21st.

**Asthma.**—

℞ Heroin. hydrochlor..... 0.1
Aquæ amygd. amar ..... 20.0
M. S. Fifteen to twenty drops t.i.d.

Or:

℞ Heroin ..... 0.15
Extr. gentian ..... 2.0
Pulv. glycyrrh.. ..... q.s.
Ft. pil. No. xxx. S. One pill t.i.d.

—FLORET.

**Epistaxis.**—

℞ Antipyrin ..... 0.5
Tannin..... 1.0
Sacch. alb ..... 10.0
M. S. Apply as snuff.

—RENDU.

**Coryza.**—

℞ Extr. hyoscyami ..... 0.2
Potassii iodidi,
Potassii bicarb.....āā 2.0
Extr. glycyrrhiz ..... 5.0
Aquæ..... 120.0
M. S. Tablespoonful every hour.

—*Riforma Medica.*

**Ozæna.**—

℞ Creosote..... 5
Alcohol (seventy per cent.)..... 10
Glycerin..... 40
M. S. Apply locally.

—FERRARI.

**Tetanus.**—Every two hours fifteen minims of a two-per-cent. carbolic solution should be injected. One case showed rapid improvement after about three drachms of the solution had been injected.—*Il Policlinico.*

**A Palatable Quinine Mixture for Children.**—Greanellé (*New York Medical Journal*, October 28, 1899, p. 628) recommends the following mixture as a tonic and malarial prophylactic for children living in malarious sections:

1.

℞ Quinine hydrochlorat..... gr. v.–x.
Alcohol..... ʒ i.
M.

2.

℞ Oil of cinnamon,
Oil of anise.....āā ♏ xxx.–xl.
Magnesia..... sufficient quantity.
Water..... ʒ i.
M. To stand for some hours and be filtered.

Mix 1 and 2 and add

3.

℞ Simple syrup..... ʒ iij.
Solution of carmine or cochineal..... gtt. v.
Dose: ʒ i. or ʒ ii. as directed.

Saccharin is small quantity helps to disguise the larger dose of quinine. Small doses of Fowler's solution may be added if indicated, or sodium bromide for children made irritable by quinine.

# Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending November 18, 1899:

| | Cases. | Deaths. |
|---|---|---|
| Tuberculosis | 125 | 151 |
| Typhoid fever | 67 | 22 |
| Scarlet fever | 130 | 10 |
| Measles | 248 | 12 |
| Diphtheria | 274 | 46 |
| Laryngeal diphtheria (croup) | 15 | 9 |
| Cerebro-spinal meningitis | 0 | 2 |
| Chicken-pox | 19 | 0 |

**Zacharin on Venesection.**—Zacharin, the great Russian doctor, was a firm believer in the good effected by venesection in certain classes of maladies, and he deplored the total desuetude into which the practice has fallen. Speaking of blood-letting in Russia he said: "As regards medical practice with us, with the exception of Moscow and the physicians who are the followers of Moscow methods in medicine, everywhere else in the principal medical centres, the university cities, as well as in the regions embraced by their influence, blood-letting and abstraction of blood in general are looked upon, as far as I know, with disfavor. I am unable to bring before you any literary material on the subject, as I am not aware of the existence of any such; but as far as is known from practice, the stand taken against blood-letting is of a pronouncedly negative nature, at least in the above-named localities. . . . Turning now to Moscow and the region influenced by its teachings I will first of all touch upon my personal relation to the subject under discussion. During my student years and my clinical service blood-letting was practised frequently and unsparingly, so that I had many an opportunity to witness its undoubted value when it could not be replaced in many cases; while in others I also saw great harm caused by it. Of course only later on, as my practical experience began to mature, did I learn to appreciate with greater exactness its beneficial as well as its harmful effects. The errors of the medical practice of those times consisted in this, that it was taught that blood-letting would cure diseases—inflammations, considering as an inflammation pneumonia, acute articular rheumatism, etc.; consequently, without taking into account the condition of the patient's strength, they resorted not only to one but to repeated blood-lettings, not curing the disease but debilitating the patient, thus increasing to a fatal extent the conditions favoring a bad termination of the disease." Dr. Zacharin recommended venesection in certain disturbances of the cerebral circulation, in the presence of evident symptoms of threatening or already occurring cerebral apoplexy in patients with a chronic nephritis and hypertrophy of the left ventricle, and in some disturbances of the circulation within the chest. He advised local blood-letting in acute pleuro-pneumonia and acute pleurisy and in various other conditions in which the taking away of blood would relieve without undue weakening.

**Heredity in Cancer.**—The fact that several members in successive generations of a given family have died of cancer is commonly accepted as proof that the disease is hereditary. This is far from being the case. Cancer causes a certain average number of deaths among a given number of persons. The death rate from cancer is insignificant until the age of thirty-five years is reached, rapidly increasing at each higher age period. On the basis of the national figures for Great Britain for 1887–89, one out of twenty-one men and one out of twelve women die eventually of cancerous disease. Mr. G. King, F.I.A., makes the following remarks upon this important point: Given a certain probability of death from cancer, and knowing the number of a family, it is easy to calculate the probability of one, two, or more of them dying of cancer quite independently of heredity. Even if heredity was proved to be absolutely inoperative, it is certain that there would be families among whom numerous deaths from cancer would occur. It does not prove heredity to show that in one family five deaths, say, occurred from cancer. This might happen from mere chance, and in fact such cases must occur without heredity at all. De Morgan worked out the probability of one thousand successive heads being thrown in tossing a coin, and he showed that given a sufficient number of people starting to toss coins it was a certainty that at least one of them would toss one thousand consecutive heads. So, given a sufficient number of families, it is a certainty, even if there be no such thing as heredity, that of at least one family say ten members will die of cancer. The only absolute proof of heredity would be to show that cancer occurred frequently in certain families and practically nowhere else; short of this, the probability of heredity of cancer would be increased if it could be shown that cancer was much more common in certain families than in the average of the whole community, due allowance being made for variations in age and sex distribution.—Newsholme's "Vital Statistics."

**Poisoning by Means of Clothing in the Eighteenth Century.**—The poisoned shirt, says one of the witnesses, herself an "accusée," presented no extraordinary appearance. It was slightly rumpled and looked as though badly laundered, possibly a little stiffer than ordinary. When she showed it to her accomplice she told him that nothing had been done to the body of the shirt; that only the tail had been prepared and that the effect would be no more than to cause an eruption or inflammation with great pains and dolors behind and to the neighboring parts of M. Poulaillon, the intended victim, and when he was examined nothing extraordinary would be found. The eruption was diagnosed as that of syphilis, and mercury was prescribed. It or some other thing was given, and M. Poulaillon died. How was this famous shirt prepared? Soaking it in an arsenical solution would not suffice, and we surmise that it was well rubbed with an arsenical soap similar to that used by naturalists to-day for preserving the skin of birds and animals. This vehicle affords the only means of concentrating sufficient poison in the tissue of the linen to produce the effect related.—*Scientific American.*

**Quinine Plantations.**—"The quinine plantations, or quinales as they are called, which have been started in Bolivia by the Germans, are usually found on rough and broken mountain-sides, and at altitudes of three thousand or four thousand feet above the sea. The trees will grow at an altitude of eight thousand feet, but flourish best at an elevation of about four thousand feet, for they require a great deal of sun, rain, and wind to reach perfection," writes William E. Curtis in the *Chicago Record.* "Most of the groves have been raised from the seed, which is gathered in the early summer months, and planted in hot-houses. When the plants are about six inches high they are transplanted upon the hillsides, which have been cleared of underbrush and ploughed up beforehand so that the young roots can secure the benefit of all the moisture and plant food in the soil and the heat of the sun.

For shelter they are partially covered with twigs, straw, or other light stuff which also serves to keep the moisture and heat in the ground. After about two years this shelter is raked off; the plants are carefully inspected, and those which are not promising are replaced by new ones. The ground around them is kept clear of weeds, and the young trees are carefully trimmed twice a year. In five or six years the tree will have reached the height of twelve or fourteen feet, and its trunk will be straight and slender, with a diameter of about six inches. It resembles the orange tree in size and shape and peculiar gloss of the leaves. Two or three times a year three or four slips of bark above two inches wide are cut from the trunk and thrown upon a paved yard to dry. As the moisture evaporates they curl up like cinnamon. Within a year or so, nature replaces the bark that has thus been stripped off, and the tree is stripped again in other places. As it grows older smaller strips can be taken from the stronger branches, and a mature tree will produce an annual average of about four pounds of bark. The bark dries in a few days, and is packed for shipment in rawhide bales."

**Cerebro-Spinal Fever at Omdurman.**—The *Indian Medical Gazette* remarks in an editorial comment that from time to time notices have appeared in the papers regarding outbreaks of fever in the neighborhood of Omdurman, among the native population of the Ghezirah and the Soudanese troops stationed there. These outbreaks are referred to in Slatin Pasha's book, and the disease is described as typhus fever. From a report by a medical officer of the Egyptian army, which I have recently had an opportunity of reading, it appears that the epidemics in question which prevail mostly in autumn are epidemics of cerebro-spinal meningitis. The occurrence of this disease in this locality and on such a large scale constitutes a new and interesting fact in epidemiology.

**Effect of Bullet Wounds in South Africa.**—The New York *Times* says: "Some of the wounds inflicted on the British soldiers are of an extraordinary nature. The Mauser bullet makes a clean perforation of bone and muscle. Soldiers shot through both cheek-bones have lost the sense of smell and taste, but are otherwise quite well. Most of the wounds are in the hands and arms."

**Water Filters for China.**—Consul Fowler writes under date of April 22d as follows: "When in Port Arthur last November, I noticed the soldiers drinking out of large jars, or kongs, water which was unfiltered and certainly dangerous. It occurred to me that if American manufacturers could sell a good cheap filter, or, better still, small condensers for condensing either fresh or salt water, an immense market would be opened to them, not only among the Russian troops but at Wei-hai-wei, and among the Germans at Kyao-Chau, not to mention foreigners and even Chinese elsewhere in this empire, who now depend upon muddy river or rain water for all purposes."

**Propagation of the Plague.**—As to the means of propagation of the plague they are many. The poison may infect a wound or scratch; it may be ingested in food; it may be simply inhaled. Dust from an infected house was sufficient to infect healthy rats; and when infected rats were shut up in one cage with healthy ones all caught the disease and died. Already in 1881 Netten, Redcliffe, and Dr. Pichon indicated that before the plague attacks men it destroys rats and mice. This was fully confirmed in 1894 by the Japanese and French bacteriologists, Kitasato and Yersin, at Hong Kong, and by Dr. Rennie of the Chinese customs in China. Masses of dead rats were seen in the streets of the infected parts of Hong Kong, and the keeper of the west gates of Canton collected and buried twenty-four thousand of these animals. Dr. Rennie also pointed out that among those inhabitants of Canton who lived in boats on the river there were no cases of plague, and he explained the immunity of the boat-dwellers by the absence of infection through rats.—PRINCE KRAPOTKIN.

**Green Oysters.**—The latest contribution to the vexed question as to the cause of the "greening" of oysters is in the form of a paper by Professors W. A. Herdman and R. Boyce, read before the Royal Society. Green oysters are much more highly prized by many consumers than other kinds, though there is a widespread opinion that the greening is injurious. It appears from the paper referred to that there are several distinct kinds of greenness in oysters, some of which, such as the green Marennes oysters, are harmless, while others, such as the green American, are not in a healthy state. Greenness of the latter kind is caused by the presence of a greatly increased proportion of copper in the oyster, but that of Marennes has no connection with copper and depends upon the presence of a particular pigment. Analysis has shown that there is more copper in the green American oyster than in the colorless one, and more proportionately in the greener parts than in those that are less green. In the case of the huitres de Marennes no connection was found between the green color and the copper or iron they contain.—*Public Opinion.*

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended November 17, 1899:

| | | Cases. | Deaths. |
|---|---|---|---|
| **SMALLPOX—UNITED STATES.** | | | |
| District of Columbia, Washington | September 28th to November 11th. | 5 | |
| Illinois, Chicago | November 4th to 11th | .. | 1 |
| Louisiana, New Orleans | November 4th to 11th | 1 | |
| Massachusetts, Chelsea | November 4th to 11th | 2 | 1 |
| New York, New York | November 4th to 11th | 1 | |
| Ohio, Cleveland | November 4th to 11th | 6 | |
| Pennsylvania, Allegheny Co., Pittsburg | September 25th to November 4th. | 1 | |
| Cambria Co. | September 25th to November 4th. | 1 | |
| Fulton Co. | September 25th to November 4th. | 3 | |
| Indiana Co. | September 25th to November 4th. | 1 | |
| Jefferson Co. | September 25th to November 4th. | 1 | |
| Philadelphia Co., Phila. | September 25th to November 4th. | 8 | |
| Westmoreland Co. | September 25th to November 4th. | 6 | |
| Virginia, Portsmouth | November 4th to 11th | 2 | 1 |
| **SMALLPOX—FOREIGN.** | | | |
| Belgium, Antwerp | October 7th to 21st | 3 | 1 |
| Austria, Bohemia, Prague | October 14th to 21st | 4 | |
| Egypt, Cairo | September 22d to October 14th | .. | 2 |
| Greece, Athens | October 14th to 21st | 3 | 2 |
| India, Bombay | October 3d to 10th | .. | 3 |
| Madras | September 23d to 29th | .. | 1 |
| Mexico, City of Mexico | October 13th to 20th | 15 | |
| Vera Cruz | November 2d to 9th | .. | 1 |
| Russia, Odessa | October 14th to 21st | 1 | |
| St. Petersburg | October 14th to 21st | 5 | |
| Warsaw | October 1st to 21st | 9 | |
| Spain, Madrid | October 7th to 14th | .. | 5 |
| Straits Settlements, Singapore | October 8th to 16th | .. | 3 |
| Turkey, Erzeroum | October 7th to 14th | 1 | |
| Uruguay, Montevideo | September 16th to October 7th | 2 | |
| **YELLOW FEVER—UNITED STATES.** | | | |
| Florida, Key West | November 4th to 11th | 6 | |
| Miami | November 6th to 14th | 24 | |
| Port Tampa | September 4th to November 16th. | 10 | |
| Louisiana, New Orleans | November 6th to 10th | 1 | 1 |
| **YELLOW FEVER—FOREIGN.** | | | |
| Cuba, Havana | October 22d to 29th | .. | 5 |
| Santa Clara | October 22d | .. | 1 |
| Mexico, Tuxpan | October 23d to November 6th | .. | 9 |
| Vera Cruz | October 28th to November 3d | 7 | 2 |
| **CHOLERA.** | | | |
| India, Kurrachee | October 1st to 7th | 2 | 1 |
| **PLAGUE.** | | | |
| China, Hong Kong | September 2d to 30th | 36 | 30 |
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# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 56, No. 23.
Whole No. 1517.

NEW YORK, DECEMBER 2, 1899.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### THE FORMATIVE PERIOD OF UTERINE FIBROIDS.[1]

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IN the *International Medical Annals* of 1899 is the statement that "it cannot be said that any advance has been made in the elucidation of the causation of uterine myomata, during the last twelve months."

Dr. Henry D. Ingraham remarks: "Whatever the real cause of uterine fibroids, the question seems to be unsettled now as at any time, and although several very ingenious theories have been advanced, none has stood the test of investigation. Possibly some of the predisposing causes, such as race and age, have been determined, but as to the exciting cause nothing whatever is known."

Dr. W. S. Smith writes, in his paper, "The Origin, Nature, and Treatment of Uterine Myoma": "I am tampering with a subject in regard to which the most noted surgeons and gynæcologists have widely divergent views. Indeed, were I called upon to select from the whole realm of gynæcology the problem which has given rise to the greatest acerbity of dispute, the greatest variance of ideas, the greatest ingenuity of device, and withal the greatest fallacies of theories, I should probably turn to this."

Dr. Oscar Kottman says: "So far back as the literature of fibromyoma extends there has never been an instant of definite etiology. All possible chemical, mechanical, nutritive, hereditary, racial, and age indications have been suggested as etiological factors."

Finally, a German writer thus sums up the state of our knowledge in this discouraging manner: "Concerning the cause of the uterine myomata, we know as little as of the cause of most of the pathological new growths, namely, nothing."

It will thus be seen that any presentation of facts on so obscure a subject as the genesis of uterine fibroids cannot be without some use in solving the problem of this, the most common of all neoplasms which afflict women. Klob maintains that forty per cent. of all women who die after the fiftieth year have uterine fibroids. I think that all the writers on the subject are inclined to exaggeration in this respect. The endless discussions on the frequency of their appearance, the question of whether married women are more subject to them than single, and vice versa, from the time of Virchow and Winckel down to the present day, have been to no purpose. It would not be possible in the nature of things to determine these matters with any accuracy. Many single women, having worse afflictions than uterine fibromata, suffer in silence, and would not seek relief from a gynæcologist. And the statistics made from post-mortem examinations have little significance, as they relate to only one class of women.

The next steps in advance in the examination of these tumors were the observations made by Kleinwächter, Gusserow, Schorler, Semb, Marchesi, Curatulo, and some others, who considered the formative period of the uterine fibroma, and tried to give some idea of the progress, notably of the time of growth, but they did not consider or demonstrate any concomitant symptoms with a view to giving a clew to the causes of the production of these tumors. The result of Kleinwächter's experience may be considered negative, since he said the size of the tumor was no criterion of its age.

These ideas, with the discussion of the several theories which have been advanced, form the bulk of the literature on the subject of the formation and development of uterine fibroids to the present day. The discussion of these theories will be postponed until reviewed in the light of the cases which I have to present. Although they seem to be numerous, they can be really summed up in a very few words:

I. Cohnheim's theory, upheld by many others, that they are developed from embryonic tissue, the mesoblast.

II. Some disturbance of the nutrition of the part through interference with the blood supply. Such was Virchow's opinion, who was the first to write upon the subject. Such was Winckel's notion. Klebs thought the proliferation of connective tissue and muscular layers of certain blood-vessels made different nodules which became aggregated to make one tumor. Kleinwächter ascribed them to the formation of round cells which are found along the capillaries and produced partial obliteration of the same, and thus the nodules were formed.

III. In this day of microbes, the theory that the fibroids are due to them is not without its supporters.

My attention was first called to this subject of the development of uterine fibroids by a case which I had under observation. In 1886 the young woman, then twenty-three years old, came under my care. She was intensely nervous. While her mother was pregnant with her, she lost a little girl for whom she greatly grieved, and whose death was a great shock to her. Her father was extremely nervous and subject to headaches of a severe neuralgic type. The young woman when she came to me was in such a state of nervous hyperæsthesia and neurasthenia, that I placed her on the rest cure. She was greatly benefited by that, and also by local treatment for endometritis, anteflexion, and ovaritis. Her dysmenorrhœa was very great, and persisted even after the other troubles had been relieved. Her pain continuing, the next year I dilated and curetted the uterus. She was still suffering from dysmenorrhœa, though not of such an aggravated type; she was able to travel and go about, and was helped by wearing an anteflexion pessary. After a long interval had elapsed since my seeing her, she returned, about two years after the curetting, complaining of great trouble. The uterus was retroflexed, and the fundus felt hard. The uterus had always the hardened feeling of a chronic metritis, but this time the fundus felt harder than formerly. She could not

[1] Read before the Section of Obstetrics and Gynæcology of the New York Academy of Medicine, April 27, 1899.

go without uterine support, and as her stay in the city was only temporary I used every endeavor to find for her a pessary that she could wear. Gradually from the hardened fundus was evolved a mass about the size of a large walnut. It could be distinctly felt before it had pushed out from the uterine body, which it proceeded to do very speedily. The cases of fibroids of the fundus which act as a slung-shot, pushing the uterus now into a state of anteflexion, now into a state of retroflexion, are not uncommon, but to feel the evolution of this mass from the hyperplastic tissue of the uterus, while yet within its substance, was exceedingly interesting and instructive in relation to the fibroid formation. Speedily the mass became pedunculated, and being so dense and heavy it elongated the pedicle and fell over into the left broad ligament, so that the former anteflexion pessary could be worn again with comfort. In 1895 the patient went under the care of a Boston physician for the old endometritis and ovarian trouble. I was interested in this fibroid, and wrote to make inquiries. The doctor replied that the ovaries were inflamed and enlarged, but there was no fibroid tumor. A few months after I had the opportunity of examining the young woman, and the fibroid was not perceptible. I thought that possibly the peduncle might have become so attenuated that the tumor had dropped into the abdominal cavity. A year ago the patient was in San Francisco, and underwent ovariotomy. I at once wrote to the surgeon who performed the operation, and he replied that, in addition to the diseased ovaries, he had removed a small fibroid with a long, thin pedicle.

The second case in which a fibroid was formed, so to speak, under my fingers, was that of a young married woman about twenty-seven years of age. She had never been pregnant nor had children. She was exceedingly neurotic. She had been under the rest-cure treatment in the charge of a well-known neurologist, who sent her to me for gynæcological treatment. She had some endometritis and hardening of the uterine body. There was also shortening of the left broad ligament, the remains of an old inflammation about the ovary. She improved very much under treatment, both in regard to her nervous symptoms and the severe headaches which she had. Still the uterine trouble did not make the progress which one would have expected. The uterus became anteflexed and the fundus felt hard, but not suggestive of a fibroid. After the fibroid was pushed out from the uterus and become pedunculated, the nervous symptoms were very greatly relieved. An anteflexion pessary, which seemed to support the growth, gave comfort. This patient, as well as the former, was subject to dyspepsia and severe headaches, as well as to all the symptoms of neurasthenia.

In each of the next two cases I could not state positively that there was no growth in the uterus when I made my first examination. It was not possible to pass the sound in either case. In the first instance, the wife of a naval officer came to me last September. The uterus was enlarged and flexed backward, and was surrounded with a periuterine inflammation, which prevented my making any extensive examination. Her hemorrhages at the menstrual period were excessive. She was exceedingly anæmic, one might say exsanguinated. In six weeks gradually the fundus changed; the uterus was very much enlarged, and a mass was distinguishable, which in two or three weeks assumed the proportions of a fist. The growth was so swift and the loss of blood at the period was so great that I felt it possible that the growth might be carcinomatous in character, and I urged a speedy operation. A myomectomy was performed. The ovaries were in good condition. The recent bands and adhesions of the periuterine inflammation which I had been combating were present, but were easily separated. The cervical artery of the right side, on which was the inflammation, was large and pulsating, and was tied during the operation. The patient made a perfect recovery. Her menstrual periods have not been excessive, and the uterus is normal in size and position. She is forty-two years old, and has had two miscarriages but no children.

The second instance was that of an unmarried lady about forty-eight years old. She had had excessive menstruation for the last two years, but thought it was due to change of life. She was exceedingly anæmic when she came to me. The hymen was so small that it was necessary to incise it to make an examination, and it was some time before I could do so in a satisfactory manner. The uterus had a hard feeling; it was enlarged, and the fundus was flexed. The discharge from the uterus was thick and gelatinous. There was not much sensitiveness. After the second period I determined to remove a growth which I felt on the right wall of the uterus. I was led to believe that it was pedunculated. Upon dilating the uterus, a large amount of thick yellowish fluid came away. I found that the tumor was sessile and spread out upon the left wall. I also could feel that the uterine tissue close to it was very much thinned. A week from that time hysterectomy was performed. The mass had increased within the week to a third more in size. The portion of the uterus which might be taken for an anteflexed fundus was likewise a fibroid development. One ovary was diseased and removed. The patient made a good recovery. During the period of fibroid formation she had indigestion and dyspepsia, was nervous and sleepless. At her first menstruation, at the age of fourteen, she had had a nervous attack, and shortly afterward St. Vitus' dance. She was not nervous naturally.

The next case was that of a school teacher, who had had a very hard time. She had, when I first saw her, ten years ago, at which time she was about thirty-eight years of age, retroflexion, ovaritis, and endometritis, with some metritis. She was curetted, after her other symptoms improved, for fungoid endometritis. About two years after that, some months having passed since I had seen her, a large mass at the right, the size of a fist, was found. It was hard. It has remained about the same size for nine years. Within the last two or three years her periods have become irregular, but when it appears her flow is very profuse, but is better after application to the endometrium of iodine.

The next case was that of a married woman, who had had two children and no miscarriages. In 1892, at the age of thirty-two years, she came to me for treatment for extreme nervousness. She felt that she would go out of her mind. She had lost a dear friend, and had had other domestic tronbles. She could not sleep, and was in a profound state of neurasthenia bordering on melancholia. The question of the rest-cure came up, but she said she should go mad if shut up by herself. She had anteflexion, metritis, endometritis, and inflammation of the ovaries. The whole condition was markedly improved in a few months, and she considered herself recovered. She came to see me from time to time, but I lost sight of her from the fall of 1894 to the spring of 1896, a year and a half from the time that I had made the last uterine examination. She had been advised by a physician under whose care, for family reasons, she had placed herself, to have an operation for the profuse uterine hemorrhages which she had been having during the winter. When under ether a large uterine fibroid was discovered. She then came to me. The tumor and uterus were removed. The former was as large as a cocoanut. The patient has been well and in good condition ever since, now three years ago.

Another case was that of a married lady who had had no children. She has had possibly one or two miscarriages in the early weeks. She had anteflexion, endometritis, metritis, trouble with the right ovary and tube, and always dysmenorrhœa. She was first under treatment in 1894, at which time she was thirty-three years old. After the inflammatory symptoms were relieved she was curetted, and then felt so well that I did not see her again until the fall of 1898. She had a large mass on the right side which was very sensitive. Her flow at the periods was and is excessive. I thought at first that there might be an extra-uterine pregnancy. Her whole condition for a month or six weeks was suggestive of that, but as the weeks passed a small fibroid developed and grew to about the size of a small orange. She has been very nervous, and has had indigestion.

The next two cases were patients of mine for a long time, and I add them as illustrative of the conditions which I am describing, although the accounts of the fibroids have come to me second-hand. The first patient was a woman who first came to me in 1889, from whom I removed a polypus which blocked the cervical canal. Her uterus was enlarged, retroflexed, and the ovaries were sensitive. She improved, and the uterus was held in position by a retroflexion pessary. The uterine flow continued to be severe, and there was also dysmenorrhœa. She lived out of town, and I advised her to have treatment from her family physician. I wrote to him of her condition and laid stress on the thickened, hardened condition of the uterus, and the chronic metritis. About a year and a half ago I was told that large multiple fibroids had developed and had been removed.

The other patient, who was unmarried, came to me in 1888. She had retroflexion, endometritis, and the worst dissecting enteritis I ever knew. She brought to me a specimen of a cast that was fully three feet long. She wore a retroflexion pessary with comfort for years. In the fall of 1895 she removed to Brooklyn. She came to see me, and her condition was the same as it had been. In the spring I received a message from the physician in Brooklyn to whom I had recommended her, telling me of a fibroid tumor that was present. A year or so afterward she had it removed. After her recovery from the operation she was exceedingly melancholy, and a few months later she committed suicide.

The literature of uterine fibroids is exceedingly rich in all that relates to treatment and operative procedure, the results of medicine and electricity, and many cases have been published of specimens exhibited which have been successfully removed by the various methods. In no department of medicine or surgery has such wide progress been made as in that for the relief of the distress occasioned by uterine fibroids. Dr. Lawson Tait, and also Dr. Péan, speak of the indifference with which these tumors were formerly regarded. The latter collected a thousand cases which had been left to themselves, and said he: "I satisfied myself that the patients had led a long life of suffering and misery which often terminated in death, referable to no other cause than these so-called benign neoplasms." Hysterectomy and myomectomy have reached such a state of perfection in their execution and results, that in those cases in which the symptoms from hemorrhage and pressure demand action, one does not hesitate to elect these measures of relief. The literature and reports of cases of fibroids from their inception are correspondingly meagre. As the ounce of prevention is worth the pound of cure, what would it not mean in relation to these tumors if the conditions which lead to their formation could be discovered, and the formative period, well recognized, could give rise to successful effort for relief before needing the knife of the surgeon? It is with this idea that I offer these cases and the comments which the study of them, with the theories already held, have called forth.

Before reviewing these cases which I have just presented I was inclined to think that these tumors arose from aberrations of cell growth, possibly of embryonic origin, as Cohnheim suggests. He defines these tumors as an atypical new formation starting in a latent embryonic rudiment. Such rudiments may not be recognized in the ordinary physiological elements, and may linger for a long time in a latent state. It is only when favored by some condition such as the supply of nutriment and their relation to surrounding tissue that they begin to multiply and to form a tumor. He adds that in most cases, however, the awakening impulse is beyond our power to discover. Much discussion has been indulged in as to whether the tumors are growths independent from the structure of the uterus, as the cell growth just referred to by Cohnheim, or are developed from the organized blood clots or elaborated from the muscle cells of the uterus, the uterine parenchyma itself. The majority of authorities hold this last view. They all recognize for the most part the impulse given, which leads to their formation, as due to some disturbance influencing the blood supply. From the time of Virchow down to the present this has been taken into account. Therefore, disturbances in menstruation, dysmenorrhœas, and the like have often been found to be contributing causes. Endometritis has likewise been shown to exist in most of these instances. The cases which I have given have a value in supporting this opinion. In those cases which have not been seen until after the tumor has been formed, the question arises, How much of the inflammatory condition is due to the presence of the tumor? In all my cases extensive inflammatory conditions had been and were present. Doléris says: "In certain cases manifestly endometritis exists. The histological examination has shown this endisputably. In others we maintain there does not exist a true endometritis either clinically or histologically." Semb is likewise uncertain in this respect, but then in the twenty cases which he cites most of the tumors were developed in the long intervals which lapsed between the times of examinations. The same is true of the cases which Kleinwächter gives. Marchesi in his cases, Campe in his, and Curatulo in his, all found endometritis, and Batuand remarks: "Endometritis is an habitual complication in the fibrous tumors of the uterus of a type corresponding to location of tumor." In the nebulous expressions of almost all the writers on this subject, the influence of an inflamed endometrium, long continued and extending into the metrium, which becomes hyperplastic, can be considered almost certain in the preformative and formative stages of uterine benign tumors. This inflammatory condition must be what was intended in the loose expressions of many writers who speak of fibroids as due to "irritation." Thus say Virchow and Winckel. Routh writes: "Any circumstances which may bring about irritation and congestion of the uterus will be a cause of a fibrous tumor." According to Lisfranc a localization of congestion will develop a fibroid. Engström says conservatively: "Local irritation in the form of hyperæmia cannot be wholly without influence in myoma." Tailhefer says the causes of uterine fibroids are congestion and infection.

It is not the lighter grades of uterine inflammation that bear a relation to uterine fibroids; it is the chronic conditions which go on to hyperplasia. The cases which I have placed before you show this undoubtedly. It would be expected that such a state would accompany the tumors once formed, but it is of interest to see how in every case this condition has preceded the fibroid formation. This goes to confirm

the opinions frequently expressed by the best authorities on this subject. Virchow says that a fibroid is not a neoplasm, but a partial hyperplasia of the uterus. Roehrig speaks of the disturbances of circulation such as the rupture of interstitial blood-vessels, which he believes to be the cause of fibroids, resulting first in a notable hyperplasia, which is the same condition only diffused, and which he says bears a family resemblance to the partial hyperplasia of the fibroid tumor. The part uterine hyperplasia bears to the formation of uterine fibroids was distinctly shown in the differentiation of the growths in the two cases which I have described. It was some time before the difference between the two could be distinguished—not, indeed, until the tumor had pushed itself out from the surrounding uterine tissue.

The most interesting and convincing studies in relation to this subject are those of Dr. Keiffer, which he recently presented in a preliminary communication at a conference under the patronage of the Société Médico-chirurgicale du Brabant. In his studies on the vascular system of the human uterus he injected the blood-vessels and found points here and there in some of his specimens which did not become injected. These little centres, two, four, or six micromillimetres in size, were concentric fibrillæ. Especially around these points of muscular fibrillæ were small openings, which were the capillaries. One or two of these whorls of muscular tissue form the nucleus of the young uterine myoma. At first they are entirely non-vascular and are flattened on the muscular tissue, and vessels from it penetrate from without inward and establish a vascularity. He thinks them of vascular origin because they are found around the vessels and their branches; then, again, they are of uterine tissue and not a neoplasm. In the beginning they have no vascularity, and later the vascularity is peripheral. It is only at a later stage that they have a vascularity of their own. Their method of growth favors a vascular origin, as they increase and thicken by growth of their own tissue as well as by additions from the uterus. They have also a centripetal growth by additions from uterine tissue and also by formation of centres around their own blood-vessels. Keiffer concludes by saying that "in all our recent researches we have found an histological structure in no way differing from the uterine tissue, normal save that which relates to the concentric disposition of the fibrillæ. There is no evidence of embryonic tissue or new formation. In these researches it seems to me that we have proof conclusive of the vascular origin of these tumors, the truth of which the writers for the last forty years have felt, but have been unable to demonstrate, likewise the confirmation of the views so often tentatively advanced that the tumors were not only of the same origin as the uterine tissue, but were uterine tissue itself, taking on a new growth and becoming aberrant because of the circulatory disturbances."

This leads up to other considerations of the formative period, namely, the blood supply. It has been stated that the tumor derives its supply from one main artery of the tumor, and upon the size of this the size of the tumor depends, and also the rapidity of its growth. This is why the tumor becomes stationary after a while in regard to size. If it is subserous and grows out far enough to make pressure on the peritoneum, it can establish a blood supply from it, and thus continue to grow. From this point of view a tumor's size depends not on outward circumstances, such as pregnancy or irritation, but carries within and around it its own conditions. If in its location in the uterine tissue it obtains supply from a large vessel, it will grow rapidly; if its blood-vessel is small, it will be a small tumor. It is this fact that limits the growth of the tumor, and consequently the menopause, which has been supposed to have had such an influence upon these tumors, has had little effect. I think it a fallacy that the growth of these tumors is arrested by the cessation of menstruation. Tumors I have had under observation for years have not changed or shrunken, and I quite agree with Dr. J. C. Irish, who says: "The majority keep on growing without the least regard to the menopause. In fact, often at the time of the menopause they seem to take a new lease of life." If they increase at the time of pregnancy, which is a disputed point, it is due to the increased vascularity of the organ, and that all the muscular structure takes on a growth.

In regard to the symptoms other than uterine, the question arises if there were any which would have suggested the tumor-forming state, any different from those which generally obtained when the excessive inflammatory conditions of endometritis, metritis, and ovarian disturbances were present. The one distinguishing symptom, though common in these conditions when no tumor formation was to be considered, was the extreme nervousness, most excessive, due either to an inherited nervous condition, or one acquired because of shock or grief or other personal consideration. With one or two exceptions the nervous condition of these patients was extreme. In two of the cases the patients had had recourse to the rest cure. For one it was suggested and given in a modified form. One patient had such an extremely nervous temperament that she went into melancholia and destroyed her life after the operation. The fifth had a nervous crisis of some kind at the establishment of her menstrual periods, and afterward had St. Vitus' dance. The other three were exceedingly nervous, and had also undergone great nervous strain. Recently the theories relative to the rapid growth of carcinoma have brought into prominence the effects of the weakening of the nervous system as a predisposing cause, and call attention to the fact that cancer is often due to "the skeleton in the closet." The loss of the balancing power of the nervous force, it is said, releases the cells from the former control, and acting independently they return to the independence of original amœbæ and flourish accordingly.

Hitherto it has been thought that curetting was a procedure which would rather tend to the benefit of uterine fibroids than not. In four of my cases this was done, in two with a view to relieving the endometritis, and setting up the alterative process, akin to subinvolution, to which one looks for the removal of the hardened conditions of metritis. Some time elapsed, to be sure, before the appearance of the fibroids in these cases. In two cases in which the curetting was done for a fungoid endometritis, fibroid tumors followed in two or three years. In two cases in which curettage was practised, the tumor being already present, the growth of the tumors was really surprising. Dr. Henrotay speaks of a case in which he had performed the operation, and seeing the small growth in less than six months after, he said that the curetting had acted upon the evolution of the fibroid like a "stroke of a whip." It might be, in the instances in which uterine fibroids had developed by the circulatory disturbance, that the blood-vessels received some injuries which cut off the circulation from the muscular uterine tissue forming the centres which afterward took on the fibroid condition. In the cases in which the tumors were present at the time of the operation, it would be difficult to say whether the operation had hastened the development of the tumor by reason of concentrating the blood supply, by reducing the vascularity of the endometrium, or whether the tumor, because of the great blood supply which had been coming to it from the beginning, would have grown any way. The question is one of

great interest, and its solution would be of practical value.

**Summary of Suggestions and Conclusions.**—1. The possibility of determining definite clinical symptoms which would lead to a recognition of a distinct formative period of uterine fibroids, which might suggest a preventive treatment.

2. That the predisposing causes of race, age (other than that of adult life), or condition count for little, and the elaborate reports which form the bulk of the literature up to the present time are of doubtful value.

3. That chronic inflammatory conditions of the endometrium, uterine parenchyma, and of the ovaries and tubes are most powerful predisposing causes, and that there is a direct relation between the hyperplasia of the uterus and the formation of fibro-myomata.

4. That extreme disturbances of the nervous system precede and accompany the formation of uterine fibroids. Insomnia, headaches, and hyperæsthesia of the sensory organs are present to a greater degree than is usually found when the concomitant symptoms of the inflammatory condition of the uterus are present.

5. That the evolution of the fibroid from the fibromatous centres when it begins to take on growth is exceedingly rapid, and that it is impossible to tell the age of the growth by its size. The rapid appearance and development are the reasons why so few fibroids are seen and examined in their incipiency. That the size and rapidity of growth of a fibroid depend upon its blood supply, which is determined from the beginning by the location of the nidus, and therefore such conditions as pregnancy or the menopause could have little influence.

6. The possibility of the action of curettage as a predisposing cause for these tumors on account of the violence done to the blood-vessels, and of hastening their growth, because of concentrating the blood supply.

7. The crystallizing effect of Keiffer's experiments upon the theories in regard to the formation of fibromyomata. He has demonstrated that the blood supply is cut off from the uterine tissue, which then becomes condensed into whorls of fibrillæ which afterward develop into fibroids, obtaining their blood supply from the surrounding uterine tissue. He has shown that the tumors were composed of an histological structure in no way differing from the normal uterine tissue, save that which related to the concentric arrangement of fibrillæ. There was no evidence of embryonic tissue or new formation.

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## CAN WE DIAGNOSTICATE OBLITERATION OF THE RECEPTACULUM CHYLI?

By ANDREW H. SMITH, M.D.,

NEW YORK.

Obstruction in the course of the thoracic duct produces usually such striking phenomena as can scarcely escape observation. Among these may be mentioned chylothorax and chyloperitoneum, while chyluria is sometimes present, even when there is no filarial disease. The subcutaneous connective tissue may be infiltrated with lymph, and minute fistulæ in the skin may give exit to a clear or opalescent fluid. All of these phenomena seem to require that the distal portion of the thoracic duct, or at least the receptaculum chyli, should be patent. The duct must be open to a point above the diaphragm in order that chylothorax may take place, and distention of the receptaculum seems to be necessary to effusion of chyle into the peritoneum. In these cases the process seems to be entirely analogous to the serous effusion that follows venous obstruction, with this addition, that rupture of the duct or of the receptaculum may and frequently does occur. It is also necessary that the obstruction should be somewhat suddenly produced. If there is a gradual narrowing, opportunity will be given for the establish-

ment of a collateral lymph circulation, and extravasation will not take place. In the absence of such collateral circulation it is evident that complete obstruction of the thoracic duct must prevent the absorption of the chyle from the small intestines, leaving it to pass away with the fæces. This deprives the body of the nutriment it would otherwise derive from the fatty elements of the food, and leaves it to be sustained by the proteids and the carbohydrates. The former have very little power to build up adipose tissue, and the latter, in the absence of hydrocarbons, are very largely drawn upon as heat producers, leaving a meagre surplus to be converted into fat. Hence under these conditions we should expect rapid emaciation, and this has been the result both when the obstruction has been brought about by disease and when it has been experimentally produced in animals. It is true that disease of the duct is most frequently malignant, and affects other organs, and especially the stomach; so that emaciation would be a natural consequence apart from obstruction of the duct. But it is not so rapid nor so extreme as in the cases in question. Failure of the chyle to be absorbed would naturally lead to its appearance in the stools, except in so far as it might be taken up from the large intestine. We should expect, therefore, an increased number of passages of a soft consistence and pale in color.

Quite a number of cases of obstruction are on record, but in no instance, so far as I have been able to find, is the question of emaciation as connected with the condition of the duct alluded to. In some of them marked emaciation is noted, but only incidentally, and as an item of the routine post-mortem record. In some cases distinctly chylous diarrhœa has been noted, but this is when a rupture of a lymph vessel has taken place in such a way as to open into the intestine. Two cases in which obliteration of the receptaculum took place have come under my observation.

On July 2, 1881, President Garfield was shot at Washington. The bullet entered the right side of the back, four inches to the right of the spinal column, on a level with the twelfth dorsal vertebra, and passing at first forward fractured the eleventh and twelfth ribs; then, being deflected to the left, passed through the body of the first lumbar vertebra in an oblique direction to the left, and, emerging thence, passed behind and below the pancreas, where it lodged. The ball in its course divided some of the branches of the mesenteric artery, and grazed the splenic, producing an injury of the latter which gave rise to fatal secondary hemorrhage. The cavity of the peritoneum was not opened. The wound caused extreme shock, and a prolonged period of collapse. It was not until after about twelve hours that reaction was established. From this time the condition remained favorable until July 23d, just three weeks from the time of the injury. At this date a rigor occurred, and evidences of septic infection were present from that time until death. The constitutional symptoms, however, were not severe. Even at the time of the chill the temperature remained below 102° F., and only on a few occasions thereafter it reached as high as 101° F. For much the greater part of the time, the daily maximum was 100° F. or lower. The patient took a good amount of food, mostly liquid, and consisting largely of milk in various forms. There was a period, however, beginning about August 8th, and lasting about ten days, during which the stomach was very irritable and nutritive enemata afforded the greater part of the nourishment retained. After this the stomach regained its tone to a fair degree, and the enemata were for a while suspended.

Thus it appears from the record kept by Dr. Rayburn, one of the attending surgeons, that up to August 23d the patient had taken and retained, and apparently digested, an amount of food which, while not adequate to a full nourishment of the body, was still enough to forestall any great or rapid loss of weight in a case presenting so little rise of temperature. Yet at this date, August 23d, it is recorded: "In spite of all our efforts to nourish the President, he is emaciating so rapidly that it is distressing to look at him. His weight when he was wounded was two hundred and ten pounds, and his weight now is probably not more than one hundred and thirty or one hundred and thirty-five pounds. This emaciation is accompanied by such great exhaustion as to give rise to the most gloomy forebodings on the part of his medical attendants."

President Garfield died at Elberon, N. J., on September 19th. I was present at, and took part in, the autopsy. The injury to the vertebral column was then for the first time revealed. During life it was supposed that the bullet had been deflected downward into the right iliac fossa, and the autopsy was conducted on that assumption. This was perhaps unfortunate, as it led to a removal of the stomach and intestines *en masse* at an early stage of the examination. The mesenteric attachments were severed from the spinal column by a few strokes of the knife, without any thought of the relations of the parts involved to what proved to be the seat of the most important lesion. These viscera being removed, it was seen that the bodies of the vertebræ in the upper lumbar region were embedded in a dense, almost cartilaginous mass of partly organized inflammatory exudate. This mass completely covered over and concealed the points of entrance and exit of the bullet in its passage through the bony structure. It must also have surrounded, and by its presence occluded, the lower portion of the thoracic duct, though no one present thought at the moment of even the existence of that unobtrusive canal. But within a day or two after the autopsy the thought occurred to me that the duct must have been obliterated by the pressure of the exudate, if not at first most certainly later, when the mass contracted and in some degree assumed the character of cicatricial tissue. A portion of the vertebral column with adherent soft parts had been taken to Washington for further examination, and I wrote at once to Dr. Woodward, who acted as pathologist in the case, asking him if it were still practicable to examine the specimen with reference to the condition of the thoracic duct. To this letter I received no reply, and I assume that it was received too late. For my own part, I have no doubt that whatever other factors contributed to the rapid and extreme emaciation so graphically described in the clinical record of the case, a considerable share was due to exclusion of the chyle from the circulation, owing to obliteration of the receptaculum chyli. The walls of this sac are so delicate, and the force of the lymph current is so slight, that very little pressure from without would be sufficient to accomplish this result. The effect upon nutrition in a case in which the diet consisted chiefly of milk could not fail to be disastrous. The use of nutritive enemata, composed mostly of milk, from August 14th until death, prevented the recognition of chylous diarrhœa if such was present.

On July 9, 1898, I was called to see a gentleman fifty-five years of age, whom I had met every summer for a number of years, always apparently in robust health, and who had been going about as usual up to the time of his sending for me. I had seen him almost every day for some weeks before, and had not noticed anything unusual in his appearance. I mention this to show that at that time he had not lost flesh to a noticable degree, but was still well nourished, though he had never been inclined to corpulency. Thirty days thereafter his emaciation was extreme. The history that he gave me was that for about six months he had not been quite well. He had had some epigastric pain, and his appetite had not been so good

as usual. Latterly he had suffered somewhat from nausea, and on two or three occasions had vomited. Still up to this time he had not changed his usual habits, and was able to eat a fair amount with considerable relish. His physician, a prominent practitioner in a neighboring city, had told him that he had an ulcer of the duodenum. At the time of my visit he suffered somewhat from a dull pain in the back at about the level of the first lumbar vertebra. This pain was pretty constant when the patient was in the erect posture, but was considerably relieved on lying down. Besides this there was quite a severe epigastric pain, which came on immediately whenever anything was taken into the stomach, but passed away in the course of an hour or two as the stomach again became empty. When there was nausea it was coincident with the pain, and seemed to be excited by it. Vomiting was a rare occurrence. There was decided epigastric tenderness, but no tumor could be felt. There was no enlargement of the liver. The bowels were moved twice or three times in the twenty-four hours, the stools being rather copious, of a semi-fluid consistence, and of a pale yellow color. Examination of the material obtained by the stomach tube showed absence of free hydrochloric acid, and the presence of lactic acid. The patient took an ample amount of liquid food, consisting of milk in various forms, beef tea, raw eggs, and also a little fruit. His food was seldom rejected, and never appeared undigested in the stools. A test dose of oil afforded no evidence of defective action of the pancreas. Nothwithstanding this apparently ample consumption and digestion of food, it soon became apparent that the nutrition of the patient was strikingly at fault. He emaciated with startling rapidity, and three or four weeks sufficed to reduce him to an extreme degree of attenuation. This was the more remarkable as there was very little severe pain, and a fair amount of sleep was enjoyed. As the days passed on the following diagnosis shaped itself in my mind: There was cancer of the stomach, as was indicated by the pain and tenderness and the chemical reactions, together with the age of the patient. The cancer was on the posterior wall of the stomach, as there was no tumor to be felt. There was an ulcerated surface, as was indicated by the immediate aggravation of the pain on taking food. The pylorus was not involved, as there was none of the deferred vomiting which accompanies that condition. The mucous surface of the stomach was not greatly encroached upon, as stomach digestion was complete. There was obstruction of the thoracic duct, as indicated by the extremely rapid emaciation, not otherwise to be satisfactorily accounted for, and by the copious semi-liquid stools of a pale color, such as would result from an admixture of chyle. The obstruction was at the beginning of the thoracic duct, as there was absence of chylothorax or chyloperitoneum.

Death took place on the 20th of August, forty days after my first visit. During the last two weeks an epigastric tumor was obscurely palpable. A moderate hemorrhage from the stomach occurred about ten days before death. The autopsy, which was only partial, revealed a scirrhous mass the size of a closed fist apparently springing from the tissues covering the bodies of the first and second lumbar vertebræ. This mass was so firmly adherent to the spinal column that it could be removed only by dissection. The posterior wall of the stomach was firmly adherent to this mass, and the corresponding mucous surface was ulcerated for a space about two inches in diameter. The remainder of the mucosa was normal in appearance. The pylorus was intact. The head only of the pancreas was involved in the disease. There was no fluid in either the pleural or peritoneal cavity. It was impossible to recognize the receptaculum chyli in the cancerous growth in which it was involved, but there could be no doubt of its complete obliteration.

Among the recorded cases, J. Schramm describes one of primary carcinoma of the pancreas with secondary involvement of the thoracic duct. After pain in the region of the stomach of undefined duration with emaciation, sudden swelling of the abdomen occurred. Sixteen litres of a milky fluid were withdrawn. Death occurred from acute peritonitis. There was no chylous urine. The thoracic duct was found obstructed by a carcinomatous growth throughout its whole extent.

L. Hektom's case. Primary cancer of the pylorus, secondary of the thoracic duct. Marked emaciation, swelling of abdomen, and diarrhœa were present. The patient was tapped three times with removal of five litres of milky fluid. There was chylous urine.

H. Senator's case. Primary cancer of the ovaries and uterus, secondary of the duct. There were marked emaciation, great dyspnœa, and swelling of the abdomen. Effusion of chylous fluid into the abdomen and both thoracic cavities occurred. The urine was not chylous. The duct was found carcinomatous and obstructed.

O. Leydhecker's case. Primary carcinoma of the stomach, secondary of the thoracic duct. Emaciation was marked, the abdomen was enlarged; 1,500 gm. of chylous fluid was removed from the abdomen (circumference of the abdomen 84 cm.) and 3,000 gm. more at autopsy. The pleural cavities contained opalescent fluid. The urine was not chylous. The duct was infiltrated, compressed by glands, and thrombosed.

Troissier's case. Primary cancer of the kidney and supra-renal capsule, secondary of the duct. There were marked emaciation and dyspnœa, but no chylous urine, no ascites or chylothorax. The whole length of the duct was found cancerous.

From my two cases and from the foregoing citations, it would seem that when with symptoms of disease in or about the stomach we have more rapid emaciation than can be otherwise explained, we are justified in making the diagnosis of probable obliteration of the receptaculum chyli, and that this probability will be increased to a very strong presumption if there are in addition rather copious, pale, semi-fluid passages from the bowels. Under such conditions we should not place much dependence upon fatty substances as articles of diet. Milk, so much relied upon in gastric disorders, will be useful only for the proteids and the sugar which it contains. Albuminous and saccharine or sugar-producing foods must be employed in sufficient quantity to compensate for the loss of the fats.

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**Pruritus Ani.**—Always examine for fissure, ulcer, or other mucous-membrane lesion, employing a speculum if necessary.

## THE CAUSE AND TREATMENT OF RECURRING LARYNGEAL STENOSIS FOLLOWING INTUBATION.

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This condition is primarily caused by forcibly pushing a tube into an œdematous or infiltrated mucous membrane. O'Dwyer says that it is due to using a tube that is too large for the lumen of the larynx; usually in the hands of inexperienced operators. Metallic tubes that have been worn for a long time contain large calcareous deposits; the latter are due to a deposit of lime salts contained in the diphtheritic membrane, and when removing such a tube during extubation, the mucous membrane is easily lacerated and thus ulceration is caused. One of the most important papers given to the profession was read before the American Pediatric Society at Washington, on May 6, 1897, by the late Dr. Joseph O'Dwyer; in his paper entitled "Retained Intubation Tubes" he says: "The cause of persistent stenosis following intubation in laryngeal diphtheria can be summed up in the single word 'traumatism.' Paralysis of the vocal cords may possibly furnish an occasional exception to this rule."

Thus an injury to the larynx can be done by a tube that does not fit; it may result from an imperfectly constructed tube, or from a perfect tube that is too large for the lumen of the larynx, although proper for the age, or from a tube that is perfect in fit and make, if not cleaned at proper intervals. O'Dwyer states that the seat of the lesion that keeps up the stenosis is just below the vocal cords in the sub-glottic division of the larynx, or that portion of the organ bounded by the cricoid cartilage. Exceptions to this rule result from injury produced by the head of the tube on either side of the base of the epiglottis, just above the ventricular bands. The reasons given by O'Dwyer for the existence of the stenosis at this particular portion can best be explained by the following.

Anatomically, normally, there exists a constriction in the cricoid region. When the mucous membrane infiltrates or becomes œdematous, it swells to such an extent and only toward the centre, as the outside is surrounded by cricoid cartilage, and, while swelling toward the centre, mechanically impedes respiration, and thus calls for mechanical relief, *i.e.*, intubation. O'Dwyer states that if a tube is forced into the larynx in a case of this kind, ulceration and sloughing of the tissues are inevitable, and in some instances necrosis of the cricoid cartilage can result from interference with the circulation. Our only safeguard in preventing too much mechanical injury, as in the condition above cited, is to introduce "a tube of small calibre."

In the early stage of this form of cases the dyspnœa returns slowly. Sometimes several days or in some instances only a few hours may pass before the former condition of laryngeal stenosis is recognized and the necessity for the introduction of a proper tube is demanded. When the dyspnœa returns slowly, it means that the lining membrane of the larynx cannot swell while the tube is in position, because it is compressed between the tube and the cartilage. It requires some time for the reappearance of the œdematous tissue, which drops into the chink of the glottis and obstructs the respiration, the latter condition being mechanically prevented as long as the tube is *in situ*. Exceptional cases have been reported in which granulation tissue springs up from the antero-lateral aspects of the larynx just above the ventricular bands. O'Dwyer states that the origin of this growth is a slight ulceration or erosion of the mucous membrane at the points corresponding to the greatest transverse diameter of the shoulder of the tube from the pressure exerted during the act of swallowing.

Paralysis of the vocal cords, although known to exist, is very hard to diagnosticate without a proper laryngoscopic examination. Like other forms of paralysis it comes very late in the course of the disease, and if, after wearing an intubation tube for a short time, laryngeal stenosis recurs, it is safe to assume that paralysis of the vocal cords is not the cause of the immediately recurring stenosis.

How can we prevent recurring laryngeal stenosis in ordinary membranous diphtheria? Every tube must be introduced in the gentlest manner possible, the slightest force exerted will lacerate the tissues. It is a wise rule to remove the tube every three days; according to O'Dwyer, tubes should be removed at the end of five days to avoid irritation from calcareous deposits. These deposits will form only on metal and not on the rubber tubes. This has been pointed out by several writers, and is borne out by experience. If a tube must be introduced more than twice, the writer has adopted the plan proposed by O'Dwyer, and which is not mentioned even in recent text-books. It consists of taking a rubber tube, immersing it in a solution of hot gelatin containing five to ten per cent. of powdered alum, and thus introducing the tube with this covering of alum-gelatin. The writer has also considerable experience with the beneficial results of a ten-per-cent. solution of ichthyol and gelatin as a covering for the rubber tube. In the same manner a film consisting of gelatin or paraffin without iodoform, and europhen three-per-cent. solution, was applied in several cases with very good results.

**Specific Stenosis.**—By this is meant a laryngeal stenosis found in syphilitic children, and which is always congenital. Such cases are very uncommon and will tax the skill of many physicians. A case of this kind was seen by the writer several years ago; an infant seven months old was brought to the clinic with a history of difficult breathing, restlessness, insomnia, cough, and retarded development. The child was nursing at the breast. Its body, the arms and legs, chiefly the face, the lips, and the finger-nails were bluish; in fact, the child was in a condition of general cyanosis. The temperature of the child was normal. The pulse ranged from 154 to 164, it was small and feeble in character. The heart sounds were dull; there was a blowing presystolic murmur, which was transmitted and could be heard with great distinctness in the vessels of the neck. It was looked upon as hæmic in character. An examination of the lungs gave on auscultation loud, sonorous râles, which at times disappeared and gave place to normal vesicular breathing. There was no expectoration. The child had a short, explosive cough several times in a minute, which on expiration gave a peculiar croupy sound, and on inspiration made a loud, rattling, rough sound. That a constant irritation was present was shown by the fact that the child had paroxysms of cough which did not abate night or day, and was not relieved by lying on the side, lying on the back, or by the child being held in a sitting position or by traction on the tongue. The stomach seemed to be in a fair condition, although there was occasional vomiting. The stools were yellowish (mustard-like) in character, and seemed to be thoroughly well digested. From the history of the child's mother I learned that from the first week after birth the cough had been present, which had continually grown worse, and at the time of writing was so bad that the mother determined to have it operated upon if necessary. Several attempts at a laryngoscopical examination were made, but these were all ineffectual in spite of a thorough cocainization of the parts. On introducing the finger nothing abnormal could be felt. The case was referred to Dr.

C. C. Rice, and he agreed with the writer that we were dealing with a case of sub-glottic stenosis, which could be relieved only by a tracheotomy. Before the case was referred to several colleagues for their opinion, the diagnosis of syphilis had been made. The mother of the child stated that she had had several miscarriages and one prematurely born baby. The medicinal treatment consisted of calomel fumigations morning and evening at intervals of twelve hours, besides inunctions of mercurial ointment and calomel internally. The child was also seen by Dr. Freudenthal, who concurred in the diagnosis of "congenital-syphilitic sub-glottic stenosis of the larynx." It was very evident that the stenosis was too far down to be benefited by an intubation tube, and thus the case was referred for a deep tracheotomy to Dr. Beck at the St. Mark's Hospital. We recognized post mortem the condition known as diverticulum of the trachea and syphilitic ulcerations.

That good can arise in syphilitic stenosis of the larynx by heroic anti-luetic treatment, no one will question, but the fact that this child had been neglected for several months without receiving any form of treatment may also have been a factor in not permitting any benefit to arise either from the mercury applied by the massage externally, or by the calomel sublimation.

Another equally instructive case is the following: "Mary L——, seven and a half years old, complained of sore throat; she had a very high fever; her pharynx and tonsils were very much reddened; temperature, 100° F. in the mouth. She complained of pain on swallowing, and was somewhat constipated. Anorexia and headache were present. The doctor prescribed mist. rhei et soda, one teaspoonful every two hours, and cold compresses to the neck, and also ordered a gargle of tannin and glycerin. The following day the throat symptoms were not improved, and examination showed small white specks on both tonsils. The diagnosis of follicular tonsillitis was made. Instead of improving the symptoms grew worse; the child's temperature rose to 104° F., and there was a general malaise; the cervical glands were very much swollen, the voice was somewhat husky, and there was an occasional cough of a croupy character. A culture sent to the laboratory showed the Klebs-Loeffler bacilli. The croupy cough continued, and a laryngeal stenosis of such severity occurred that on the fourth day of the illness intubation was urgently called for. The child was intubated by the attending physician, the mother assisting. The tube was inserted with great difficulty, requiring over twenty introductions until the tube remained in the larynx. The stenosis was then relieved. Extubation was attempted after six days; which latter was very difficult, owing to severe coughing of blood and mucus from the mouth and nose. Stenosis recurred after half an hour, and it was necessary to reintubate. On the following day Dr. L. Fischer saw the case with me at my request."

(The above is the verbatim report of the attending physician in a case which I had the pleasure of seeing recently in consultation in Brooklyn.)

There was no question in my mind that the recurring laryngeal stenosis was evidently due to the traumatism caused by repeated (forcible) introduction of the tube, inviting ulceration by a laceration of the soft tissues. It was necessary to intubate and extubate every three days for a period of forty-nine days, until the stenosis finally disappeared. In this particular case I advised a coating of gelatin and ichthyol over the tube for the internal medication of the larynx.

There were several points of interest in this case: First, the fact that the child's throat (that is, the tonsils) on clinical examination resembled a follicular tonsillitis; this spread to the larynx, produced hoarseness, and later on a stenosis. The bacteriological report showed the presence of the Klebs-Loeffler bacilli. This is emphasized for the reason that experience demonstrates that every case of both pharyngeal and tonsillar affection should be watched, the patient isolated, and treated as though it were a "true case of diphtheria" until recovery takes place; for we know that many a simple case of so-called tonsillitis is really follicular diphtheria. Second, that portion of the clinical report dealing with the difficult introduction of the tube, which later on I learned was due to the fact that the tube used was entirely too large; the mistake made, and one that caused ulceration in the larynx, the lumen of which was probably narrowed owing to œdema and infiltration, consisted in using force.

The feeding in this case was carried on through the rectum, as it was found that swallowing liquids caused such paroxysms of coughing that we left the throat undisturbed. To overcome the nausea at each examination a four-per-cent. cocaine spray seemed to serve very well.

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## TWO CASES OF GRAVES' DISEASE SUCCESSFULLY TREATED AS INTESTINAL AUTO-INTOXICATIONS.*

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Ever since Graves in 1835 first clearly outlined the symptomatology of the disease which in English-speaking countries bears his name, and which in Germany is called after Basedow, whose first article dates from 1840, the profession has been divided as to the etiology of this most interesting trouble, and the literature has become so large that Buschan, writing in 1895,[1] reports nearly a thousand articles as written on the malady to date, while Moebius' article in Nothnagel's system[2] refers in an incomplete bibliography to eight hundred and eighty-two.

For many years the neurogenic theory, which had the powerful support of Charcot and Trousseau, promised to supplant the earlier hæmatogenic theory in popular favor, and to win general acceptance, and such good and recent authorities as McKenzie and Ord,[3] Friedrich Kraus,[4] and Buschan[5] still support it. Since 1886, however, when Moebius first advanced his thyrogenic theory,[6] which ascribes the disease to a poisoning of the system through a diseased activity of the thyroid gland, to which the nervous symptoms are secondary, there has been an increasing tendency to its general adoption, and many prominent men have spoken strongly in its favor, among others Kinnicutt,[7] Eulenberg,[8] Wood and Fitz,[9] Hurthle,[10] Starr,[11] Nothnagel,[12] Murray,[13] Notthaft,[14] and Anders[15]; and Osler in his "Practice,"[16] and in his article on Graves' disease in Wilson's "Text-Book of Applied Therapeutics,"[17] while not committing himself, seems to give most weight to this view.

But whichever of these views we adopt—and it would seem that an unassailable case for the thyrogenic theory is made by the antithesis pointed out by Moebius between myxœdema and Graves' disease; by the pathological findings in the gland (cellular hyperplasia, new development of follicles and blood-vessels, atrophy of lymph ducts), by the results of surgical treatment (very numerous reports in recent years which need not be quoted here), by the cases of myxœdema following Graves' disease (Kowalewski, Joffroy, and Achard), by the cases of Graves' disease following acute thyroiditis,[18] and by the reported effects of ex-

* Read before the Mississippi Valley Medical Association in Chicago, October 4, 1899.

cessive thyroid feeding, notably one by Notthaft,[19] and another by Béclère,[20] there still remain many questions to be answered. We still, even if we accept this theory, cannot say whether the symptoms are the result of an overproduction of a normal secretion (hyperthyroidism) or are due to the effects of a perverted one (dysthyroidism);[21] we are still in ignorance of the primal cause or causes of such increased or perverted activity, and Kinnicutt truly says,[22] "The ultimate cause of the disease of the thyroid is still a matter of speculation."

Various authors have propounded views on this point. Many things have been held accountable for the beginning of the trouble, and each in certain cases can probably act as a causative factor of the abnormal thyroid action;[23] a uniform causation doubtless does not exist;[24] yet every addition to our knowledge in this direction is of value in aiding us to establish lines for the treatment of future cases; and it is to throw some light if possible on this question that I have ventured to-day to ask your attention to the report of two cases of Graves' disease treated, and in one case at least, if not in both, I may safely say cured, on the theory that it was dependent on an intestinal auto-intoxication.

In a fairly thorough search of the literature I find that scarcely any authors have given this question of the causative relation of intestinal toxæmia to exophthalmic goitre any attention. A few refer to the value of intestinal antisepsis, Solis-Cohen[25] and Brower[26] among others; and some remarks on dietetics are made by most, but W. H. Thomson is the only one I can find who has given it any serious attention.* His articles in the *New York Medical Journal*[27] and MEDICAL RECORD[28] are most suggestive and worth careful study. Even Bouchard in his classic book on auto-intoxication does not mention the subject; yet recalling the oft-proven virulence of the ptomains produced in the intestine, and their violent effects on the nervous vascular and glandular systems, what can be more reasonable than to infer that they have some effect in the causation of a disease often ushered in, or rather preceded, by digestive disturbances, diarrhœa, flatulence, and chlorosis; in a disease the majority of whose victims are of that sex whose bowels are so rarely free from fermentation and ptomain formation; in a disease in which Chevalier and Boinet, and Silbert,[29] have demonstrated ptomains in excess in the urine pointing to a probable fermentation in the alimentary tract; in a disease in which urticaria, angio-neurotic œdema, and dermographism, troubles so frequently associated with intestinal putrefaction, are so common?

The cases which I will now report throw, I believe, some light on this subject, and in conjunction with the large number reported by Thomson,[27], [28] justify the assertion that certain cases of Graves' disease are of intestinal origin.

The first history is as follows: the patient, Miss F. C——, aged twenty-two years, birthplace and resident till 1895, Raleigh, N. C., since that time Asheville, N. C., was first seen by me May 29, 1897. Her family history was good, and free of neuropathic taint, though her maternal grandmother was a rather nervous woman. Her childhood was healthy, with nothing to note save frequent tonsillitis. In her seventeenth year she had typhoid fever, with no sequelæ; malaria of tertian type frequently. There was no pulmonary, rheumatic, renal, cardiac, or neurotic history, and according to her elder sister's statements, which agreed with my previous knowledge of her, she was even-tempered and not excitable, and of an unusually sweet disposition. Her digestion prior to 1893 was good, though she was subject to constipation; the appetite was always capricious, and the eating very imprudent. Her sleep in health was good. Her average weight in health was one hundred and thirty pounds. Her surroundings were of the best.

Present history: This dates to the summer of 1893, when on account of numerous malarial attacks she was taken to Massanetta Springs, Va., and here for the first time began to have attacks of acute indigestion, characterized by violent pain in the lower abdomen, coming on about two hours after eating, not accompanied by diarrhœa and generally traceable to indiscretions of diet. Dr. Latimer, of Baltimore, diagnosed, as her sister tells me, malaria, and told her the patient needed exercise and diet, or, as he put it, "beef and a bicycle." The attacks continued at intervals during a school session in Paris, and after her return to America and removal to Asheville, where she had one attack so severe that she was told it had threatened peritonitis. (I may here state that I saw a sister of hers in an attack, said to be identical, which was an entero-colitis of severe form from imprudence of diet.) This was her last attack save a very slight one at Christmas, in 1896, but the flatulence persisted. At this time her complexion was still fine and clear, but in the fall of 1895, after much social overexertion, she noted that she was getting pale and felt dragged out, and had poor appetite and slight fever. While not at this time her physician, I saw her frequently, and noted the advance of what seemed to be a very typical chlorosis, so far as one could judge by inspection, and which was accompanied later on by a roughness and pimpling of her formerly beautiful skin. Her doctor advised tonics and diet, of which the heedless patient failed to avail herself with any persistency. In the fall of 1896 she first noted, as the result apparently of much exercise, which she took on her physician's advice, a rapid heart action, for which she was put to bed, but without benefit.

In January, 1897, a diagnosis of Graves' disease was made, and in February she was sent to Baltimore to be treated by Dr. Osler in a private room in Johns Hopkins Hospital. I would here say that the most careful inquiry fails to show any worry, anxiety, fright, or other such nervous shock as might be looked on as an etiological factor. Through the kindness of Dr. Osler I have obtained a copy of the notes on her case while there; these show that at that time she was complaining of palpitation, nervousness, irritability, weakness, anæmia, loss of weight (twenty pounds since July); dyspnœa, especially on exertion, and consciousness of her heart throbs. Examination showed the first sound of the heart followed by a slight whiff all over the cardiac area, but most marked in pulmonic, with no accentuation of the second pulmonic; apex in fourth space within nipple line, action tumultuous; there was exophthalmos, and the pupils were dilated. The patient was very nervous and flushed very readily; pulse from 80 to 140; temperature from 99.5° F. to 101.2° F.; respiration 16 to 24; weight one hundred and thirteen pounds (was one hundred and thirty-three pounds in July); urine normal; bowels regular.

The treatment included electricity, belladonna, digitalis, nux, ice bags, and rest, and she was discharged on March 26th, somewhat improved. In her words, "the benefit was slight but evident," and its effects were lost soon after returning home.

I took charge of her case May 29, 1897; at this time I took the above history, and noted the following findings:

Lungs, negative. Heart, a blowing systolic murmur

* Since reading this paper I have found in the *Philadelphia Medical Journal* of October 14, 1899, a reference to a paper by R. Cox in the *Montreal Medical Journal* of August, 1899, in which he reports a case which he treated on this basis successfully. The original article I have not as yet been able to get. A case reported by Allen in *The Lancet*, August 26th, and referred to in the MEDICAL RECORD of October 1st, in which the use of bile produced good results, can probably be mentioned as another.

loudest over nitral area, but not transmitted to axilla; bruit de diable in neck; noise of heart sounds heard by patient in the ears constantly; pulse 130, while at rest, regular; nervous system irritable, the patient having lost her former even temper, and being so cross as to be hard to live with; sleep poor; slight tremor of the hands. Digestive system, evidences of active intestinal fermentation with over-distended intestines; tongue coated, breath foul, bowels costive.

Moderate degree of exophthalmos, most marked on the left side; Graefe's sign absent, Stellwag's sign present, thyroid gland visibly enlarged, especially on the left side; circumference of neck twelve and one-half inches (her normal I do not know, but should judge it from her size, etc., at about eleven inches).

Skin muddy with acne eruption. Weight one hundred and twenty-three pounds. Strength poor. Hæmoglobin sixty-five per cent. Fleischl; no blood count was made.

To my knowledge the patient, who lived in a home where over-rich and highly seasoned dishes were the rule, and a simple diet the exception, was a most capricious eater, eating at any and all hours as the mood struck her; she was very fond of candy, and was with difficulty induced to obey any orders. With such a history and such findings, the diagnosis of Graves' disease needs no defence, and will not, I think, be disputed. We have a typical case with most of the classical symptoms, coming on gradually in a young girl in the footsteps of a chlorosis, which was accompanied, and probably preceded, by a marked intestinal fermentation, and which had not yielded to the best treatment along the regular lines. The problem was, then, to find a proper plan for its management, and after an unsuccessful trial of the usual remedies, as in duty bound, ice, electricity, belladonna (which gave her some comfort), arsenic, ergotin, digitalis, and lastly thymus and suprarenal extracts, from which, by the way, I got no results, I felt justified in putting into practice a treatment which I thought, if the theory of her case was right, should yield results. The facts noted above had satisfied me that there was a great probability that the disease had developed not with, but as a sequence of, the intestinal troubles and chlorosis, and that a removal of these should benefit if not cure the former. I had not at this time seen Dr. Thomson's article in the August MEDICAL RECORD, nor those in the *New York Medical Journal* of 1893 and 1896, but when I saw the former I was strengthened in the belief that I had done the right thing. I was, moreover, anxious to test it, since a rather extensive experience with the treatment of chlorosis and intestinal troubles in young girls had brought me more and more to believe that a majority of these complaints were the result of ptomaine absorption (a view advanced, as far as regards chlorosis, by Sir Andrew Clark, and which has not, I think, received the recognition it deserves), and could be cured on this basis. Now as the case in hand had undoubtedly begun as a chlorosis with marked intestinal symptoms, and as this chlorosis had been immediately followed by the Graves' disease, it was justifiable to ascribe both to the same cause.

Acting on these views I ordered a strictly regulated diet, in which almost all sugars were excluded, starches very carefully limited, as I have come to look on them as the commonest producers of fermentation; a few simple green vegetables, such as squash and spinach allowed, with underdone red meats and a little chicken, which, despite Thomson's views to the contrary, I have not found to be harmful in such cases; while tea and coffee, hot breads, made dishes, condiments, and candy were all stopped, and only the simplest cooking permitted. Meals were to be at regular hours, and during the first month I demanded quiet and repose but not rest in bed; later on allowing gradually increased walks and drives, and finally golf in increasing quantities, while all excitements and gayeties were to be shunned, and early hours kept. As to medicines, I limited them to a simple organic form of iron, the lactate and albuminate being chiefly used, and to antifermentative mixtures to be taken an hour after eating, the chief drugs of this category used being salol, resorcin, beta naphthol, subgallate of bismuth, and guaiacol carbonate, not forgetting an occasional dose of calomel. My chief reliance, however, in combating the intestinal fermentation was a modified form of lavage, which I have thoroughly tested in many cases with the best results, and which I call by the expressive, if not absolutely scientific, name of liver washing. Briefly described, the patient at bed-time lies on the right side with the hips higher than the shoulders, the right side being insisted on in order to make the flow from the splenic to the hepatic flexures easier, and with a fountain syringe allows from one quart to one gallon of hot water at from 100° to 105° F., or even hotter, to flow slowly into the rectum through the usual rectal nozzle until the whole colon is full. The larger the quantity used the better, and patients soon learn to tolerate at least a gallon. This water is to be retained for a half-hour, which at first is difficult, but soon becomes easy, and is then evacuated. Clinical experience and deductions from well-known physiological facts justify me, I believe, in claiming that a large part of the water is absorbed by the intestinal wall, reaches thus the portal blood and therefore the liver, which it washes out and stimulates to greater activity as a poison destroyer, and increases the flow of bile, thereby aiding in disinfecting the bowel, and lessening putrefaction, if the view that this is a function of this fluid be correct. Aside from this free diuresis is produced, and if the water is hot enough diaphoresis as well, thus powerfully disintoxicating the system. Certainly the results of a long use of this remedy have satisfied me that such is its effect, and certainly the case in point was no exception. The lavage I for a time ordered nightly; then at longer and longer intervals as the conditions demanded, but I did not finally stop it for about a year.

Knowing the unwillingness of the patient to obey orders, and the difficulties in her case of securing a proper carrying out of a dietetic and hygienic treatment, I had a plain talk with her in the beginning, and refused to go further without the promise of absolute obedience, which I secured, and which with occasional falls from grace was fairly and faithfully given me.

By July 12th, fermentation was less; she was less irritable, and the neck had decreased in measurement to eleven and seven-eighths inches; pulse, 112.

August 9th: Color was noted as improving, but an imprudence of diet on the 17th was followed by indigestion, and the eyes became again shiny and more protuberant, and the pulse rose to 132.

September 1st: After a more careful observation of the rules there was noted a gain of color; hæmoglobin reached eighty per cent.; the anæmic murmur was no longer to be heard; the subjective sounds in the ears were less; there was not so much fatigue on exertion, and the family noted much improvement in temper. Pulse, 104.

Another dietary indiscretion on the 20th, consisting of a dinner made up of raw tomatoes, grated corn, mutton, sweet potatoes, okra fritters, and baked apples (!!) produced, as might naturally be supposed, some return of intestinal trouble, with the other symptoms; and having read by this time Dr. Thomson's article in the August MEDICAL RECORD, I put her on a koumyss diet; but finding after a few days an inability or unwillingness to abide by it, I substituted milk, which agreed well, and which I kept her on for some weeks.

A week later the pulse was 96; the neck measured eleven and three-fourths inches; the complexion was much better; the weight was one hundred and thirty pounds.

October 2d: There was some return of flatulence. Discomfort of stomach and sense of fulness and weight aften meals were noted. The tongue was coated. Pulse, 108; and the patient was irritable. I ordered hot water before meals, and mist. rhei et sodæ.

By December 27th, she being by this time back on a cautious diet, I noted: color, good; pulse, 96; neck eleven and one-half inches; bowels regular; very little flatulence; nerves steady; appetite good.

February 17th: The pulse was 88; the neck eleven and one-half inches; weight, one hundred and thirty-three and three-fourths pounds. There was no flatulence; the color and complexion were better.

March 19th: Weight was one hundred and thirty-five and three-fourths pounds; pulse, 83. The eyes seemed entirely normal; neck, eleven and one-fourth inches; temper good; color good. She eats well and prudently; bowels regular; no flatulence; she feels strong.

April 12th: Weight, one hundred and thirty-eight pounds; pulse, 80, after playing golf all the morning; tongue clean; no flatulence; digestion good; complexion nearly as good as formerly; color admirable.

On June 9th, I noted an apparently complete restitutio ad integrum. With the possible exception of a slight remaining prominence of the thyroid, not noticeable save on close observation, all the symptoms were gone, nervous, ocular, vascular, and digestive. At this time she was allowed to go to Europe, where she has since been. I have heard from her at frequent intervals, and I am glad to say that there has been no return of any of the symptoms. The heart is normal in its activity, not being excited even by mountain climbing and bicycle riding, in which she has indulged freely; the digestion is good, the nervous system normal, and the last time I heard from her she said she feels as well as she ever did.* She will shortly be married to a foreign military officer. Let us hope married life will bring about no return of her malady, although the possibility of a future relapse cannot be ignored.

Some may doubt if the cure in this case, the completeness of which I do not believe will be disputed, was the result of the treatment recorded, or one of those fortunate remissions or spontaneous cures which sometimes come in this trouble; but I believe that from the facts presented, from the failure of other and regular treatment carried out, not only by me but by so able a man as Dr. Osler, and from the fact that during the course of treatment imprudences of diet invariably brought on a return of disappearing symptoms and relapses, which yielded to strict regimen, I am justified in asserting that this was no case of "post hoc propter hoc," and that the measures used produced the results attained.

The other case of this trouble which I will report, and which should probably be reckoned one of Marie's "formes frustes," came under my care through the kindness of Dr. Ambler while I was treating the above case, and though not reported so fully, my record of it not being as complete, was also much benefited, if not cured, by this plan of treatment.

The patient, Mrs. D——, first seen by me on September 27, 1897, was a married woman aged forty-seven years, of English parentage, but resident in America thirteen years; occupation, housekeeping. Her family history was negative; previous history entirely negative. She was married at the age of thirty-two years, and had had five children. Her last labor was five years ago, and tedious. She had a slight malarial and rheumatic history; she was not nervous till the last few years; weight in health, one hundred and forty-two pounds, at present one hundred and thirty pounds. She is a great tea drinker, but has no alcoholic habit: she is a fast eater and, as I found, a great gourmand. Her present trouble dates from May, 1897, when after a wetting she got cold, with fever and a bilious attack, and vomiting of bile, and pain at the base of the right lung in the liver region. The pyrexia lasted two weeks, and ran from 101° to 102° F. A doctor, thinking the trouble was connected with the uterus and tubes, suggested a laparotomy, but she used only hot douches, and rest in bed with diet, and got well. During July she felt poorly, and after eating she had pain in her stomach. On September 1st, she had a fluttering in the pit of the stomach, and a sinking feeling, and one night she had an attack with severe pain in the bowels, hot flushes, and a sense of impending death. At this time she called in Dr. Ambler, who told me he found her with a pulse of 160, great anxiety, and pronounced pulsation of the abdominal aorta in the epigastrium. The bowels had been loose, but were then costive. After this she had returns of such attacks, especially the tachycardia. On the 10th, when called in, I noted: pulse, 120; coated tongue; strong pulsation and systolic bruit in the epigastrium below the heart to the left of the nipple line, this pulsation being so marked as to suggest the possibility of an aneurism. Liver, normal; lungs, normal; heart, save for rapid action, normal. She confesses excessive tea habit, flatulence, and the custom of eating between meals whenever she feels hungry. Globus hystericus was present; the eyes were shiny but only very slightly prominent. The thyroid shows a medium-sized enlargement on the left side, hard to the touch, which has existed for years. The treatment was similar to that in the last case, with the addition of belladonna and digitalis on account of the tachycardia, which they helped. The improvement was marked. The attacks of epigastric pulsation and tachycardia, which had so frightened her and caused fear of death, were soon very much improved, as was also the digestion, although it was with difficulty that I prevented her from indulging her large appetite. On discharge the pulse was 80; the eyes were still rather shiny. The attacks were entirely removed. The old struma is unchanged, but in the two years which have since elapsed she has, according to her own statement recently made to me, had no trouble, and feels perfectly well.

I fully realize, gentlemen, that I am not justified in drawing positive conclusions from these two cases, but I believe that I can safely say that they show that some cases of Graves' disease at least have their origin in intestinal fermentation and the poisoning subsequent thereto; that treatment directed to removing this fermentation and this poisoning can cure such cases, and that the profession should pay more attention than they have hitherto to the intestinal condition in Graves' disease. I cannot begin to surmise what percentage of cases would present such an etiology, but from the references in the literature to the presence of flatulence and digestive disturbances in this trouble, from the large number of cases reported by Dr. Thomson, and from those symptoms of Graves' disease which, as I have already noted, are in other troubles so frequently the result of intestinal intoxication, I feel sure that their number cannot be small.

* In a letter in answer to one of inquiry on my part when I was writing this paper, and which was not received till after it was read, she reports herself as feeling extremely well; pulse 80, eyes normal, no abnormal nervousness, appetite good and steadier than formerly; no indigestion, no tremor. She rides twenty-five to thirty miles on the bicycle without any ill effects, and the only thing she can note is an occasional sense of fulness and pulsation in the throat. This letter was written in the first days of October, 1899.

The other cases that it has been my fortune to treat I have handled in the regulation way, and without, I must confess, very satisfactory results; while digestive disturbances were uniformly present, I did not give them the special attention which I did in these cases, nor had I then become as satisfied as I now am that auto-intoxication plays so large a rôle in so many different diseases, and did not therefore direct special attention to that factor.

If my contention as presented above is right, I believe it lends strength to the view so ably presented by Eulenburg[29] and Hurthle[29] who consider that the abnormal thyroid activity depends on the circulation in the blood of some poisonous product; in the cases in hand intestinal ptomains. If I am right I feel that no doctor treating this trouble can be justified in minimizing the rôle of auto-intoxication of intestinal origin in Graves' disease, and I am sure that a more careful attention to it, not only here but in many other troubles, will fully repay the physician; and I trust that those of you who have now, or shall have, cases of Graves' disease or chlorosis under your care, will give this method a fair and unprejudiced trial in suitably selected cases, and keep careful records of your work, and report them at their completion. Only thus can we expect to clear up the etiology of this obscure disease, and place it on a foundation of accurate clinical experience.

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65 FRENCH BROAD AVENUE.

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**Fibroma Uteri.**—Schauta's technique is so far different from the usual method, that after anterior and posterior opening of the peritoneum he stitches their edges to the corresponding edges of the vaginal walls. The broad ligaments are secured by ligatures, and he then amputates the cervix as high as possible. He does not employ forcipressure.—*The Medical Press*, August 30th.

## Progress of Medical Science.

**The Value of Urotropin in the Treatment of Certain Forms of Genito-Urinary Diseases.**—Dr. J. M. Thompson (*Boston Medical and Surgical Journal*, November 16th), from his experiences and observations on the therapeutic action and effect of urotropin in diseases of the genito-urinary tract, summarized the essential points, in brief, as follows: (1) A urinary sterilizer, antiseptic, and acidifier, prompt and reliable in action, moderate in dose, which, if adhered to, renders it both non-toxic and non-irritating to all parts of the animal economy. (2) By virtue of its peculiar affinity for the urine, into which it passes unchanged, and where it parts with formaldehyde, it is apparent that its action in genito-urinary lesions is likely to be complete and certain. (3) Its decisive and lasting effect, and especially its comparative singleness of action—which last is a most desirable property—should give it a place in the list of medicinal specifics. (4) From observations reported thus far, urotropin has appeared to be most frequently indicated in chronic disease, in which it produces exceptionally good results. (5) In the writer's personal experience the diuretic action of the drug was not marked enough to render it deserving of the claim of such virtue.

**Headaches and Their Treatment.**—Dr. T. Lauder Brunton (*British Medical Journal*, November 4th) says: The first method of treatment of headache is, of course, to try to supply the brain with healthy blood; to clear away any toxins that may be present in it; and one method of doing this I have just mentioned—namely, the administration of a blue pill and a black draught. But, more than this, we may try to give something which may have the power of counteracting these toxins or of producing elimination from the liver, and I have found by personal experience that the easy way of getting rid of the toxins or of counteracting their effect, I do not know which, is to keep up the action of salicylic acid or salicylate of sodium. So that in persons who are liable to headaches I generally prescribe salicylate of sodium gr. xv., xx., or xxx. at night, with gr. x., xx., xxx. of bromide of potassium. This mixture acts better than either salicylate of sodium or bromide of potassium alone, and it will usually prevent their recurrence in the morning. The salicylate of sodium is apt to produce a certain feeling of depression or weakness, and in order to counteract these I generally give it along with half a drachm of aromatic spirits of ammonia. It may be advisable in some patients, if you are giving the salicylate of sodium regularly, to give also a little iron to counteract the effect of the salicylate in producing anæmia. For the relief of headache occurring through inflammation of the periosteum from gouty, rheumatic, or syphilitic irritation, it is evident that one remedy is very useful—namely, iodide of potassium, which should be begun in small doses and gradually increased up to gr. x., xx., or xxx., three times a day. When we think that the pain is not of a pure nature, not due simply to dilatation of the nervous fibrils in the fibrous tissue of the periosteum, but is associated also with some change in the vessels of a nature allied to them, which we find in sick headache, the iodides may be combined with the bromide and salicylate, and in all those cases it is advisable to give some aromatic spirits of ammonia along with it in order to prevent any depression effects of the drug. Whenever you get a case of intense headache which your drugs fail to relieve, always look out for glaucoma. Even in ordinary headache you will be very apt to find the affected eye is rather tight, that the intra-ocular tension is higher than usual, but in glaucoma it is very much increased, and this will be per-

manent, and not temporary as in ordinary sick headache. In cases in which this increased tension exists you must either treat the glaucoma yourself, or have the patient operated upon by some specialist, so as to prevent the loss of the eye as well as to relieve the headache, which is very intense, and which exists along with the disease.

**The Treatment of Post-Partum Hemorrhage.**—Dr. J. Z. Currie (*Boston Medical and Surgical Journal*, November 16th) summarizes an interesting article on this subject as follows: (1) A knowledge of the source of hemorrhage is necessary to insure intelligent action. (2) All rents, when easy of access, should be repaired at once. (3) If the body of the uterus is contracted and bleeding is excessive, and in all cases of hemorrhage following placenta prævia, the general cavity should be tamponed at once. (4) If this is not successful, or if the hemorrhage is constant and not excessive, the bleeding vessels should be secured if possible, and the injury repaired. (5) If atony exists and hemorrhage is not excessive, external and bimanual compression of the uterus should be used, followed, if necessary, by hot water, vinegar, or acetic acid. (6) If not successful, or if atony with excessive hemorrhage is met with instead, tampon at once after using hot water. (7) Morphine should be given hypodermatically to check the hemorrhage, and stimulants, strychnine, and auto-infusion to overcome the effects of the hemorrhage. (8) To prevent anæmia saline solution should be used, preferably per rectum or hypodermically. Saline solution may be used by infusion also if necessary.

**The Treatment of Digitalis Poisoning; Experimental Investigations.**—Drs. J. J. Taylor and C. R. Marshall (*British Medical Journal*, November 4th) say: The treatment of digitalis poisoning must be symptomatic. We know of no antidote, in any true sense of the word, to this drug. Nor do we think we shall ever know of one. Digitalis enters very slowly into the tissue metabolism; it produces distinct structural changes, and it is slowly eliminated. It therefore possesses a most unfortunate character for action of the antidote. Apparently all that we can do is to withdraw the drug if it is being given medicinally, to clear the alimentary canal of any digitalis it may contain, and increase the rapidity of elimination by diluents; to allay sickness, to reduce arterial tension when high, procure sleep if necessary, and treat every symptom as it arises. In other words, the condition must be treated as if it were, which it is, an ill-understood disease. For the reduction of the arterial tension nitroglycerin, or an ally, is the best remedy; but with the low blood pressure, which is not infrequently present in digitalis poisoning, these substances are useless. In such cases small doses of alcohol, insufficient to produce vasodilatation, would probably prove of greater service.

**The Antenatal and Intranatal Factors in Neonatal Pathology: An Attempt to Explain the Peculiarities of the Morbid States of the New-Born.**—Dr. J. W. Ballantyne (*Journal of the American Medical Association*, November 18th) gives the following summary to his interesting article on this topic: It is clearly evident that if the characters of the diseases of the new-born infant are to be understood it is essential that account be taken not only of the fact that the infant's organism has just passed through a period of traumatism and is passing through one of readjustment to meet new requirements, but also that during the nine months of intra-uterine life which precede birth, it may have been the sphere of morbid processes which have left their impress on it. It may come into the extra-uterine environment already diseased or malformed or predisposed to some pathological development. Like pregnancy, neonatal life is an epoch which has a physiology in many respects peculiar to itself, and which borders very closely on the pathological, tending very easily to pass over into it. In a certain sense the ordinary vomiting of pregnancy is to the uncontrollable form, as the ordinary "physiological" jaundice of the new-born is to pernicious icterus neonatorum. Further, just as every woman brings with her into her pregnancy the results of her past pathological history, so the new-born infant brings with him, out of his antenatal life into his neonatal existence the effects of any morbid processes which may have attacked him in utero. In this way the pathology of pregnancy and the maladies of the new-born infant are both invested with peculiarities. The peculiarities, therefore, of neonatal diseases are not inexplicable, but are the direct outcome of the action of the antenatal and intranatal factors on the organism at this period of life.

**Further Experiments with Pane's Antipneumococcus Serum.**—Drs. J. W. H. Eyre and J. W. Washbourn (*British Medical Journal*, November 4th) report as follows: (1) The serum in doses of 1 c.c. possesses for rabbits a considerable protective power against four out of five strains of pneumococcus derived from different sources. (2) It has no protective power against one strain which in morphology, virulence, and cultural characteristics is a typical pneumococcus, and which was obtained from a fatal case of pneumonia. (3) There exist varieties of the pneumococcus which at present can be distinguished only by the action of the antipneumococcus serum.

**Detection of Small Quantities of Albumin in Urine.**—A summary of the conclusions which the writer arrives at is as follows: (1) Patients with chronic albuminuria and cylindruria are accepted as risks by life-insurance examiners, probably because of lack of delicacy of the cold nitric-acid test. (2) The cold nitric-acid test fails to detect 1 part of urine-albumin in 15,000 parts urine, Purdy's tables being taken as a basis for calculation. (3) Jolles', Spiegler's, Esbach's, and Tanret's tests, together with trichloracetic acid, give rings with urine containing alkaline carbonates, when albumin is absent. (4) The absence of albumin from such urine containing alkaline carbonates can be demonstrated by filtration, precipitation with ten per cent. of an eighty-per-cent. solution of calcium chloride, filtration, and flotation upon Spiegler's test. (5) The tests mentioned in 3, together with Millard's test, and dilute chromic-acid solution, give rings with urines not containing carbonates and which remain unclouded when heated. The size and plainness of the ring increase with the specific gravity of the urine. (6) Absence of albumin from urines, as in 5, must be proved by the heat test alone. (7) Urines which give no precipitate with calcium chloride, but which cloud slightly when heated, the precipitate being insoluble in acetic acid, doubtless contain a trace of albumin. Inasmuch as the statement has been made that nucleo-albumin is coagulated by heat in acid urine, the microscope should invariably be used in such cases. The same is true in the case of urines remaining clear when heated, but which cloud slightly on addition of dilute acetic acid. —Clifford Mitchell, *New York Medical Times*, November.

**Phosphaturia.**—Prof. G. Klemperer (*Deutsche Medizinal-Zeitung*, October 12th) says that under the term phosphaturia is understood a condition in which the voided urine frequently assumes a cloudy, milky appearance, due to the presence of earthy phosphates.

It depends upon the fact that the calcium phosphate is precipitated in the urine when the proportion of acid to alkaline phosphates is in inverse ratio; in other words, when the reaction of the urine becomes alkaline. All circumstances which tend to render the urine alkaline serve to precipitate the earthy phosphates. A vegetable diet therefore makes the urine alkaline, whereas the salts of acid plants are converted into carbonated salts. It is therefore clear why, after an excess of vegetables and fruit, phosphaturia occurs. It is furthermore known that an antagonism in the acidity of the various secretions exists. If the stomach secretes considerable hydrochloric acid, then fewer acid molecules are available for the urine; whoever voids urine one to two hours after a hearty meal, be it even composed entirely of meat, will notice a mild phosphatic cloudiness. Inasmuch as neurotic people generally urinate more frequently than persons with a firm nervous system, the former have a greater tendency to phosphaturia. It is furthermore known that phosphaturia occurs when, on account of severe vomiting or lavage, a great deal of hydrochloric acid is removed from the stomach, or when, on acount of dilatation and motor insufficiency, the acid contents are retained in the stomach for a long time. All these circumstances occur frequently in neurasthenics, and thus phosphaturia is frequently combined with neurasthenia. The object of treatment, according to Minkowski, is to increase the urinary acidity. Above all, he recommends all albuminous food stuffs—meat, eggs, cheese, cereals, leguminous substances—and warns against potatoes, green vegetables, and fruit, inasmuch as they render the urine directly alkaline. Without desiring to detract from the value of dietetics in the treatment of the condition, it is believed that the cause must first be overcome, and that treatment can be of service only when the nervous condition is dealt with, since upon the latter depend the hyperacidity and general debility. Treatment, therefore, is not easy and must not be carried out schematically. There is no general dietetic and medicinal plan applicable to all cases. The object of the physician should be to select a regimen which corresponds most closely to the nervous state of his patient; much depends upon the moral influence of the physician. The patient is to be impressed with the fact that his condition is a neurotic one, which can be benefited only by regularity in his mode of life and by assistance on his part.

**Treatment of Floating Kidney.**—Prof. E. Henoch (*Therapie d. Gegenwart*, June, 1899) says that the radical operation for floating kidney undoubtedly gives brilliant results in some cases. It is, however, not entirely harmless, and the mere fixation with suture is not always of permanent value. Again, the patients are very reluctant to undergo operative intervention, and submit only when the discomfort and pain are unbearable, a condition which on the whole is very rare. For the most part, then, we try to alleviate the condition with bandages and supports. These give the patients more confidence and support, as it were, and are therefore to be recommended.

**Treatment of Internal Hemorrhoids.**—Dr. J. Boas (*Deutsche Medizinal-Zeitung*, October 30th) says that treatment of this condition must be based upon the fact that hemorrhoids is a disease of the rectum. The idea that congestion dependent upon the heart, lungs, and liver gives rise to rectal varicosities has been disproved by numerous authors. Local causes are always responsible for the development of hemorrhoids, and treatment of these causes a cure. Among local causes those which prevent the return circulation through the portal system and vena cava naturally play the most important rôle. Rectal and perirectal tumors, the pregnant uterus, tumors of the large intestine, disease of the adnexa, stones in the bladder, intestinal ulcerations, stenosis, catarrh, etc., may give rise to hemorrhoids. The most important and benign causes, however, are those which are due to the pressure of hard and stagnated fæces upon the rectal ampullæ or sigmoid flexure. Cases also exist in which hemorrhoids develop with normal defecation, with alternating constipation and diarrhœa, or, indeed, even with diarrhœa alone. In the first instance there is present a certain hypoplasia of the venous plexus, perhaps also an atrophy of the rectal mucous membrane itself. In the latter there exists, as a rule, a more deeply situated catarrh of the large intestine or rectum under whose influence an increased congestion of the hemorrhoidal plexus might occur. Most frequently, however, there is present an habitual disturbance of defecation, particularly in the lower bowel, which in time causes circumscribed, diverticula-like fecal reservoirs. The most frequent and most satisfactory therapy lies in the treatment of the habitual constipation, in the prevention of large fecal accumulations, and this not by means of laxatives, but rather by persistent dietetic treatment which produces large and soft evacuations, and prevents fecal impaction, especially in the rectal ampullæ. Mention must here be made of the general ideas as to the value of the bland, that is, the non-irritating, diet. The "bland diet" is the one which tends most of all to keep intact the integrity of the hemorrhoids, inasmuch as it favors constipation, more so than any other. Single, long-continued, and large hemorrhages justify a relative diminution of alcohol, pepper, mustard, etc. In addition to diet, general hygienic measures must be observed, exercise, gymnastics, riding, billiards, lawn-tennis, football, etc. Herewith is included rectal toilet, cleansing of the anal portion with astringent solutions, preferably tannin or alum. Rectal enemata, with gradually elevated douche, are very serviceable. These simple measures suffice in the first stage of the affection and in the absence of complications; indeed, in a large proportion of cases the varicosities disappear altogether. Even the rectal catarrh, which the patients falsely call "catarrhal hemorrhoids," gradually disappears, once the lower intestinal tract has been cleared of the fecal accumulations, or the irritation consequent upon their decomposition. Hemorrhoids ought to be treated in their very incipiency. In the later stages, the regulation of the constipation or the cure of a constipative intestinal catarrh is more difficult, and requires the aid of laxatives and irrigations. Among the former, only such are indicated as after habitual use do no harm to the gastro-intestinal tract, produce a mild and satisfactory effect, and do not wear off too quickly. This list includes rhubarb in its various compositions, sulphur, compound licorice powder, magnesia usta, and citrate of magnesia. The dose should be as small as possible. The treatment of hemorrhoids with mineral water is very popular; the results here depend entirely upon the laxative properties of the given water as well as the local effect of the baths upon the hemorrhoidal nodules. This method seldom gives permanent results. Under the same category might be included the grape cures, which also produce a regulation of the bowel function, and thus might favorably influence the condition; once, however, the treatment is stopped, the condition recurs in the majority of cases. The success of the internal therapy of hemorrhoids depends upon the treatment of the etiological factors. If this fails, then all other intervention will have but a transitory and symptomatic effect. This brings us to the local treatment by pessaries, suppositories, and ointments. The former are of temporary value and may produce a certain amount of relaxation of the sphincter by compression of the varicosities. The suppositories and

ointments may be of service in excoriations of the varicosities and in slight hemorrhages. The following suppositories and ointments are very much in use:

℞ Chrysarobin ..... 0.08
Iodoform ..... 0.02
Extr. bellad ..... 0.02
Butyr. cacao ..... 2.
M. S. Introduce one two or three times a day.

℞ Chrysarobin ..... 0.8
Iodoform ..... 0.3
Extr. bellad ..... 0.6
Vaselin ..... 15.
M. S. Apply twice daily.

℞ Potassii iodidi ..... 2.
Iodi puri ..... 0.2
Glycerin ..... 35.
M. S. Apply.

Among complications, the treatment of hemorrhage, constriction, and prolapse are the most important. Small hemorrhages, as they occur in all well-developed cases, require no special treatment. It is quite different, however, when the hemorrhages recur, when they appear at every movement of the bowels and even independently of it, or when the hemorrhages occur infrequently, but are of such a degree as to give rise to a very marked anæmia. In the first instance, the object of treatment is to prevent venous stasis by a regulated diet and mild laxatives. If, despite normal defecation, habitual hemorrhages occur, then the fluid extr. hamamel. virg. is indicated:

℞ Extr. fluid. hamamel. virgin. ..... 100
S. ʒi. t.i.d. in a glass of water.

Suppositories might also be used. In acute and alarming hemorrhages the best treatment is tamponing of the rectum with ferripyrin, chloride of iron, or iodoform gauze. Care must be taken that the tampon reaches the bleeding point, otherwise the hemorrhage will continue. At the same time a full dose of opium is given in order to quiet intestinal peristalsis. In three days the tampons may be removed, and a dose of castor oil given. In constriction of the hemorrhoids, protection and avoidance of forcible reduction are indicated. If possible a suppository of cocaine and opium is to be introduced, in order to immobilize the lower bowel. Then, after a thorough inunction of the entire anal portion and the rectum itself, reduction of the constricted portion is carefully undertaken in the side position, if needs be with the aid of chloroform, ether, or Schleich anæsthesia. Leeches might be applied in the region of the varicosities; after sufficient blood has been withdrawn reduction is usually easy. If gangrene supervenes reduction is, of course, contraindicated, and treatment with antiseptic powders is in order. In prolapse, Esmarch's "rectal carrier" might be of service.

**The Origin of Perforating Ulcer.**—In the review of cases of mal perforans operated upon by his method of nerve elongation, Dr. Chipault stated before the Société de Neurologie de Paris, at one of its recent meetings, that seventeen were of central origin, tabes, syringomyelia, etc.; eight were in alcoholics, four in diabetics, nine were consecutive to frost bite, and eleven followed traumatic lesion, infected wounds of the sole, torn out or injured corns, becoming the starting-point of peripheral neuritis.

**Diagnostic and Prognostic Value of Adenopathies in Epithelial Cancer.**—At a recent meeting of the Société des hôpitaux, Drs. Saupault and Labbé held that adenopathies have a value only when shown to be cancerous. Adenopathies directly connected with the organ affected by cancer are not always of cancerous nature. It is only in about half the cases that they have found at autopsy or in the course of operation the ganglia corresponding to the cancerous territory invaded by the neoplasm. In the other cases the enlargement is due to secondary infection by ordinary microbes drawn from the seat of ulceration, or is due to tuberculous infection, or to a condition of functional non-activity of the ganglia, which is often observed at the onset of cancer, which should be attributed to the leucocytosis observed in this affection. Distant adenopathies, as the supraclavicular in abdominal cancer, are considered rare and of but slight clinical value unless studied histologically. No deductions can be drawn from the volume and consistence of the enlargements. In nine cases of abdominal cancer, of which eight came to autopsy, the authors found the inguinal glands unaffected in all but one instance. In the one showing an inguinal gland invaded by cancer the enlargement was so small as not to be perceptible on palpation during life. Troisier does not claim that engorgement of the supra-clavicular is surely indicative of cancer of the stomach, but believes that when we suspect abdominal cancer the enlargement of this gland is a confirmatory sign of the existence of such neoplasm.—*La Revue Médicale*, September 20th.

**A Case of Solitary Kidney Cyst.**—Dr. X. von Brackel reports, in No. 250 of the *Klinische Vorträge*, the case of a young man, eighteen years of age, who for four years had noticed a swelling at first the size of a goose egg under the ribs. Only during the last year did it seem to increase in size and become painful. The patient previous to this trouble had always been in good health, but for some time past he had suffered with constipation, and lately also from attacks of vomiting, coming on without warning and generally after meals. The diagnosis lay between pancreatic and kidney cyst. The extraperitoneal operation for kidney cyst was performed. The tumor was the size of a man's head, smooth and round. Its position was retroperitoneal, in the left side of the abdomen, extending from beneath the ribs downward almost to Poupart's ligament, to the right a little beyond the median line, to the left near the loins. The kidney was sound down to its lower pole where the cyst was attached. The other abdominal organs were normal. By means of a trocar about two and one-half litres of brownish, bloody fluid were withdrawn. The cyst was then excised without hemorrhage, not being connected with the kidney substance. The kidney was fastened to the quadratus lumborum, a rubber drain was inserted, and a dry dressing applied. During the first day the patient suffered considerably. On the evening of the second day the temperature rose to 37.8° C. (100° F.), but fell later. There was slight fulness in the abdomen; some vomiting occurred, and there was a little jaundice. These symptoms disappeared on the fourth day; the drain was removed on the fifth; the sutures were removed on the fourteenth; the patient was out of bed on the twenty-second, and on the twenty-seventh day was discharged. The wound healed satisfactorily; the kidney held firmly in position, and there was no swelling or pain. The extirpated tumor was a large unilocular cyst with smooth outer and inner walls. The kidney substance which was in contact with it was normal, and it took its origin from the normal kidney parenchyma. In the connective-tissue wall were remnants of normal kidney substance, while here and there were urinary tubules and glomeruli but no epithelium. The solitary kidney cyst is very rare, comparatively few cases having been reported. These all occurred in adults, the youngest aged eighteen years, the oldest sixty-four years. It generally develops in the outside of the organ, is considered a retention cyst, and is attached to one pole of the kidney, the contents being a bright, thin liquid, sometimes bloody, sometimes colloid. Chemical examination shows albumin, salts, and occasionally traces of urine and chalky deposits.

# MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 51 Fifth Avenue.

New York, December 2, 1899.


## THE TUBERCULIN TEST FOR CATTLE.

THE crusade against consumption shows no signs of lagging, but proceeds with undiminished vigor. The question of the spread of tuberculosis by means of infected meat and milk has now engaged the earnest attention of the foremost physicians and veterinarians of the world for several years. Time was when such a theory would have been scouted altogether, and even at the present opinions are much divided as to the degree of infectiveness induced by these causes.

With regard to meat as a source of infection, the view taken by possibly the majority of medical authorities is that this danger has been exaggerated. In an article published in the MEDICAL RECORD of August 12th, it was pointed out that, if such be not the case, how then can the fact be explained that, although since the middle of the present century meat has been a much more common article of diet than in the first half of 1800, yet within the fifty years just past tuberculosis has not only showed no increase, but on the contrary has steadily decreased.

With regard to milk, proof of its being a potent means of disseminating consumption is definite and decided. Therefore it logically follows that if the disease can be abolished from cattle the spread of consumption will be materially curbed. It is argued that the use of the tuberculin test will at least go a long way toward realizing this object. Respecting the effectiveness of tuberculin for the purpose of diagnosing tuberculosis in cattle, the testimony in its favor is, on the whole, widespread and to the point. Professor Nocard, of Alfort, chief veterinary authority in France, is especially emphatic as to the merits of tuberculin in the detection of the consumptive taint in cattle. He says that he has personally inoculated thirty-five hundred animals, and of these only three have died, and he regards tuberculin as a most valuable test. Dr. Baug, of Copenhagen, the most renowned veterinarian in the world, declares that tuberculin is of great value as an aid to diagnosis, although it is not infallible, sometimes failing altogether, and furnishing no guide as to the extent of the disease. He has found that the disease may be present in a cow and remain latent for years, exerting no influence either upon her health or milk-producing powers. In order to carry on an effective crusade against the disease, Dr. Baug has applied the tuberculin test, subsequently separating the animals which react from those which do not. Sick animals are slaughtered either immediately or after being rapidly fattened.

*The Lancet* in its issue of October 28th says: "Mr. McLauchlan Young and Dr. S. H. Walker have recently tested some two hundred and forty cattle with tuberculin, the results being followed out by a careful post-mortem examination in each case. The conclusions arrived at were as follows: (1) Our experience confirms the generally accepted opinion that tuberculin loses its virulence when kept for any length of time. (2) When used with care and under proper conditions tuberculin, although not infallible, is a reliable diagnostic of tuberculosis in cattle, except (*a*) when the tuberculous lesion is minute; (*b*) when the disease has become generalized, especially in the case of aged and emaciated animals. (3) Tuberculous udder occurs more frequently than is generally believed to be the case. The instances where tuberculosis is present in cattle and the tuberculin does not react are probably when the fluid is not in good condition from some cause, or by reason of the lowered vitality of the animal experimented upon. That tuberculin possesses valuable diagnostic qualities has been amply demonstrated, and that its more general use would have a beneficial effect in checking the inroads of consumption cannot be a matter for doubt."

The Ohio State board of health has invited a discussion on the whole question of tuberculosis among cattle, and of the measures to be taken for its prevention. This scheme is worthy of adoption by State boards of health throughout the country, as ventilation of this kind will tend to clear up all disputed points in regard to tuberculin, as well as act as a deterrent to the dissemination of tuberculosis by the agency of cattle. The *English Veterinary* is responsible for the statement that M. Nocard and M. Roux have together set to work and discovered a new tuberculin which will cause reaction, no matter how recently Koch's fluid has been injected. This discovery will be made public in due time, and, if as effective as its discoverers assert, will remove the objection attached to Koch's tuberculin, which is declared to be unreliable after the first test, and which has in consequence led to fraudulent practices by cattle dealers.

## PAY AS YOU GO.

THE editor of *The Philistine* is not quite sure what the unpardonable sin is, but believes it to be the disposition on the part of many to avoid paying certain bills. Since this East Aurora sage was a physician (or claims to have been) before he became a book-maker, he must surely have in mind the impossibility of making patients pay, or at least of making them pay quickly. He accuses the aristocrats of being the meanest in this particular, and says those who have a Thursday and are in the set have more than others despoiled him of hard-earned dollars and even "ript his reputation up the back" when he asked for his own.

All persons who ever employ a physician should

heed his advice to pay their debts cheerfully and promptly if they would live a happy life. If they followed it the doctor could also profit by the good advice to "pay as you go" and be happy ever after. Then how much better and brighter the world would be!

## THE SHORTCOMINGS OF THE BRITISH ARMY MEDICAL CORPS.

Most of the British medical journals have raised a storm of protest against the present condition of the British army medical corps, and have severely handled Lord Wolseley for his speech of last year, in which he declared that he could place two army corps of the finest fighting material, "complete in every respect," on a given point of the coast before the navy could muster the ships to transport them from England's shores. This assertion was adversely commented upon at the time, and doubts of the feasibility of accomplishing this measure were freely expressed. On one point at least experts were convinced that Lord Wolseley spoke decidedly rashly—that is, as regards the medical equipment of two army corps. By denuding the country of the standing army, reserve, and militia, two or perhaps even three army corps might be mobilized, but when it comes to supplying these corps with the necessary complement of surgeons, those best able to judge say that it can be easily shown that Lord Wolseley's statement was fallacious. This fact is ably demonstrated in an article contributed to the *London Practitioner* last year. From this it is gathered that Great Britain's active army consists of about two hundred and twenty thousand men; first-class reserve eighty-two thousand, militia reserve thirty thousand. Of the active army India absorbs seventy-four thousand. Gibraltar, Malta, and other foreign stations require about forty thousand troops for garrison duty. Recruits of one year's service, and who are ineligible for foreign duty, take away thirty thousand. Thus it may be said that when the necessary weeding out has been done, and when the troops on foreign service have been subtracted from the total, the number of men available for Lord Wolseley's army corps would amount in round numbers to one hundred and fifty thousand. The vital questions then crop up: How are these corps provided with medical aid? And is the army medical service in a position to meet without bending or breaking the pressure that will be put upon it? According to the article in *The Practitioner* referred to above, the British army regulations stipulate that one hundred and eighteen medical officers are required in the front of the fighting line of one army corps, about fifty on the line of communication (varying according to length), about twenty-five at base—with ten per cent. added to the total for casualties—in all about two hundred. Now what is the available visible supply to meet this demand? The normal establishment of the army medical staff has been given at eight hundred and ninety. At present through mismanagement and unpopularity it is at least ninety under that strength, but as the army is being increased by twenty-three thousand men, the medical staff should really be increased another one hundred, so that the proper establishment should be one thousand, and the present deficiency is therefore two hundred. So serious indeed is the undermanning that even in peace civilian practitioners are largely employed. Of the existing eight hundred medical officers on the active list, between five hundred and six hundred are constantly serving in India and foreign stations, leaving only two hundred actually available for service with Lord Wolseley's army corps. Whence, then, can be drawn medical officers for the two army corps proceeding abroad, in order that they may be complete? No doubt a certain number of civilian medical men would volunteer for duty in the field, but they would be without special medical knowledge and could hardly be placed under martial law. The writer of the article draws these conclusions: that it would seem impossible that two British army corps can be embarked medically complete in every respect: that in a military sense two army corps could be speedily mustered "complete in every respect"; that army medical officers are available for only one army corps, and that even one army corps can be supplied with difficulty with its proper number of surgeons.

To how great extent the writer of the above was correct in his prediction has already been shown. In order to equip medically the considerably less than two British army corps now in Africa, civil practitioners have been largely called upon to meet the deficiency. It is more than likely that a still greater force will be despatched to the scene of action, so that it would seem probable that by the middle of December something like half of the surgeons with the British army in South Africa will be drawn from civil life. One good result, therefore, if nothing else, may be anticipated from the war in which Great Britain is now engaged, that is, the army medical service will be subjected to thorough and sweeping reform.

## THE SURGEON'S RESPONSIBILITY FOR THE ACTS OF HIS ASSISTANTS.

The extent of a surgeon's responsibility for the acts of a trained nurse is to be tested in a suit for damages against a leading operator of Columbus, Ohio. It appears that the patient upon whom a cœliotomy was performed ultimately died of pyæmia, resulting from a pad of absorbent gauze being left accidentally in the abdominal cavity. The cause of the trouble was not positively ascertained until the wound was reopened several months later, and the gauze in question found to be the focus of an infecting centre in the peritoneal cavity.

The surgeon in charge of the case makes the statement that at the conclusion of the operation in question he asked the head nurse, who was handling the pads, if she had accounted for all the latter that had been used. She positively replied in the affirmative, and, trusting to her knowledge of the fact, the wound was closed accordingly. In his own defence against the charge of wilful negligence he places the entire blame upon the nurse, whose business it was to be sure of what she said.

The relative responsibilities of operator and nurse are thus brought to the surface of legal discussion. There is no doubt that the surgeon is always technically accountable for anything and everything occurring during an operation of which he has charge. As the acknowledged principal in the contract to guarantee all parts of his work, he is in an equal way responsible for the acts of each and every one of his subordinates.

While it must be acknowledged that the great majority of operators are accustomed to place absolute reliance on the statements of their assistants, the practice has often proved to be extremely risky in guarding against very serious mistakes subsequently. This applies more particularly to abdominal operations than to any others.

Strange to say, in connection with the particular issue involved in the present case, there is no point in the entire and often complicated technique of intestinal surgery which is of more concern to the operator than the positive knowledge that no sponge, pad, instrument, or other foreign body is on the wrong side of the closed wound.

The great liability to such accidents is abundantly attested by many melancholy reports of preventable deaths. Thus it has been made the rule to exercise the greatest care in listing all instruments beforehand, and in checking them off afterward. While it is the business either of one of the surgical assistants or of a trained nurse to attend to this very necessary detail, and while from a moral standpoint the operator himself is not morally accountable for misrepresentation of fact in the premises, it is certainly always safer for the patient and for himself that he be personally sure that everything is right from the standpoint of his own examination.

All this is said not in any spirit of criticism of the unfortunate mishap, but rather in the hope of guarding against the repetition of like experiences in future. The operator in question did everything usual under the circumstances. Hundreds like him have run similar risks without a thought of possible trouble. The lesson, after all, is the danger of trusting to any one rather than to ourselves. Of course the operator cannot see everything nor be everywhere, but it is always safest and best for him and for all concerned to guard personally against the most probable and dangerous mistakes.

## DESTRUCTIVE WEAPONS OF WAR.

The *Medical Press* says: "If the object of war be to destroy as many of the enemy as possible, then it follows that the more effective the means of destruction employed the sooner will that object be gained. . . . In the present war at the Cape the terrible devastation caused by lyddite shells has been brought into evil prominence. The lyddite is packed in a shell and fired by a percussion fuse. It is obtained by the fusion of picric acid, which is in turn manufactured by the action of nitric acid upon phenol. Its explosion creates an area of havoc far wider than that due to the ordinary shell charged with powder and shot. In the case of lyddite the resulting deaths are for the most part due to the terrific concussion of air, which has been known to kill a man at a distance of two hundred yards. To a limited extent, therefore, the lyddite is less barbarous than the ordinary shrapnel shell, inasmuch as its victims are killed outright. Beyond a doubt in this explosive we have one of the most terrible war materials yet introduced. Yet its use has not been forbidden by the usages of civilized nations, who appear to have drawn the line as yet simply against the explosive bullet."

The Medical Record, in an editorial a short time ago, remarked in words almost identical with those with which the *Medical Press* commences, that if the object of war be to destroy, then the more destructive a firearm is the more quickly will it fulfil this object. It is interesting, too, to ponder over the fact that the most sanguinary of our modern battles are mild when compared with some recorded in ancient history. When Sulla, commanding the Roman army, met the combined forces of Macedonians and Greeks at Chæronea, the allies numbering nearly one hundred and twenty thousand, the butchery among this vast host was so great that Plutarch admits that only twelve thousand got safe away. Instances quite numerous can be brought to mind in which the slaughter in far-back times was even greater than in the above-mentioned case. The more deadly artillery and firearms are, the less ready nations will be to fight, and the nearer shall we be to peace. By these means indeed the day may come when the lion will lie down with the lamb. The logical inference, therefore, must be that the most destructive weapons of war are really in the end the most merciful, for they tend to do away with war altogether.

## News of the Week.

**More Embalmed Beef in the British Army.**—In a letter to the London *Times* of November 15th, an officer on board the transport *Nubia* asserted that "sixteen hundred rations of salt carrion, labelled 'New York, 1899,' had to be thrown overboard, as it was full of disease." He said that the packers of the corned beef and pork had salted down only "the very worst portions of very inferior beasts and pigs."

**A Meeting of Acting Assistant Surgeons** will be held at the Seventh Regiment armory, in this city, on December 5th, at 2 P.M., for the purpose of effecting organization and of taking steps to secure from Congress legislation in fulfilment of verbal promises made to them at the time their services were obtained. It is claimed that the burden of the medical and surgical work of the Spanish war was borne by the nearly one thousand acting assistant surgeons of the army. These men, most of whom were young and inexperienced in military discipline and hygiene, were for the most part competent, devoted, and brave, dealing often most successfully with new forms of disease and great sanitary problems. The vaccine corps of Porto Rico,

for example, was organized and officered entirely by acting assistant surgeons. Many promises were made to these men, which were not carried out, and it is partly to obtain the fulfilment of these that the organization is to be effected. The following is what Congress is to be asked to do, and which it is hoped it will do as a mere matter of justice: (*a*) To give to each the assimilated rank, pay, and emolument of a first lieutenant (staff) upon and for the date of muster-out, thus legally fixing his status as an officer of the army. (*b*) To give to each, conformably to the admitted verbal agreement and intentions of the surgeon-general's office, full payment for properly granted leaves of absence. (*c*) To give to each the commutation of quarters (when government quarters were not found) which was originally both stipulated and allowed, but afterward cut off. (*d*) To give to each the mileage and travel pay originally promised and enjoyed, but later by unjust discrimination disallowed and retracted. (*e*) To give to each the same rights and eligibility to pensions and to land and other emoluments that attach to assistant surgeons of the United States regular or volunteer army. (*f*) To give to each the same allowance of extra pay that was given to officers and men of the United States volunteers in the late war, viz., one month's extra pay for service in the United States and two months for service beyond seas. (*g*) To give to each preference for appointment (over those who have not had previous service) in the medical corps of the army and navy, and the Marine-Hospital corps of the United States, etc.

**The Smoke Nuisance.**—The Merchants' Association of this city has voted to co-operate with Lieutenant-Commander John C. Fremont, United States navy, who is supervisor of the harbor, in stopping this nuisance caused by the burning of soft coal by tugs, lighters, and steam craft in the harbor and in all the waters adjacent to the city. It has also promised to co-operate with the naval officer in the efforts that he is making to abolish the use of this coal in factories and buildings on the New Jersey shore, adjacent to the waters of the harbor. During October several offenders in the city were arrested and upon conviction were fined $25, and were warned that a repetition of the offence would make them liable to imprisonment. In more recent cases, for some unknown reason, a merely nominal fine of $25 has been imposed.

**Suspension of Medical Students.**—The entire senior class of the Medical School, Boston University, have been suspended from recitations and lectures by the faculty. The cause of the matter dates back several weeks ago, when some forty of the class attended a clinic at the Westboro Hospital for the Insane. On their return from the hospital to the railroad station, it is alleged that the members were noisy and indulged in horse-play. Complaint was made by the hospital authorities, but the offence was repeated on the following clinic day. The members of the class were requested to apologize, and on refusing to do so were suspended.

**A Leper in San Francisco.**—About a year ago a woman who came to San Francisco from Vancouver was found to be a leper who had escaped from Molokai. An attempt was made to return her to Hawaii on a United States transport, and when this failed the authorities endeavored to send her back to Vancouver, as she claimed to be a British subject, but this attempt was equally unsuccessful. So at last it has been decided to keep the woman in the pest house. To judge by the prominence that has been given to this case in the newspapers, one would be led to suppose that the woman was the only leper in San Francisco.

**A Traffic in Cadavers.**—The city undertaker of Memphis, Tenn., was recently arrested in St. Louis for having in his possession four trunks containing dead bodies. He told the police that he had the contract for burying the city dead of Memphis, and for some time had been selling bodies to medical colleges throughout that part of the country. His method was to pack them with excelsior in zinc-lined trunks and take them with him as baggage as far as St. Louis. From there he shipped the trunks to their destination by express. He said he had been paid all the way from $50 to $200 per body.

**Diphtheria** has appeared among the inmates of the Children's Home at Middletown, N. Y., and the institution has been placed under quarantine.

**Compulsory Vaccination.**—Six members of a so-called Christian Science Church in Americus, Ga., who had refused to submit to vaccination, were tried recently before the mayor's court and sentenced to imprisonment for from fifteen to thirty days in addition to fines running from $3 to $15. It was announced that the same sentences of fine and imprisonment will be assessed against such other members of the congregation as may refuse to obey the vaccination ordinance. Counsel has been employed to represent the Christian Scientists, and certioraries will be taken to the superior court, and it is said that, if necessary, the cases will be carried to the supreme court.

**Rules for Dispensaries.**—The special committee of the State board of charities appointed to formulate a new lot of rules for the government and licensing of dispensaries has made its report. Nine rules are laid down for the dispensaries after they shall have been licensed according to law. The first one provides for the posting of a notice to the effect that the dispensary is for the treatment solely of persons too poor to pay for medical attendance, and any other persons applying for or accepting treatment is guilty of a misdemeanor. The second rule requires the employment of a registrar, who will be the manager of the dispensary. The other rules are all relating to the treatment of patients that come to the dispensary for relief. Clinical, secular, and religious instruction may be given in the institutions, but no inmates are to be required to submit to examinations or operations for any other purposes than medical or surgical treatment.

**The Malarial Mosquito,** of the species Anopheles, has been discovered in Jamaica by Dr. Grabham, of

Kingston. As nearly a third of the hospital patients in Kingston are admitted for malaria, the results which should follow the discovery and extermination of this mosquito would be of the greatest importance to the welfare of the inhabitants of the island.

**Typhoid Fever in a College.**—About forty of the students of Kentucky University at Lexington have had typhoid fever during the past month. Two have died, but it is announced that the others are convalescent, and it is believed that the epidemic has been checked. An investigation has been undertaken to discover the cause of the outbreak.

**Dengue in the Philippines.**—Major Woodhull, chief surgeon at Manila, reports that the army in Luzon has suffered for some months past with an epidemic of dengue fever, which, while not severe, has incapacitated many of the troops. There have been few really severe cases, but a large number that interfered with duty for some days. The disease, at the date of the report, October 13th, seemed to be spreading to the parts of the island south of Manila.

**The Queen Opens a Convalescent Home.**—On November 15th, Queen Victoria paid a visit to Bristol to open the Convalescent Home at Clifton. During the ceremony of the inauguration of the home, twenty-seven thousand children sang the jubilee hymn, and an address was presented to the queen, who expressed the deep personal interest which she took in the charity, and earnestly expressed the hope that the home would contribute in no small degree to the alleviation of human suffering. The visit was made the occasion for a great display of patriotism.

**New Sanatoria for Consumptives.**—A sanatorium for the treatment of pulmonary affections, the first of the kind in Scotland, is now in the course of erection at Deeside near Banchory, a few miles inland from Aberdeen. The climate of that region is said to be exceptionally favorable, there being a large amount of sunshine, a very equable temperature, a remarkably low rainfall, and freedom from high winds. The sanatorium itself will be surrounded by pine forests. A new sanatorium has also just been opened near Hamburg. The Hamburg authorities presented the site and will pay a part of the expenses for five years.

**Medical Matters in the South African War.**—The British government has requested and obtained the services of Mr. Frederick Treves as consulting surgeon to the field force in South Africa. He is now on the way to Cape Town. Sir William MacCormac and Mr. G. Makins, the latter a surgeon to St. Thomas' Hospital, are already serving in that capacity with General Sir Redvers Bullers' army, and Mr. R. L. Swan, president of the Royal College of Surgeons in Ireland, has also volunteered his services. The fund for fitting out the *Maine* as a hospital ship now amounts to about $100,000. The last instalment of the American personnel of the ship has arrived in England. The party consisted of sixteen male nurses from the Mills Training-School at Bellevue Hospital, ten orderlies, who also act as nurses, and two apothecaries, and was in charge of Dr. Thomas Wood Hastings. The position of superintendent of the hospital ship has been offered to Dr. Julian M. Cabell, captain and assistant surgeon United States army, retired.

**Recall of a Scientific Attache.**—The scientific attaché of the United States embassy in Berlin, Professor Stiles, has been recalled because of differences with the imperial health office. It is said that Professor Stiles gave offence to the German officials because of criticism of restrictions placed upon the introduction of American food stuffs, and has in consequence been treated with great discourtesy.

**Diphtheria** has been quite prevalent in Montclair, N. J., and also in Newark during the past month. In the latter city about one hundred and fifty cases occurred during November, with a mortality of about twelve per cent. During the same month in 1898 one hundred and forty cases were reported to the board of health.

**Scientific Barbers in Missouri.**—A new law went into effect in Missouri last week, according to which every barber must be licensed by a board of examiners before being permitted to snap the scissors and draw the razor. He is obliged also to observe certain rules of cleanliness and antisepsis in order to reduce to a minimum the danger of spreading sycosis, syphilis, and other communicable affections.

**Dr. A. H. Doty,** health officer of the port of New York, returned from Europe on Saturday last. His visit was for the purpose of ascertaining what measures are taken at the ports of embarkation to prevent the shipping of immigrants ill with smallpox or other contagious disease, or who may have recently been exposed to the disease. By a system of detention and medical inspection on the other side much delay is avoided on this side, and the steamship companies are also saved the annoyance and expense of a quarantine of their vessels.

**Semicentennial of St. Vincent's Hospital.**—On Sunday last the Sisters of Charity who conduct St. Vincent's Hospital celebrated the fiftieth anniversary of the founding of that institution. The main feature of the celebration was the blessing of the new chapel in the annex to the hospital building, recently completed. Archbishop Corrigan officiated, assisted by a large number of clergymen. On Monday afternoon the Ladies' Auxiliary celebrated the institution's golden jubilee by a reception at the hospital.

**Smallpox in Kentucky.**—What is described as a very serious epidemic of smallpox prevails in several counties in the State of Kentucky. Dr. J. H. McCormack, secretary of the State board of health, who has just made a tour of the infected district, says that in a population of eighteen hundred there are fully five hundred cases in various stages of smallpox at Uniontown. There are many cases in the adjacent county. The disease has been conveyed from Uniontown to Crittenden, Hopkins, Muhlenberg, and Henderson counties. The local authorities at first concaeled the facts and denied the extent of the disease.

The State board of health has placed the town in absolute quarantine, and the local authorities have promised co-operation. The entire State is urged to enforce general vaccination.

**New York State Sanatorium for Consumptives.**—The Westchester County Medical Society has begun a movement toward establishing a sanatorium for consumptives in that county. Dr. Henry B. DeHart, of White Plains, and Dr. G. H. Porteus, of Yonkers, have been appointed a special committee to visit Albany this winter for the purpose of urging the legislature to provide for a State home to be erected in Westchester county.

**The New Jersey Sanitary Association.**—The twenty-fifth annual meeting of this association will be held at Atlantic City during the second week in December. The attendance will include many prominent physicians and officials of the various boards of health throughout the State, in addition to others interested in sanitary matters. An attractive programme has been outlined.

**The Plague.**—Upon the recommendation of the Secretary of the Treasury, the President has directed the detail of the following-named officers of the Marine-Hospital service to serve in the offices of the United States consuls at the ports named: Surgeon G. M. Magruder, London; Passed Assistant Surgeon A. C. Smith, Hamburg; Passed Assistant Surgeon Rupert Blue, Genoa, Italy; Passed Assistant Surgeon J. H. Oakley, Queenstown; Passed Assistant Surgeon E. K. Sprague, Antwerp; Passed Assistant Surgeon A. R. Thomas, Rotterdam; Passed Assistant Surgeon H. W. Wickes, Glasgow, Passed Assistant Surgeon J. B. Greene, Bremen; Assistant Surgeon H. S. Mathewson, Liverpool; Assistant Surgeon S. B. Grubbs, Havre; Assistant Surgeon W. C. Hobdy, Southampton; Assistant Surgeon G. M. Corpul, Marseilles. These details have been made because of the continued prevalence of the plague in the far East and in Portugal, its gradual spread, and the danger of its transmission to ports of the United States. These officers will advise the consuls upon sanitary matters, keep the Marine-Hospital bureau informed as to the prevalence of the plague or other epidemic diseases, and, together with the consuls, will issue bills of health to vessels leaving their respective ports for ports in the United States, Cuba, and Porto Rico. No additional cases of plague have been discovered among the passengers and crew of the *J. W. Taylor*, which arrived here two weeks ago with the captain and cook ill of the disease. The ship's cargo of coffee has been discharged into lighters and will probably be delivered to the consignees in this city. It is possible that the vessel will not be allowed to dock anywhere in the city. Dr. H. B. Geddings, of the Marine-Hospital service, has obtained from the federal court an injunction restraining the health officer of the port from interfering with him in his attempt to make an inspection of the quarantine station of this port and the steamship *J. W. Taylor*. The order is returnable December 2d. It was served on Dr. Sanborn, who is acting as health officer during Dr. Doty's absence abroad. Dr. Geddings, in his application, declared that he was ordered by the surgeon-general at Washington to make an inspection of the *J. W. Taylor* on November 20th, but was prevented from doing so by Dr. Sanborn.

**Navy Department,** Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending November 25, 1899. November 18th.—Surgeon L. G. Heneberger ordered to temporary duty, November 23d, in connection with the recruiting rendezvous, Detroit, Mich. November 20th.—Passed Assistant Surgeon H. N. T. Harris ordered to New York, N. Y., December 4th, for examination for promotion, and then home and to wait orders. November 22d.—Medical Inspector M. H. Simons ordered to the naval recruiting rendezvous, 117 Main Street, Buffalo, N. Y. Medical Inspector A. F. Price ordered to be examined for promotion at Washington, D. C., November 29th, and then to wait orders. Surgeon G. P. Lumsden detached from the naval recruiting rendezvous, Buffalo, N. Y., and ordered home to wait orders. November 23d.—Medical Inspector D. Dickinson detached from the naval hospital, Washington, December 1st, and ordered home and to wait orders. Medical Inspector A. F. Price ordered to the naval hospital, Washington, D. C., December 1st. Assistant Surgeon F. B. Hancock, resignation accepted, to take effect from November 25th.

**Obituary Notes.**—Dr. Henry H. Mudd, of St. Louis, died November 20th of cardiac trouble following influenza. He was born in Illinois in 1844, and was graduated from the St. Louis Medical College in 1866. He was professor of surgery and dean of this college and dean of the Missouri Dental College.

Dr. Daniel McMurtrie, medical director in the navy, retired, died in Washington, November 21st. He had been in ill health for nearly a year, but was able to attend to his duties in the Navy Department up to the time of his regular retirement in June, 1898. Dr. McMurtrie was born in Milton, Pa., sixty-three years ago. He was graduated from the medical department of the University of Pennsylvania and entered the United States service in 1861. He took part in many important naval battles. He was fleet surgeon on the Asiatic station several years ago.

Dr. Joseph G. Wallace, of New York, died on November 21st after a long illness. He was born in this city forty-four years ago, and was graduated from the Bellevue Hospital Medical College in 1877.

Dr. Edson J. Abbey, a dentist in Jersey City, died on November 22d of pneumonia. He was born in Connecticut in 1859, and was graduated from the Phialdelphia Dental College in 1887.

Dr. Sheffield W. Greene, a retired physician, died at his home in Richbury, N. Y., on November 27th, at the age of eighty-five years. He was born at Hopkinton, R. I., and was graduated from the Geneva Medical College in 1846. He served during the civil war as an acting assistant surgeon.

## Therapeutic Hints.

**Psoriasis.**—Compresses steeped in rectified spirits containing two per cent. of salicylic acid, applied nightly and covered with protective.—LAU.

**Heroin** in dose of gr. $\frac{1}{4}$, given by mistake for gr. $\frac{1}{24}$ to an asthmatic patient, was followed by prostration, cyanosis, restlessness, amaurosis, pulse of 40, and feeble heart action, convulsions of the lower extremities, axillary temperature of 96.6° F., persistent nausea, and a semi-comatose condition. Strong coffee was administered and afterward caffeine hypodermatically. Good recovery occurred, and subsequent administration of the drug in doses of gr. $\frac{1}{24}$ had no untoward effect.—*The Medical Press*, September 20th.

**Sycose**, having a sweetening power five hundred and fifty times greater than that of sugar, is the newest substitute offered in diabetic conditions.

**Sedative in Insanity.**—In excited mental states, it has been found by Bodoni (*Klin. therap. Wochenschr.*, No. 21, 1899) that methylene blue administered hypodermatically into the gluteal muscles in quantities of from gr. i. to iss. produced a marked sedative effect. It was employed in various manias as well as in melancholia, delirium, and hystero-epilepsy.

**Antidote for Nux Vomica.**—Permanganate of potassium in proportion of half a grain to the litre of water will render nux vomica, taken in poisonous dose, into a harmless compound. Subsequent stomach washings with 1 : 5,000 solutions are advised.—PARATORE, *Clin. med. Italiana.*

**Vomiting of Pregnancy.**—When uncontrollable vomiting is caused by reflex contraction of the intestinal tract, especially located in the ileo-pelvic angle of the colon, as is believed to be often the case, massage carefully carried out over this region will bring relief. —GEOFFROY, *Centralbl. für Gynäk.*, July.

**Pneumonia.**—The lung differs from all other structures in having two separate circulations, the nutritive, supplied by the left side of the heart through the bronchial arteries; and the functional, supplied by the right side of the heart through the pulmonary artery. This double circulation underlies all the phenomena of pneumonia, and must be recognized in any definition of the disease, as without it the disease itself cannot exist.—ANDREW H. SMITH.

**Heart Failure** is brought about by the continued high temperature, deranged nerve and nerve centre, and lack of nutrition, as well as the obstruction in the lung and the collection of carbonic acid. Failure of the right heart is such an alarming condition of affairs, that it must be kept constantly in mind, and taken advantage of on the slightest indication pointing in that direction. Strychnine alone, or combined with suitable doses of tincture of belladonna, is, to my mind, the best cardiac tonic we possess.—WILLIAM A. DICKEY.

**Subnasal Sycosis.**—

℞ Lanolin.,
Vaselin ..... āā 20
Glycerin ..... 10
Sacch ..... 20
Sulphur ..... 10
Zinc. oxid ..... 20
M. ft. pasta.

—DR. MENAHEM HODARA.

**Golf.**—The use of golf as a remedy in the treatment of nervous ailments of a functional character, whether they affect the mental or visceral spheres, is worthy of all consideration.— *Medical Press.*

**Chronic Buzzing in the Ears,** whether due to dry sclerous otitis or to Menière's disease, is benefited, according to Bouchard, by giving quinine.

**Suppositories in Children.**—Dr. Teissier recommends, in the *Annales de Médecine et Chir. Infantiles*, September, the more frequent administration of bitter-tasting and otherwise disagreeable medicines by the rectum. Quinine, antipyrin, creosote, iodide of potassium, etc., may thus be advantageously given. It is well to carry out an evacuation of the lower bowel by means of a simple suppository before the medicated suppository is introduced.

**Gonorrhœa.**—I have long since ceased using protargol as an injection, but use it in the form of bougie, which I have made two and one-half and four and one-half inches long. The mode of treatment I adopt is very simple, and as follows: At first a smart purge: then at night, after voiding urine, introduce one or other of the bougies, either large or small, according to circumstances, and cause it to be retained in the urethra for one hour at least, avoiding passing water before morning when possible. The next morning exactly the same process is repeated with a second bougie, and again a third at night. The second morning a mild astringent injection two or three times during the day, and a few doses of medicine, generally effect a cure in a remarkably short space of time.—J. C. RIX, *Medical Times and Hospital Gazette*, September 23d.

**Chlorosis.**—

℞ Acetate of copper (neutral) ..... 0.01 cgm.
Crystallized phosphate ..... 0.05 "
Licorice powder,
Glycerin ..... āā q.s.
For one pill. Two or three daily.

—LIÉGEOIS.

**Pulmonary Emphysema.**—1. Twenty days in each month take with each meal:

℞ Potass. iodidi ..... 10 gm.
Aquæ ..... q.s. ad 300 c.c.
S. Teaspoonful.

During the remaining ten days:

℞ Sodii arsenatis ..... 0.10 cgm.
Aquæ ..... 300 c.c.
S. Teaspoonful.

2. Every eight days at bed time:

℞ Aloes ..... 0.10–0.15 cgm.
In pill.

3. Drink milk with meals and exclude tobacco and alcohol.

4. If possible take compressed-air baths.—*Jour. de Méd. de Paris*, November 5th.

**Mixture of Bromoform with Chloroform.**—The following mixture does not precipitate with the addition of an excess of water:

℞ Bromoform ..... 1.20 gm
Chloroform ..... 0.80 cgm.
Rum ..... q.s. ad 120 c.c.
M. S. A teaspoonful contains five centigrams of bromoform.

—GAY.

**Thyroid Medication** has the drawback of producing distressing phenomena, including vertigo, sleeplessness, trembling, respiratory oppression, loss of appetite, palpitation, dyspnœa, and modification of the urine. Mabille has found, according to *Merck's Archives*, that these phenomena tended to disappear when Fowler's solution was simultaneously administered, so that large doses could be kept up. Experiments on animals seem to confirm these observations.

# Reviews and Notices.

LIFE OF GEN. NATHAN BEDFORD FORREST. By JOHN ALLAN WYETH, M.D. New York: Harper & Brothers. 1899.

TO the lengthening roll of physicians who have won, if not renown, at least an honorable reputation in literary fields unrelated to medicine, must be added the name of the author of this valuable contribution to the history of the Civil War—or rather, we should say, has been added, for the interesting war sketches which have appeared from time to time in the magazines, and which were the forerunners of this now completed work, have already delighted thousands of readers and introduced to them a new historical writer. The part of General Forrest's life with which this book chiefly deals is that from June 14, 1861, when he enlisted in a Tennessee regiment, to May 9, 1865, when he announced to the troops under his command that the Union forces had triumphed and the Confederacy was no more. The story of this strong man, who—Dr. Wyeth would have us believe, and nearly but not quite persuades us—was one of the great generals of history, is of absorbing interest, and is told by one endowed with rare descriptive powers and a writer of vigorous and limpid English. With all the author's unconcealed admiration of the subject of his biography, he does not gloss over his faults nor exaggerate his virtues, but tells the story with a manifest effort to be impartial, in which he is in the main successful. He lapses, however, in his account of the taking of Fort Pillow, which is too much in the nature of special pleading. The responsibility for that fearful carnage has been fastened upon General Forrest by his own despatches, and Dr. Wyeth cannot wipe the stain of it from his memory. The book contains many portraits of the officers who served at various times under Forrest, and also illustrations by Thulstrup and others. It has no index—a serious omission in any work of an historical or biographical nature.

THE JOHNS HOPKINS HOSPITAL REPORTS. Vol. vii., Nos. 5, 6, 7, 8, 9. Contents: Operations on 459 Cases of Hernia, from June, 1889, to January, 1899, with the Special Consideration of 268 Cases operated on by Halsted's Method, and the Transplantation of the Rectus Muscle in Certain Cases of Inguinal Hernia. By J. C. BLOODGOOD, M.D. Baltimore: The Johns Hopkins Press. 1899.

THIS volume of reports from the Johns Hopkins Hospital contains an exhaustive consideration of all the cases of hernia operated upon in that institution during ten years. There is a careful clinical and statistical analysis of all the cases, many of which have been traced for a number of years. The consideration of the two hundred and sixty-eight cases operated upon by Halsted's method certainly justifies the confidence expressed in it. We note that excision of the veins of the cord is not done as a routine procedure, but that its adoption is left to the requirements of the individual case. The series of plates illustrating the Halsted operation are excellent. Silver wire certainly gets a very strong indorsement as a suture material from the surgeons at the Johns Hopkins Hospital, and their experience with it in hernia operations has been very satisfactory. It is a matter of regret that careful reports like this volume are not more frequent from our large hospitals, so that we might compare the results of other operations for hernia from correspondingly extensive and accurate series.

A MANUAL OF DISEASES OF THE NERVOUS SYSTEM. By SIR W. R. GOWERS, M.D., F.R.C.P., F.R.S., Consulting Physician to University College Hospital, Physician to the National Hospital for the Paralyzed and Epileptic, Queen Square. Third edition, revised and enlarged. Edited by SIR W. R. GOWERS and JAMES TAYLOR, M.A., M.D., F.R.C.P., Senior Assistant Physician to the National Hospital for the Paralyzed and Epileptic, Queen Square, Physician to the Northeastern Hospital for Children and to the National Orthopædic Hospital. Volume I., Diseases of the Nerves and Spinal Cord. With 192 illustrations. Philadelphia: P. Blakiston's Son & Co. 1899.

THIS, the third edition of Gowers' text-book, differs very little from other editions, in at least one respect. It remains the classic that it has always been. Unlike many other later editions of well-received works, it has been thoroughly revised and brought in accord with modern teachings. To attempt to characterize its special features would be a work of supererogation, since the entire neurological world and the greater number of general practitioners are already aware of its merits, both from the standpoints of the acuteness of the author's observations and from the philosophic grasp of general features which he shows in his descriptions of diseased conditions. In a number of minor details, more particularly in the discussions on minute anatomy and pathological histology, there are grounds for criticism, but most of these are concerned with questions which are technical and clinically non-essential, or are still undecided by microscopical research. Though the book is well printed on excellent paper and bound satisfactorily, its appearance is somewhat marred by a number of wretched illustrations. In this respect the present edition is a great advance over those of previous years, but there is still room for improvement in this small detail.

SCHLEIF'S MATERIA MEDICA AND THERAPEUTICS. A Manual of Materia Medica, Therapeutics, Medical Pharmacy, Prescription Writing, and Medical Latin. For the Use of Students and Practitioners of Medicine. By WILLIAM SCHLEIF, PH.G., M.D., Instructor in Pharmacy in the University of Pennsylvania. Philadelphia and New York: Lea Brothers & Co.

THIS red-covered volume of three hundred and fifty-two pages is one of the series of "pocket text-books" edited by Bern. B. Gallaudet, of New York. Though rather large for any but an ulster pocket, the title indicates that it isn't an overweighty volume, which is in its favor. In construction and substance it differs but little from a number of other works embracing the same general topics, but in just these subjects new works have to be brought out at frequent intervals, to give the new students the most recent additions to the old. This has here been done. The general features of conciseness and assimilable form will make the book acceptable to students especially. The practitioner who reads journals will scarcely need such a work.

THE NERVOUS SYSTEM AND ITS CONSTITUENT NEURONS: Designed for the Use of Practitioners of Medicine and of Students of Medicine and Psychology. By LEWELLYS F. BARKER, M.B. Tor., Associate Professor of Anatomy in the Johns Hopkins University, and Assistant Resident Pathologist to the Johns Hopkins Hospital. With 2 colored plates and 676 illustrations in the text. New York: D. Appleton & Co. 1899.

IT is not often that it falls to the lot of the reviewer to be filled with admiration, wonder, and delight in the pursuit of the functions pertaining to his office, nor does it always appear seemly for him to wax enthusiastic in his recognition of such a work, even though it be out of the ordinary run of text-books. We believe, however, that in the present volume we have a classic on the minute anatomy of the nervous system that is highly creditable to the author, to the university for which he labors as a teacher, and to American scholarship in general. We do not know of another work, published in any language, that we consider its equal. Stated in general terms, it is the most recent and authoritative expression of the summary of modern neurological teachings bearing on the particular field of the minute anatomy of the nervous system of man. Those readers of the series of articles appearing in the *New York Medical Journal*, 1897–99, who have watched the gradual development of the author's work and have thus come to appreciate its qualities, will be impressed on seeing the completed work. It is an entirely new creation, even when viewed from the author's early standpoint as outlined in that publication. To those who have not enjoyed the privilege of such reading, the work must come as a model of technical, scientific presentation. The author has developed his theme in such an attractive form, from the literary, technical, and pictorial points of view, that not only the neurologist but also the student of general medical science must enjoy and value highly the comprehensive presentation of such an intricate subject. The subject matter is treated of in five sections. In the first of these, the history of the development of the neuron concept is traced in a very interesting manner; the external and internal morphology of the neuron is then very exhaustively and critically described in the succeeding two sections.

Section IV. traces the development of the nervous system, presenting the histogenetic relations of the neurons. Section V. is a most able arraying of facts and hypotheses bearing on the physiological and pathological processes of the neuron units. The final section (eight hundred pages), including two-thirds of the whole volume, discusses the grouping and chaining together of the neurons. We feel that the work so far excels anything of its kind that it merits a wide and cordial reception. No worker in the fields of anatomy, neurology, psychiatry, psychology, and pedagogy can afford not to profit by its teachings, and it can safely be recommended to the general practitioner, by reason of its pleasing literary style, even though it deals with a subject technical to a degree. It should not be omitted that the publishers deserve most hearty commendation for their part in the production of such an excellent volume.

ARCHIVES OF THE ROENTGEN RAY. Edited by THOMAS MOORE and ERNEST PAYNE, with an editorial committee. Philadelphia: W. B. Saunders.

VOLUME iv., No. 1, of this journal, which is the official organ of the Roentgen Society of London, contains the usual amount of interesting matter. There are many radiographs in illustration of Mr. J. Lynn Thomas' paper on Colles' fracture. The illustrations of high frequency apparatus as applied to shells is also of interest. The radiograph of an injected infant, showing blood-vessel distribution, points to a method of demonstration to students which might supplant older means. This quarterly is keeping up its early reputation, and must prove of use to the increasing number of those employing the *x*-rays.

## Clinical Department.

### CÆSAREAN SECTION WITH RECOVERY OF MOTHER, AND CHILD SAVED.

By JAMES BYARS, M.D.,

COLUMBUS, TEXAS.

THIS is a case of a young woman whom I had personally known for many years and who had borne an excellent reputation, up to the time of the operation. Miss X——, twenty-six years of age; weight in health one hundred and thirty-six pounds, at the time of operation one hundred and sixteen pounds; height five feet seven inches. At presentation for treatment she was sallow, anæmic, and generally run down. The urine was highly colored and scant; specific gravity, 1.025; increase of phosphates, bile, and uric acid; neither albumin nor sugar. The tongue was heavily coated, the patient had a little fever in the afternoon of each day continuously for several months preceding the time of the operation. It was a typical case of chronic malarial poison. She gave the following history. About fourteen months ago she fell half-way down a flight of stairs, and was confined to her bed for several days afterward, from bruises and pains referable to the abdominal region; she felt "as if something had torn lose inside of her." She had profuse sanguineous discharges from the vagina for some time after the fall; later these discharges ceased entirely, and she had not menstruated for ten or eleven months when I saw her. Two months after the fall she "felt a lump in her side," as she described it, which for the last six weeks had grown very rapidly, and was very painful at times. The patient fainted frequently; she had had no evacuation from the bowels for four months unless prompted by strong purgatives; complained of pain in the right hip and thigh; appetite poor. I informed her of the necessity of an examination as to the tumor, to which she readily assented. Upon palpation, I found a tumor of the abdomen of elastic, spongy feel, of semi-solid consistence, extending two-thirds of the distance from the pubis to the umbilicus; of ovoid shape and occupying the middle line. I could not make out the outlines of the tumor well, on account of the distention of the intestines. The abdominal superficial veins were not enlarged, and, except for a considerable increase of pigmentation of the skin, there was nothing unusual. The breasts and papillæ were enlarged, the nipples erect, and the areolæ deeply pigmented. I attempted to examine her per vaginam, and as soon as my finger entered it impinged upon a round, firm body, low down in the pelvis, which I took to be the virgin uterus; but before I could make out what it was, she became greatly excited, and cried out, and pulled away from me, so that I did not attempt to make a further examination. I inquired if she had ever experienced any movement in the tumor, and she said only a throbbing pain when she was lying on her back, and she felt no uneasiness at any other time. I concluded that I had an ovarian cyst to deal with, and the danger of rupturing being great on account of the rapid growth, I advised an operation, the sooner the better. With her consent I secured, in a private residence, a suitable room and prepared for the operation, which took place on December 21, 1898.

The towels and open cheesecloth necessary were boiled in a solution of caustic soda, then thoroughly rinsed in hot water, and hung up to dry; when dry they were pressed out with a hot iron; the towels were folded square; gauze was cut in pieces half a yard in length, folded in squares, and each square was snugly pinned with a safety pin. The towels and gauze were then packed in a perfectly clean sheet, pinned up with safety pins, placed in a perfectly clean pan, and subjected in a bake-oven to a dry heat of high temperature for two and one-half hours. These were not removed from this sheet until ready for use, but when needed they were placed in a hot five-per-cent. solution of carbolic acid. Silk ligatures wrapped on glass rods, as well as the instruments, were boiled for three hours, then lifted out with sterilized forceps; the silk ligatures were dropped into absolute alcohol, and the instruments placed in five-per-cent. aqueous solution of carbolic acid, where they were allowed to remain until they were ready for use. On the evening before the operation, the patient was given a large enema, thoroughly scrubbed, shaved, and aseptically dressed. On the morning of the operation a large enema and a vaginal wash were given. In the operation I was assisted by Dr. C. Ralph Byars, and Dr. John H. Bowers who gave the chloroform, and one untrained nurse. While the patient was being placed under the influence of the anæsthetic, the operating-table was brought in; a plain board table, three and one-half feet high, five and one-half feet long, and twenty-six inches wide, covered with a quilt and clean sheet. The patient was lifted upon the table; the legs were wrapped in a clean blanket, and the clothing was removed from the field of operation. The abdomen and sides were again thoroughly scrubbed with Johnson's ethereal soap and warm water, and then cleansed with equal parts of ether and alcohol. The field of operation was surrounded with towels wrung out of hot carbolized water; the hands and arms of the operator and assistants were thoroughly cleansed with soap, chlorinated lime, and bicarbonate of soda, carbolized water, and lastly with ether and alcohol in equal parts.

An incision was made along the linea alba, commencing three inches above the pubis, and enlarged toward the umbilicus for four or five inches to enable me to introduce the hand easily. The hand was introduced inside the abdominal cavity, and swept over the tumor in order to determine whether or not there were adhesions or dislocation of the intestines. Finding nothing abnormal the incision was enlarged, by dividing between the fingers downward within two inches of the pubis, and upward by cutting around the umbilicus till three inches above. The tumor was turned out, and

the abdominal walls were tucked beneath it to prevent soiling of the abdominal cavity as much as possible. A medium-sized trocar was pushed through the wall of the tumor to evacuate its contents, but of course nothing but blood escaped. The trocar was then withdrawn, and the bleeding point caught up with forceps by Dr. Byars, and dropped. I then made a transverse incision of about six inches with one stroke, cutting through the uterine wall, superior surface of the placenta, and disclosing the child's buttock. Then I realized that I had operated on a gravid uterus instead of a tumor. I caught the uterus with my left hand low down to control the circulation, while Dr. C. R. Byars turned out the placenta and child. With my right hand I held the walls in apposition, to control the hemorrhage. The child being disposed of, pads of hot gauze were placed in the cavity of the uterus, until thorough contraction had occurred. I held the walls of the uterus in apposition, while my son sutured them with eight or nine interrupted sutures, with only moderate tension. After tying the sutures normal hemorrhage occurred only through the vagina. The uterus was then dropped back into the abdominal cavity, and one gallon of warm decinormal salt solution was poured in, the cavity being flushed out thoroughly until the water became clear. Then one and one-half pints of the same solution were poured into the cavity and allowed to remain. In the line of incision of the uterus aristol was dusted, and also along the whole line of incision of the abdominal wound. The latter was closed by through-and-through interrupted silk sutures with only tension enough to coapt the parts well. Towels wrung out of carbolized water were placed over the abdomen to absorb oozing from the stitch holes. After removal of the towels aristol was again dusted along the line of incision, which was then covered with ten-per-cent. iodoform gauze, cotton batting, and a towel to cover the whole. Strips of adhesive plaster, with tape attached, were applied to the skin, and the tapes tied across the dressing, which would enable me to remove the dressing by untying the tapes, and the patient was put to bed. The time consumed in the operation, from the first incision until the abdominal wound was closed, was fifty minutes. The temperature, as a result of the operation, was at no time higher than 100.75° F. Twenty-four hours succeeding the operation, I prescribed sulphate of magnesium and phosphate of sodium, in small doses, to be given every three hours. Although the peristaltic movements of the bowels were very active, and prevented intestinal adhesion which I had feared, still the bowels did not move until the third day, though I had given but little morphine. This inactivity of the bowels was caused by spasm of the sphincter muscles of the anus, which was overcome by dilatation, passing of a rectal tube, and high enemas. The abdominal wound was dressed the first time on the sixth day. There was no pus, and the wound united by first intention all along the line. The sutures were removed on the fourteenth day. No other dressing was required except support for the abdomen. The patient was able to sit up in a chair on the sixteenth day. On the twenty-first day she had an interview with her sister, who disclosed to her the true facts, which caused great prostration, as I had never told her, neither had I permitted any one else to tell her, the results of the operation. Ten hours after the interview she had a severe rigor, and phlegmasia alba dolens in the right leg set in. The temperature rose to 102° and 104° F., for four or five days. The limb was never swollen a great deal. The phlegmasia confined her to her bed for about fifteen days, but disappeared about the twentieth day. The patient has not been discharged up to this time, and is still under treatment for intermittent malarial fever, from which she suffered before the operation and during recovery. In making my diagnosis, I excluded pregnancy as an impossibility, on account of the social standing of the patient, and my personal knowledge of her. The elastic spongy feel of what I thought to be a tumor was after the operation explained by the large size of the placenta, which occupied the whole of the anterior and superior surface of the uterus, the child lying low down in its posterior portion. In conclusion, I beg to state that neither Dr. J. H. Bowers nor Dr. C. R. Byars examined the patient, and did not influence me in making my diagnosis. The child at the time of delivery was about seven and one-half or eight months, and is now enjoying perfect health.

## ANOMALOUS PUPILLARY REACTION IN MENINGITIS.

By ALBERT SEITZ, M.D.,
M'MINNVILLE, TENN.

The following case is one of abnormal behavior of the pupils of both eyes during meningitis in a boy nine years old. I was called in consultation with the attending physician to see the child on May 20, 1899. This physician said he had been treating the patient for about a month for some trouble of the hip joint. On examination I found the boy had tuberculous meningitis, evidently secondary to the hip-joint disease, which was tuberculous. The anomaly in this case was that the patient's pupils contracted to the size of a pinhead in the dark, and dilated widely in the light. The brighter the light, the more quickly and widely they would dilate. I called the attention of the boy's father to this (he having practised medicine several years in early life). I also called the attention of the attending physician to the anomaly, he not having noticed it before. I saw the case again a few days later, just a day or two before the death of the patient, when the same phenomenon was still present. I have never seen this action of the pupils save in this case, and have not satisfied myself as to its cause and *modus operandi*.

## A FEW RARE DOUBLE DISLOCATIONS.

By W. M. JAMES, M.D.,
UTICA, N. Y.

In the fall of 1871, Whitestown Seminary of Whitesboro, Oneida County, N. Y., was in its glory, and its students were numbered by the hundreds. Back of the boarding-house were a few large elm-trees. Attached to a large limb nearly at right angles to the trunk, about forty feet from the ground, were two heavy ropes, the proper distance apart for swinging. Two large iron rings, covered with leather, were secured to the lower ends for grasping with the hands.

Leslie W. Kellogg, a Utica lad of about sixteen years, a student, was much pleased with the swing. When nearly at its full height he lost his grasp on the rings and fell upon the palmar surface of both hands and dislocated both wrists upward. In a short time under chloroform I reduced and dressed the dislocations, and very soon his recovery was perfect. A few days since he reported that he has never known any difficulty from the injury.

On September 2, 1881, Gilbert Smith, of Utica, lived near the lunatic asylum on the main road to Whitesboro. On that afternoon there was a furious thunder shower with much rain. The old house was surrounded by a rickety board fence, the boards being upright and eight feet high. The long service of the fence lessened its safety for acrobatic purposes. Desirous of knowing the damage by the water in a ditch close to the outside of the fence, Smith clambered up on it for a fair view. Very soon he landed across the

ditch upon both elbows, dislocating both shoulders upward and backward. In a short time, while he sat in a chair, I reduced the luxations by manipulations without anæsthesia. He soon had perfect use of the joints and never any further trouble.

On March 30, 1894, a tall, stoop-shouldered German, twenty-two years of age, was brought to my office by his physician. Soon his shoulders were bared, and when about ten feet away I was asked the nature of the difficulty, and reported a double dislocation of the shoulders. On February 13, 1894, while running in soft snow about a foot deep, he fell upon his elbows, causing the accident. The first medical attendant treated him about three weeks with electricity, washes, and other local means for a supposed marasmus. Another had the care of him about the same length of time with no better results. He had consulted three physicians before I saw him. In about ten minutes the dislocations, under chloroform, were reduced, dressed, and he left my office. The subsequent care of the case fell to me, and in less than four weeks he was at work. This young man had quite an experience later. On January 23, 1897, he fell, dislocating the right shoulder. In less than four weeks he was at work again. On April 8, 1897, the same accident befell the same shoulder. On October 2, 1898, January 8, 1899, and March 25, 1899, he dislocated the right shoulder by falling three times more. At each accident I had the care of him. The luxation was reduced by manipulation without chloroform sometimes, and at other times chloroform was given to reduce it. In every case in less than four weeks he was at work and all right. He is now in good health, has good use of his arms, and says he does not feel anxious to have a repetition of the difficulty.

166 Genesee Street.

## REMOVAL OF A FOREIGN BODY FROM THE NOSE.

By D. S. HUMPHREYS, M.D.,

GREENWOOD, MISS.

I was called some time ago to remove a cotton seed from the nostril of a three-year-old child, which I did very easily and quickly by the following method: The nose-piece of an ordinary Politzer's air-bag was inserted into the nostril on the side opposite to the offending substance and the bag suddenly compressed, when out half-way across the floor flew the cotton seed.

It is an ideal method, as the screaming of the frightened child closes the posterior nares and forces the air back through the other nostril.

## A SUPERNUMERARY PLACENTAL CORD.

By ALBERT SEITZ, M.D.,

M'MINNVILLE, TENN.

Mrs. D——, an American woman, white, aged thirty years, weight one hundred and thirty pounds, was married one year before confinement; the family history is good, there are no bad hereditary tendencies, both parents are living and healthy, the health of the brothers and sisters is good, and the personal history is good. This was her first child, with no previous miscarriages, and she gave no history or evidence of syphilis, gonorrhœa, or injury of any kind. All the organs and systems of the body seemed healthy and in good condition, each performing its function properly.

Labor began a little before midnight on May 9, 1899, when I was called. It continued normally until 9 A.M., May 10th, when a female child weighing seven and one-half pounds was born. The presentation was by the vertex, position L. O. A. The whole process of delivery was normal. I handed the child to the nurse after having ligated and cut the cord, and, turning to the mother, placed my hand over her pubic region to ascertain if the uterus was contracting properly, when I was surprised to find the fundus uteri out of its accustomed place. I at once introduced my hand into the vagina, where I encountered the placenta low down, and pushing my fingers on up to the cervix, I found the fundus uteri coming through the neck. I could feel a cord extending from the placenta and firmly attached at the other end to the fundus uteri. I supposed at first that this cord was simply adherent membranes, as I had found this condition a number of times before, but I soon realized that it was too firm and resisting for that. I separated it as quickly as I could from the uterus with my fingers, which was rather difficult to do, and replaced the inverting fundus to its proper location. I then removed the placenta and membranes to which this second cord was attached. I placed the edges of the membranes, where they had been ruptured, in apposition, to see if any had been torn away, and found them all there. I then examined the abnormal development by which the placenta had been attached to the fundus, and found that it was composed of enlarged blood-vessels, both arteries and veins, together with a greatly thickened outgrowth of the membranes, and a substance which exactly resembled the jelly of Wharton. This cord was about five inches long, as large in diameter as the normal cord, had two permanent twists in it, and resembled a normal umbilical cord in every particular except in length. It was attached to the margin of the placenta and to the membranes at this place, and must have been an effort on the part of nature to form a second umbilical cord, the cord proper being in its usual place and normal in every way, as were also the placenta and its membranes, with the exception of this second attempt at a cord. There was no evidence in this case of there having existed a twin pregnancy, nor of the presence of a second or rudimentary placenta, this short cord being attached directly and intimately to the fundus uteri. It was the weight of the placenta pulling on this cord which was inverting the uterus. The mother passed through a normal puerperium, and she and the child are well.

## A PECULIAR CASE OF PERNICIOUS MALARIAL INFECTION.

By BASIL M. TAYLOR, M.D.,

GREENSBURG, KY.

On the evening of November 4, 1896, I was asked to see in consultation a child who was thought to be ill with "brain fever." I saw the case about 8 P.M. The patient was a large boy twelve years old. The following history was given me: This boy came home from school Monday afternoon, November 2d, and was seemingly well. His mother sent him out in town a short distance to a shop. The boy returned in about one hour without having been to the shop, but had wandered around town. He could remember nothing, and was in a state of wild delirium. He was put to bed, and the family physician summoned. He found him in a stupor, with a temperature of 97° F., pulse 72, and respiration 12. There was no vomiting. The patient made no attempt to talk or move. He was given a purgative and cold was applied to his head. He was thought to have congestion of the brain. His condition did not change, and he did not swallow anything on Tuesday or Wednesday.

I found him Wednesday evening in a complete stupor. Temperature, 96° F.; pulse, 68; respiration,

12, and very shallow. The pupils were not contracted, but reacted sluggishly. I could find no symptoms of brain trouble, and, suspecting pernicious malarial fever, I obtained a drop of blood for examination. A microscopical examination revealed the presence of malarial plasmodia. I explained to the physician the nature of the disease, but my diagnosis was not accepted, and the cold pack for "brain fever" was kept up. There was no change in the patient's condition.

On Friday November 7th (the fifth day of the disease), I was asked to take charge of the case. The temperature was then 96° F.; pulse, 65; respiration, 12, and shallow. The patient was still in a profound stupor, his urine being passed involuntarily. The patient had swallowed nothing since Monday. There was no vomiting. The skin was cool and dry.

I gave him hypodermically gr. xx. of quinine every three hours—beginning Friday afternoon at three o'clock. On Saturday at noon his temperature was 98.5° F.; pulse, 76; respiration, 16. His mind was clear, and he was able to swallow a little water. He remembered nothing that had happened since he left school on Monday. The quinine was given in gr. v. doses every three hours for several days. An examination was then made and showed an absence of plasmodia. The patient made a complete recovery and has had no return of malarial symptoms.

This case is peculiar on account of its severity and the duration of the disease before any relief was obtained, and gratifying on account of the quick response to the treatment—which was, I must confess, a little akin to heroic.

## A CASE OF LYMPHOSARCOMA OF THE NECK.

By S. S. WILLIS, M.D.,

AND

V. F. MARSHALL, B.S., M.D.,

APPLETON, WIS.

A SARCOMA may be defined according to Senn as "an atypical proliferation of connective-tissue cells from a matrix of fibroblasts of congenital or post-natal origin." Cohnheim defines sarcoma as "an atypical new formation starting in a latent embryonic rudiment."

Lymphosarcoma or primary sarcoma of the lymphatic glands of the neck is comparatively a rare affection. Dennis has recorded but two cases. The histological examination of a lymphosarcoma reveals that it is made up usually of small round cells surrounded by a delicate network of fibres; occasionally spindle cells may be present. Usually the characteristic distinction of this form of tumor is that the cells do not limit the vascular spaces, nor is the blood supply as prominent as in the other varieties of sarcoma. The tumor is disseminated through the surrounding glands, and thus becomes a source of general infection through the lymph stream. Heredity may be found at times as an etiological factor. Children and young adults are subject to the disease, though glandular sarcoma is not uncommon in those of more advanced age. Traumatism plays an important rôle in the causation of this form of tumor.

The symptoms of lymphosarcoma are not pronounced unless a nerve or nerves are involved in the growth or have been pressed upon by the tumor. The tumor appears at first without any pain or discomfort to the patient. In its advanced stages, metastasis occurs, and after the disintegration of the tumor the patient becomes weak and emaciated, losing flesh and strength rapidly. Lymphosarcoma is to be diagnosticated from tuberculous glands, syphilis, carcinoma, leukæmia, and pseudo-leukæmia or Hodgkin's disease. Tuberculous glands do not attain a large size so rapidly as does sarcoma, and there are always present other constitutional symptoms. Carcinoma does not grow so rapidly, usually occurs in people of advanced age, and the tumor is not globular; it is usually attached to the skin overlying it, and tends to ulceration earlier than sarcoma. In syphilis there are the history of infection, a multiplicity of tumors which do not attain the size of sarcoma, and finally, the disease yields to the classical treatment. As regards leukæmia and pseudo-leukæmia, we have in the former the blood-producing organs becoming successively affected and the microscope showing the characteristic changes, while in pseudo-leukæmia other glands become involved. The prognosis of lymphosarcoma is usually favorable when but one gland is affected, and the early removal of the tumor, together with the adjacent infected tissue, is obtained. In the rapidly-growing, soft, and small round-celled lymphosarcoma the prognosis is not favorable, unless an early diagnosis is made and the radical operation is performed. The surgeon should aim to secure union by primary intention, as sarcoma is prone to recur when such union has not been secured, and especially when some of the cellular elements have been left behind. The treatment may be medicinal or surgical—the former conservative, the latter radical, consisting in a complete extirpation of not only the affected gland, but the tissues around it. The toxins of the streptococcus erysipelatosus of Fehleisen have been used in advanced cases with variable results by Coley and others. When there is a multiplicity of tumors and surgical intervention is hopeless, this may be used as a palliative measure. The addition of the toxins of the micrococcus prodigiosus is said to enhance the effect of this procedure. Arsenic, in the form of Fowler's solution, has been used, both internally in large doses and hypodermically, but the results have not been satisfactory. The radical operation—total extirpation of the tumor with the tissue surrounding it—has been the most successful treatment. The following is the history of a case which came to our notice:

Mr. N——, aged forty-six years, was an only child. His mother is sixty-four years of age, and in good health. His father, who was an alcoholic, died of tuberculosis at the age of forty years. He has never had any of the usual diseases of childhood, but suffered from epileptic convulsions until twelve years of age. He uses tobacco and alcohol to excess. He had never consulted a physician until last April, when he came under our observation for a tumor which appeared on the right side of the neck, in the region of the cervical glands. The patient being of light complexion and delicate, anæmic appearance, a blood count was made. The number of red blood corpuscles was found to be 4,485,000, and the white 7,360, with no irregularity or abnormality in color or shape. The patient stated that he had first noticed the tumor about ten days before, but that it had caused no pain or other bad symptoms. Upon examination we found the tumor to be about the size of a walnut, elastic, non-adherent, and originating from one of the cervical glands. There was no history of trauma or syphilis. The patient was placed upon iodides and iron, and told to return at the expiration of one week. He appeared at our office again after two weeks, and upon examination we found that the tumor had grown very rapidly, and now was about the size of a small orange. It was globular, elastic upon palpation, somewhat movable, and the skin non-adherent. The tumor was overlying the large cervical vessels and under the sternocleidomastoid muscle, which was pushed anteriorly. Believing the tumor to be a lymphosarcoma, we advised operation. After a lapse of two weeks he again appeared at the office, stating that it was causing some pain and discomfort, and that he would now consent

to the operation. The tumor had now attained the size of a large orange. He was operated upon under chloroform anæsthesia, six weeks only having elapsed since the tumor was first noticed. The operation was done as follows: A linear incision was made along the line of the cervical vessels, extending from below the mastoid process to about two inches above the clavicle. The tumor was soft and elastic, no vessels penetrating it. A portion of the sterno-mastoid muscle which was adherent was removed. Several of the superficial cervical nerves were sacrificed, as they penetrated the tumor and no doubt gave rise to the pain the man had experienced previous to the operation. The large cervical vessels were exposed, but the spinal accessory nerve was not sacrificed. The tumor was now found to involve the deep tissues of the neck, which necessitated a deep and tedious dissection. The cervical plexus, which was plainly visible below, was not injured by the removal of the tumor. As much of the surrounding tissue as possible was dissected out. The wound was closed in the usual way, a small amount of gauze drainage being inserted at the lower angle, and removed two days later. The wound healed by primary union, and the patient was discharged on the tenth day.

Macroscopically the tumor was about the size of an orange. On section the middle portion was soft and of light color, friable, and evidently undergoing fatty degeneration. The microscope confirmed this opinion, and proved the tumor to be a lymphosarcoma made up of small round and spindle-shaped cells, and a small amount of fibrous tissue.

782 College Avenue.

## POISONING BY ALCOHOL, CHLORAL, AND POTASSIUM BROMIDE.

By NORMAN P. GEIS, M.D.,

BROOKLYN, N. Y.

Mrs. A. C——, forty-three years old, widow, on Friday, being troubled with headaches and sleeplessness for several nights, went to a physician and was given a prescription containing several drugs and was told to take a teaspoonful at 9 and 10 P.M. At 9 P.M. she started to take the medicine and continued to take it at short intervals until 3 P.M. Sunday. In the course of forty-two hours she took six ounces of the mixture, which contained 720 grains each of chloral and potassium bromide, in addition to other ingredients. Also during the same time she took three quarts of whiskey and one quart of wine. She was given other whiskey besides this, but the amount of which I do not know. Probably it was not more than six or eight ounces. She was semi-conscious off and on during Saturday and Sunday, and was often very violent. I first saw her at 9:30 P.M. Sunday, no other doctor having seen her since Friday. She was in bed in a stupor, with face and lips extremely blue, and panting for breath; the skin was hot; the pupils were widely dilated and equal, but would contract down to a pin-point and then as suddenly dilate again. The heart was irregular, intermittent, and extremely weak in its action, the pulse being 150 to the minute. The bowels had been moving involuntarily since Saturday. She could be roused and would speak, but not connectedly. She denied having taken anything, but was four days behind in her time, believing it to be the 16th when it was the 20th of the month.

I was able to bring her out of the stupor with strychnine sulphate and pilocarpine hydrochlorate in three hours. That night I tied her down in bed so as to prevent her doing herself or any one else injury, as she became violent at times. On Monday she was greatly improved, although extremely weak. Her heart was reacting slowly and her pupils dilated and contracted the same as before. In the afternoon, against my orders, she got out of bed, dressed herself, and went downstairs. A slow recovery took place.

I think recovery in this case is remarkable. According to Potter, 30 grains of chloral has proved fatal, but then again as much as an ounce has been taken, although not in one dose. Potter says that a single dose of 200 grains has been taken without a fatal termination. Hammond reports a case in which 75 grains of potassium bromide was taken every day for ten days when death resulted. My patient took 720 grains in forty-two hours against 750 grains in ten days. As is known, the action of chloral is increased by the addition of potassium bromide and vice versa, and therefore the poisonous effects of both were increased. The great amount of whiskey taken would also cause depression on the already weary heart, but in this case it must have stimulated and kept the patient alive, for otherwise she must certainly have died.

## ACUTE ALCOHOLISM WITH CONVULSIONS.

By JOSEPH G. WILSON, M.D.,

MT. PLEASANT, OHIO,

LATE ACTING ASSISTANT SURGEON, U. S. ARMY.

During the late war it fell to my lot to see a number of these cases among our soldiers in Porto Rico. The following cases are fairly illustrative:

Case I.—W. G——, private, aged twenty-two years, drank a large quantity of native rum during the morning and afternoon of November 15, 1898. During the afternoon the combative nature of an ordinary drunk began to assert itself. At 4 P.M. he was seized with violent pain in the belly, the muscles of the abdomen being severely cramped. Spasms of the voluntary muscles now began to show themselves—complete opisthotonos being assumed. The convulsions were similar to those of strychnine poisoning, there being complete relaxation between the attacks. In the intervals the severe mental symptoms of a man crazed by drink manifested themselves—two or three men being necessary to control the patient. The treatment consisted in the administration of gr. $\frac{1}{8}$ apomorphine hypodermatically. In three minutes there was copious emesis of large quantities of unmasticated food. The patient then grew quiet and slept till 7 P.M., when similar convulsive motions manifested themselves. A catheter was passed and from twelve to thirteen ounces of urine were drawn off. On the morning of the 16th the patient was still in a somewhat dazed mental condition, and had a recurrence of slight convulsive movements. On the 17th he was discharged.

Case II.—H. A——, private, aged twenty-three years. He drank five glasses of native wine, followed by one drink of Canadian Club whiskey. He was shortly seized with severe abdominal pain and violent convulsions, opisthotonos being complete. During the intervals free from convulsion he manifested marked combative tendencies. Treatment consisted in the administration of gr. $\frac{1}{8}$ apomorphine hypodermatically. The man vomited in three minutes, and immediate relief followed with a perfect clearing of the mental condition, which had before been that of a man dazed and crazed by drink. He was discharged the next day. Neither of these men had been frequent indulgers in alcohol. They both were affected in a precisely similar manner upon subsequent occasions when they again partook of native drinks to excess. The first man seemed to become gradually immune, and his attacks became less alarming in character. The second man was so alarmed at his

third attack that he forswore the poison and confined himself to beer. Conclusions from these and other similar cases would seem to indicate: (1) Acute alcoholism with convulsions is more common among those who only occasionally indulge to excess; (2) the more crude and unrefined the drink the more likely is the attack to occur; (3) prompt emesis is the remedy *par excellence*.

## RELAPSE IN MEASLES.

By THOMAS W. HARVEY, M.D.,
ORANGE, N. J.

The following case of relapse in measles is unusual enough to be recorded. In an epidemic at the Orange Orphan Home, where we had forty-six cases, one of the children, Margaret Jones, aged eleven months, was taken with the usual symptoms of measles, and the eruption was well broken out on June 10th. She had the catarrhal symptoms well marked, and the temperature during the first four days varied between 101° and 103.2° F. There was a bronchitis of moderate severity. The rash was gone at the end of the first week, and after a slight desquamation the child was returned to the nursery as convalescent on the eighteenth day. Two days later the child was found to be ailing again; she had coryza, inflamed eyes, and a slight rash on the face. On the next day the temperature ran up to 103.6° F.; by the next day the rash was typical and universal, and for three days the temperature remained above 105° F. The child had marked bronchitis and gastro-enteritis. A profuse desquamation began soon and continued for the next ten days, all the other symptoms in the mean time steadily improving, and on July 17th the child was returned to the nursery again as convalescent.

Systemic writers make little or no mention of relapses in measles; but as an example of coincidence of these rare cases, I may say that on the day I recognized that I had met this condition for the first time my attention was called to an article in the *Medical News*, in which two cases were reported.

## ECTOPIC PREGNANCY.

By H. R. LANKFORD WORRALL, M.D.,
BUSREH, ARABIA.

On a recent tour to the Arabian mainland at a place called Katif I was called to see the following case: A. B——, aged about twenty-five years (Arabs cannot tell their ages), primipara. She was said to have become pregnant over two years ago. The motions of the child were felt about the fifth month, but all motions ceased about the seventh month. At the ninth month delivery was expected, but there were no pains. Last year she had a discharge of pus from the umbilicus. A few days later, perhaps a month, the bones of a hand and an arm presented and were extracted (pulled out) through that opening. Which arm it was that came out was not remembered. Later all the body except the head was discharged. The woman has lately been very weak. There had been no special discharge from the vagina since impregnation save a little blood and watery fluid, but nothing like the menses. The temperature was 101° F., pulse 130 at the time of my visit. The woman was small, thin, and much wasted: the tongue was slightly coated. Headaches occurred sometimes, but usually the patient felt well. There was a discharging sinus at the umbilicus. The abdomen was only slightly enlarged. On palpation, two globular masses were found over the pubes. One was hard and easily recognizable as a fœtal head, the other was similar to a slightly relaxed uterus after childbirth and was of the size of a small teacup. Slight pressure over both ovaries gave intense pain—in fact, the entire examination gave pain. The spleen was enlarged, but not unusually so for this part of the world. The liver was apparently normal. The kidneys were acting normally, the bladder was not distended, the bowels were constipated, but no fecal accumulations were recognizable.

Vaginal examination was refused. From the physical signs only ectopic pregnancy was diagnosed. The following questions arose concerning the condition presented: (1) Are there any cases recorded of ectopic pregnancy being relieved naturally through an external opening? (2) Although the head was at the time of examination outside, above, and slightly to the right of the uterus, could the condition have been originally any other than ectopic pregnancy?

# Society Reports.

## THE PRACTITIONERS' SOCIETY OF NEW YORK.

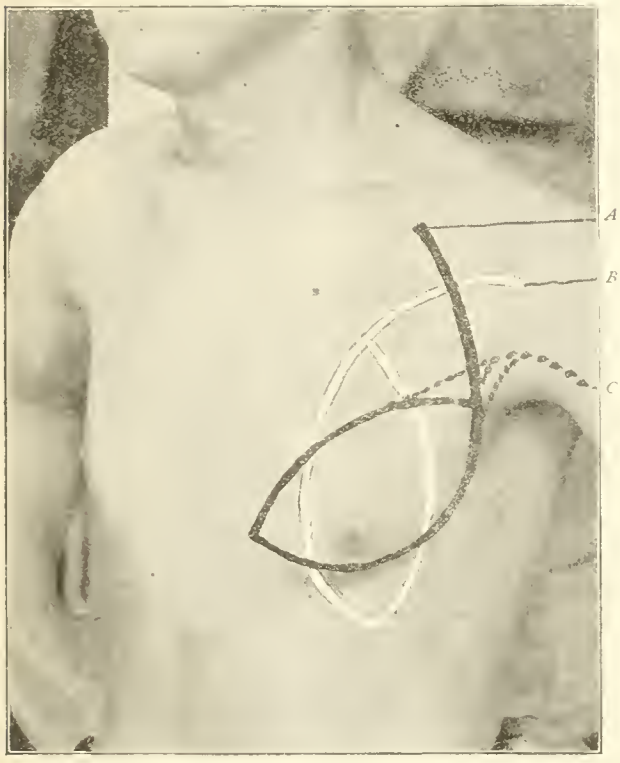
*One Hundred and Forty-Ninth Regular Meeting, Held on Friday, October 13, 1899.*

Dr. A. Alexander Smith, President, in the Chair.

**Resection for Double Ankylosis of the Jaw.**—Dr. Robert F. Weir presented a lad, aged fourteen years, who had been crippled in various joints during the past six years by rheumatoid arthritis. Among the joints affected were those of the jaw. During the past two years the teeth had been forced apart several times quite widely, but the contraction had recurred. On June 1st of this year, when Dr. Weir had operated, there was complete immobility at both sides. The operation done was that of Humphrey, modified by Kocher. The line of incision was a short, oblique one, across the posterior part of the zygoma, the lower part anterior to the temporal artery and with the anterior end of the cut running a little upward, but here only through the skin, to give additional operative space. By cutting or tearing through the attachment of the masseter, the head and neck of the bone were quite easily exposed, divided with a chisel, and the fragment, three-fourths of an inch long, with the fibrously ankylosed head, wrenched out of place. Temporary plugging checked all bleeding. A small drain was left in the wound, which was otherwise closed with sutures. Prompt union occurred, and early motion was secured by the use of chewing-gum and the frequent insertion of wedge-shaped pieces of soft vulcanized rubber. The patient could now distend his mouth widely, and was without any impairment to the orbicular muscles of the eyes.

**Amputation of the Breast by Kocher's Method.**—Dr. Weir also showed a patient from whom, in March, 1898, he had removed a carcinomatous mamma of six months' duration by the method of Kocher. The incision was the point to which he directed attention. Instead of running ovally around the breast and then to the axilla, or, better still, above its anterior border, where it was usually curved downward a little on the arm, Kocher cut from the outer end of the oblique oval, circumferential breast incision almost directly upward, or with a slight curve bowing outward, to just beyond the middle of the clavicle. Through this cut he immediately divided the pectoralis major and minor, opened the axilla, freed the vessels and nerves, and removed the axillary contents to the clavicle. Then forward toward the median line, the affected mamma with the pectoralis was dissected off and removed. Dr. Weir said he was not satisfied with the

usual Halsted incision, because not infrequently he had seen it followed by decided sloughing at the point of its long axillary flap. He preferred the incision used for many years, namely, that extending from the breast to the arm just above the anterior axillary border, with its downward curve if more room was required, or for treatment of humeral gland involvement (see diagram). The result in four cases done by the Kocher method was good, although the procedure was a little more difficult than the other one. Neither of




*A*, Kocher. *B*, Halsted. *C*, Hartley.

these methods was followed by any impairment of the arm function, and Dr. Weir said that since adopting the advance inaugurated by Heidenhain and Stiles in 1892 his percentage of cures, *i.e.*, non-recurrence after three years, had advanced from twenty-two per cent. to forty-two per cent.

**Removal of a Large Gouty Tophus.**—Dr. Weir also reported the details of a case of a very large gouty deposit on the foot of a man aged fifty years, which measured three inches across, projecting an inch and a half above the great-toe joint, and spreading outward to the fourth toe of the right foot. On account of its size a specially made shoe was required, and from an ill-fitting one inflammation and suppuration had ensued. Free incisions and prolonged scrapings were required in order to remove the accumulation of urate of sodium. A good deal of this, of necessity, remained behind, and hence the repair was somewhat slow and final healing was considerably delayed. It involved and probably originated about the metatarsophalangeal articulation of the great toe.

**An Instructive Case of Appendicitis.**—Dr. Andrew H. Smith reported the following: At Elberon, N. J., on Saturday evening, September 2d, I was called to see Mr. L——, aged seventy-three years, an exceptionally healthy and vigorous man for his age. He was sitting with his family, and complained only of colicky pains, which he attributed to indigestion from imprudence in diet. His tongue was slightly coated, but he stated that his appetite was unimpaired. His pulse was 72, and his mouth temperature 98.6° F. On my inquiring as to tenderness he punched his abdomen vigorously with negative result. I afterward learned that he had had more or less "indigestion" for several days, but he did not give any prominence to this at the time. Under the circumstances I did not submit him to a physical examination as I should have done, but simply ordered a mercurial purge to be followed in the morning by a saline water. The next morning I found him much relieved, the bowels having acted freely. He had taken his breakfast with his family, and had enjoyed it. In the afternoon he sent for a "prescription for a pain in the bottom of the stomach," the bowels continuing to move. He was about the grounds, and sent word that it was not necessary that I should call. I gave the messenger a prescription for paregoric and spirits of chloroform. At seven o'clock the next morning (Monday) he sent a carriage for me. I found him in bed, and very much alarmed by the discovery of a "lump in his stomach." The abdominal wall being thin and perfectly flaccid, the tumor was immediately apparent to the touch. It was clearly defined, movable, hard, elongated, irregular, and knobby in form, and about the size of the last two joints of my middle finger. It lay a finger's breadth external to McBurney's point, and seemed to be covered by scarcely half an inch of tissue. It appeared as if with a touch of the knife it would present immediately in the wound. It was but slightly sensitive to pressure. But for its hardness and elasticity, it might have been mistaken for an isolated mass of fecal matter. The temperature was absolutely normal, and the pulse was 72. The consent of the patient to an operation having been obtained, I at once called up Dr. Abbe on the telephone, and dilated to him on the exceedingly pretty operation which he had in prospect. It was arranged that he should take a train leaving New York at eleven o'clock, and arriving at a little before one. At half-past eleven, when Dr. Abbe was already on the way, the patient, while rising on his elbow to sign a paper, was seized by a sudden and excruciating pain in the region of the tumor, "as if a knife had been driven into the belly, and was being twisted about among the intestines." Within fifteen minutes I was present, but the condition of the abdomen had completely changed. There was a considerable degree of tympanites, the abdominal muscles were rigid and tense, and the entire right iliac region was exquisitely tender. The tumor could no longer be felt. A quarter of a grain of morphine under the skin controlled the pain, and by one o'clock the patient was on the table. The pulse was then 100, and the temperature was 101° F. On opening the peritoneum it was seen that there had been an escape of pus, which had flowed down into the pelvis, there being no limiting adhesions. The appendix was found deep down in the iliac fossa. It was gangrenous at the base, and there was an opening into the caput coli at the point of junction. My own opinion was that the tumor, which was so palpable in the morning, consisted of a small abscess with very tense walls, which was situated upon the anterior and inner aspect of the caput coli at the base of the appendix, and which subsequently burst into the peritoneal cavity. It is true that nothing corresponding to the wall of such an abscess was discovered, but it is equally true that the appendix itself did not present the appearance of having contained more than a few drops of pus, and that no other pus cavity was encountered. Moreover, the location of the appendix was not that of the previous tumor. A second incision was made in the median line, and the pus in the pelvis carefully sponged away. Both wounds were packed with gauze, and the patient made an uneventful recovery.

Dr. Smith also contributed a short paper on "Diagnosis of Obliteration of the Receptaculum Chyli" (see page 813).

**Chronic Stiffness of Spinal Column.**—Dr. C. L. Dana reported two cases of chronic stiffness of the spinal column and one of spondylosis rhizomelia, and referred to the attention that was being given to these conditions by a number of French and German neurologists. Several years ago a Russian neurologist (Bechterew) described a form of chronic stiffness of the spinal column, which he thought had some unique clinical characteristics. The cases occurred in middle-aged or elderly people; generally men, and were characterized by a gradual and progressive rigidity of the spinal column without involvement of the joints of the limbs. The disease was accompanied with some pain, especially around the chest; with feelings of constriction, and of various prickling and numb sensations. There was some wasting of the muscles of the trunk, and a gradual bending forward, or kyphosis. Eventually the respiration became almost entirely abdominal, and the patients were held in a rigid, bowed condition. Bechterew reported one case, with autopsy, in which he found a chronic meningitis involving the pia mater; the roots of the spinal nerves and to a slight extent the spinal cord were also affected. The vertebral bodies showed atrophy with loss of the intervertebral discs, and this, together with the muscular atrophy, explained the kyphosis. The disease was a very chronic one, but usually did not end fatally. It was caused, apparently in some cases, by traumatism, and in some cases simply by a hereditary tendency to extreme round shoulders. In one case, that in which there was an autopsy, there was a history of syphilis. Bechterew had described these cases clinically, without being able to express a positive opinion as to their pathology in all cases. He recorded some other cases which had been reported, and which had generally been classed under "rheumatoid arthritis." Bechterew referred to his cases as "chronic stiffness of the spinal column." Dr. Dana stated that about a year ago Dr. P. Marie had reported two cases of a form of chronic stiffness of the spinal column, which he called "spondylosis rhizomelia," the term meaning a morbid condition of the vertebral column and of the large joints; that is to say, the hips and shoulders. Marie had referred to the fact that Strümpell had noticed this disease, and had given a short description of it in his "Text-Book of Medicine." In Marie's cases the disease also affected only men, and attacked them during middle life or after. It usually began in the hip joints, causing a progressive ankylosis of these joints, then extended upward, and involved the back and the shoulder joints, but did not involve the smaller joints or the limbs; occasionally, however, one or both knees were involved. This trouble was also a slowly progressive one with some pain, but without any swelling or evidences of inflammation. The back became gradually more and more curved and rigid, though this curvature was not always present. In these cases there was absence of the constricting feelings and paræsthesias found in Bechterew's cases; here, too, the disease was very chronic, and treatment would only alleviate the symptoms. Discussing the pathology of these two forms of chronic spinal stiffness, Dr. Dana said he thought most of the cases described and referred to by Bechterew were secondary forms of spinal rigidity, due in some cases to a chronic meningitis or syphilis, while perhaps in other cases they were unusual types of rheumatoid arthritis. He referred to the fact that gonorrhœal rheumatism would sometimes lead to a chronic stiffness of the spinal column. He considered that the cases of Marie termed "spondylosis rhizomelia" were probably forms of rheumatoid arthritis. This disease developed in two ways: a peripheral form, which began in the small joints, and occurred usually in early life, affecting women more than men; and a central or senile type, which began in the back or hips and gradually extended peripherally. It seemed to him probable, therefore, that the Marie type of disease was only an example of the central or senile type of rheumatoid arthritis. The speaker also described and showed some illustrations of chronic stiffness of the spinal cord, described by Marie in conjunction with Astie. This type was considered to be due partly to hereditary predisposition and partly to trauma, and was called by Marie and Astie the "hereditary traumatic type of stiff spine."

Dr. Walter B. James said that during the past eighteen months he had had under his observation a case which bore some similarity to the condition described by Dr. Dana. The patient was a man thirty-five years old. During the past two or three years he had noticed that his thoracic spine was gradually becoming stiff and arched, although the deformity, thus far, was not sufficiently marked to be noticable when he had his clothes on. The upper part of his body was not so pliable as it should be, his motions in turning around were sluggish, and his gait was rather shuffling. In addition to this, he was suffering from symptoms which were supposed to be due to intestinal indigestion. He was constipated, had a coated tongue, and suffered from periodical attacks of marked mental depression; at such times he was more or less hypochondriacal. His urine contained large quantities of indican and oxalate of lime. Dr. James said that he had been inclined to regard the case as a trophic neurosis, closely resembling rheumatoid arthritis, but limited to the spine. It was first regarded as a case of Pott's disease, and several orthopedic surgeons told him that he would be humpbacked within a year. The progress of the spinal curvature, however, had been so slow as to be almost imperceptible.

Dr. Andrew H. Smith asked if there had been any post-mortem examinations made with the idea of ascertaining the condition of the vertebræ. He thought that such a sharp curvature of the spine was hardly consistent with integrity of the bodies of the vertebræ.

Dr. Dana replied that a post-mortem was made in one of Bechterew's cases, and revealed atrophy of the intervertebral discs with some atrophy of the bone, but no inflammatory osteitis.

Dr. Beverley Robinson asked if the hip joints remained unaffected in most of the cases. In a case of this character which had been under his observation at St. Luke's Hospital last spring, in which the trouble had existed about eighteen months, the vertebral column and both hip joints were affected.

Dr. Dana said that in the senile type, of which he had reported an instance, the hip joints were not affected, but in the other type the trouble usually began in the hip.

Dr. W. Gilman Thompson said he entirely agreed with Dr. Dana that the case represented a variety of arthritis deformans with a peculiar localization, the disease not affecting the smaller joints as it usually did.

Dr. Dana, in closing, said that one class of cases to which he had referred in his paper probably represented a type of arthritis deformans, but on account of their peculiarity they seemed to deserve a special class by themselves: the other type, of which he had reported an instance, and to which type the case referred to by Dr. James apparently belonged, had a pathology which must still be worked out. In one of Bechterew's cases, the post-mortem showed conclusively that the morbid condition was not that met with in arthritis deformans.

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**In Formaldehyde Disinfection** the disagreeable odor can be removed, it is said, by sprinkling the floor with ammonia water.

# Correspondence.

## OUR LONDON LETTER.

(From our Special Correspondent.)

THE WAR AND THE ARMY MEDICAL STAFF—COLLEGE OF SURGEONS; PROPOSED CHARTER AND GOWN—ANTISTREPTOCOCCUS SERUM—DEFENSE SOCIETIES—DEATHS OF DRS. ARNISON AND ARLIDGE.

LONDON, November 10, 1899.

THE leading topic everywhere is, of course, the war, and its medical aspects are not so encouraging as many expected. The flouting of army surgeons by the late and present commanders-in-chief has done its evil work, and the bad example is followed by Buller and others. The medical department is undermanned; even the service papers are saying so. It is no new thing for hospital surgeons to go to the seat of war. They went to the Crimea. But the War Office seems to seek only a means of dazzling the public by showing concern for the wounded. They would have done better to have kept up the strength of the R. A. medical corps, which is now twenty per cent. lower than it was thirty years ago, and that notwithstanding the increase of the army. Hence a number of civil surgeons have to be hastily engaged, and to throw dust in the eyes of the people the War Minister must get some eminent men to go out as consultants. The real need was and is an increase in the strength of the corps. For the need the authorities are entirely to blame. There is plenty of material, but they would not pay for it either in position, leave, or hard cash. There will be a heavy reckoning yet when once the public is aware how the medical department has been starved by the military authorities. The Minister of War in this cabinet has shown some appreciation of the medical staff and some energy in settling the question of titles. Let him now curb the arrogance of the commander-in-chief and show his permanent staff that they must move with the times.

The report of the council of the College of Surgeons has been issued in advance of the annual meeting to be held on Thursday next. The choicest passage tells that last year's meeting passed a resolution against a new charter unless the members were given representation, but the council thought this "inopportune," the sole object of the proposed new charter being to give the council the right to elect honorary fellows. These distinguished people would have no right to take any office in the college or to be registered as practitioners. In fact, they would have no privilege whatever except to put after their signatures F.R.C.S. Eng. (Hon.). It is whispered that the council is envious of its sister college and wants to enroll the Prince of Wales. Meantime the society of members has by no means "inopportunely" submitted to the privy council a temperate statement objecting to the new charter unless representation of members is included.

There was a meeting of the council on the 2d inst., and it was solemnly resolved—what do you suppose? to agree to representation? Not at all. It was resolved that a request of a few members that the council should institute a gown for them to wear be acceded to! A committee is accordingly studying the great clothes question! And the thousands of members are waiting for their rights, while a score or two are being promised a gown!

There seems to be plenty of room for doubt as to the value of antistreptococcic serum, and this is not surprising considering that it has been employed on a hasty hypothesis in a mere empirical manner. Not much is known of the effects of the serum, and still less of the streptococcus itself. Many cases have been reported as successful which, if carefully scrutinized, seem very inconclusive. In more of them other measures were certainly as much entitled to the credit. In some the patients do not appear to have been in much danger. In many the presence of the streptococcus is not asserted. Statistics cannot help us much, and we are thrown back upon the impressions of clinical observers who have used the serum, mostly as remarked above in conjunction with other measures.

The subject was discussed at the last meeting of the Obstetrical Society on the initiative of Dr. Herman, who submitted two cases which got well after the use of serum, although his prognosis was very unfavorable. In one a severe operation was followed by great prostration, from which the patient rallied, but a relapse followed such as in his former experience ended in death. Serum was tried, and the symptoms quickly improved and recovery ensued. The other case was puerperal, and severe rigors on successive days led him to think pyæmia had set in and secondary abscesses might be expected. Serum was tried; the symptoms abated, and there was only a small patch of cellulitis which ended in resolution. Dr. Herman admitted the uncertainty of prognosis, but thought judgment might be helped by such cases.

Dr. Clapham mentioned a case in which, after washing out the uterus with bichloride and later curetting, serum was resorted to, but the temperature, though it fell at first to 102° F., rose again to 105° F., and did so for five nights. Subsequently improvement occurred, though an abscess delayed recovery.

Dr. Horrocks thought in bad cases serum afforded the only chance, though he was less hopeful than in his earlier cases.

Dr. Routh said we could never be sure how much credit was due to serum, as we ought not to omit other measures.

Dr. Cullingworth mentioned cases showing the extreme difficulty of estimating the effects, and said every case should be recorded.

Dr. Eden said the streptococcal origin of puerperal fever was not proved, and the presence or absence of the microbe should be always determined; otherwise the treatment was only empirical. On this Dr. Cullingworth remarked that the first object was to cure the patient, to which Dr. Eden replied that it was not needful for the patient to be kept waiting while the bacteriological examination was being carried out.

Dr. Robinson mentioned a case in which there was a whitish-yellow membrane on the vaginal wall in which streptococci were found. This melted away in a day or two after the use of serum, and the patient began to recover.

Dr. Pollock suggested that cases of pure infection resulted in recovery, and the others were due to mixed infection.

Dr. Maclean said the serum which produced immunity to one germ was perfectly tolerated by others.

Dr. Horrocks said the serum was probably safe if properly sterilized, and might even contribute to nourish the patient; for a dog had been kept alive by injections of serum for three months and did not lose weight. It should not be used if turbid; but a little color did not matter.

Dr. Spencer doubted whether the streptococcus was as frequent as all other organisms put together as a cause of septicæmia. The treatment was purely empirical while the organism was not proved to be present. The injections were not free from danger, as death had occurred soon after them, and they were followed in other cases by a rise instead of a fall of temperature.

The president, Mr. Doran, said however desirable such a remedy might be, he feared that serum could not at present be said to be such.

From the foregoing you will see that the obstetri-

cians have little if any certainty to contribute to the subject. The impressions of careful observers deserve attention, but further investigation of the bacteriology is required, and meantime a little scepticism and more logic might advantageously be cultivated.

The Medical Defence Union has done good work. So has the Protection Society. But two such organizations are not needed, and I have more than once remarked that they ought to amalgamate. The latter has offered to do so, but the Union declined to discuss the suggestion. Surely there should not be any difficulty. In these days when competitors in trade are forming huge combinations, there should be no senseless rivalry between societies formed for such good work as this. Both are weakened by division, for many refrain from joining because they cannot decide which to support.

Dr. William Christopher Arnison, professor of surgery in the University of Durham, died last Saturday at Newcastle-on-Tyne, aged sixty-two years. He was for many years surgeon to the Royal Infirmary and held other offices. He graduated at Durham in 1860, and in 1896 his university gave him a D.C.L. Among his contributions to surgery are some "Cases of Laminectomy" in *The Annals of Surgery*, 1895. Dr. Arnison was able to lecture in the evening of October 30th, though he felt unwell. Later he had great dyspnœa and became collapsed, and he died early in the morning of November 4th, his medical friends having been able to do little for him. Some one hundred and fifty pupils attended the funeral, with representatives of the university, the infirmary, and other public bodies.

Dr. J. T. Arlidge, who died on the 27th ultimo, was the author of the standard work on "The Hygiene, Diseases, and Mortality of Occupations." This valuable contribution to our knowledge of the subject was founded on his Milroy lectures at the College of Physicians, and appeared in 1892. The next year he was appointed a member of the royal commission to inquire into the condition of work-people in the potteries. This resulted in the recent regulations which have already improved the sanitary state of the factories of the district. It must have been a great satisfaction to him to know that his labors had been fruitful. He was the author of many other contributions to our literature, and at one time edited the *Medico-Chirurgical Review*, a quarterly which was discontinued some years ago. The day of quarterlies seems to have passed by. Dr. Arlidge was a graduate in arts as well as medicine of the London University. In 1869 he was elected a fellow of the College of Physicians, by which time he had attained an enviable position as a provincial physician. He was the senior magistrate of the borough of Newcastle-under-Lyme, where he resided for some thirty-seven years. About eighteen months ago he was seized with paralysis, and died on the 27th, aged seventy-seven years.

**Professor Atkinson, the Bone Setter, and the Kaiser.**—Professor Atkinson, the bone setter, who, it will be remembered, plied his trade with remarkable financial success in New York some year or two ago, has lately been interviewed in Great Britain. Among other eulogistic remarks on his own surpassing skill, he asserted that he could give back to his Imperial Majesty, "the German Kaiser," the full use of his left arm. Probably the ability of the learned professor to accomplish this surgical feat will be doubted by a few sceptics, but even if it be possible we implore Professor Atkinson, for the sake of the peace of the world, not to perform this seeming miracle. That is, if the Kaiser will afford him the opportunity. The Emperor of Germany with only one arm has energy enough for a man with four, and the results would be hard to tell if he had the use of two.

## New Instruments.

### A NEW GASTRIC DOUCHE.[1]

BY MAX EINHORN, M.D.,

NEW YORK.

DOUCHING of the interior of the stomach with water under considerable pressure was first applied therapeutically by Malbranc,[2] principally in cases of gastralgia. For this purpose Malbranc employed the ordinary apparatus used for gastric lavage, with the only difference that the funnel was held up quite high. Ewald[3] devised a very large funnel holding about two quarts of water, which when raised still more increased the pressure. In both instances the ordinary stomach tube was used. An improvement in this method of douching the stomach was accomplished by Rosenheim[4] and Boas,[5] who constructed a special tube for this purpose, provided with a great number of very small openings at the end. The apparatus, however, has this drawback, that if the tube is provided with small openings only, the water when admixed with mucus cannot easily return, or will come back without the mucus, which remains in the stomach almost as if it had been filtered. If the tube, on the other hand, has besides the very small openings a large one, the water will, of course, run out principally through the latter, and thus no douching will be effected. The douche described by J. W. Bell[6] acts in the same way. It resembles the Rosenheim douche with the exception that a pumping ball is inserted in the middle. In order to avoid the difficulties mentioned M. Gross[7] and F. B. Turck[8] have constructed gastric douches which are provided with a double-current tube. The inflowing tube has numerous very small openings at the end, while the outflowing tube is provided with one very large opening at its extremity. The inflowing tube thus effects a good douche, while the outflowing branch permits the water to return easily. Such an apparatus undoubtedly admits of a thorough douching of the stomach. The double-current tube, however, has the disadvantage that its size is quite considerable, and its introduction into the stomach of the patient is not very convenient.

In order to have an apparatus which could be introduced without any inconvenience, and which would at the same time allow a thorough douching of the stomach, I have constructed a new gastric douche. Its principle is based upon a valve arrangement. The apparatus consists of a rubber tube, not too flexible (thickness three-eighths of an inch, length twenty-six inches), at the end of which a hard-rubber capsule is attached (Fig. 1). The latter contains numerous very small openings all around, and one very large opening at its lower extremity. Within the capsule, which can be screwed apart, lies a small aluminum ball. This moves easily and freely within the capsule, and when it lies above the lower opening it entirely occludes the same. Two cross bars in the capsule prevent the entrance of the small ball into the tube (Fig. 2). If the tube described is attached to an irrigator provided

[1] Read before the Association of German Physicians of New York, on May 26, 1899.

[2] Malbranc: Berliner klinische Wochenschrift, 1878, No. 4.

[3] Ewald, C. A. "Diseases of the Stomach," 1897, p. 99.

[4] Rosenheim, Th. "Ueber die Magendouche." Therap. Monatshefte, 1892, and Berliner Klinik, 1894, Heft 71.

[5] Boas, T.: Krankheiten des Magens, Theil i., p. 311.

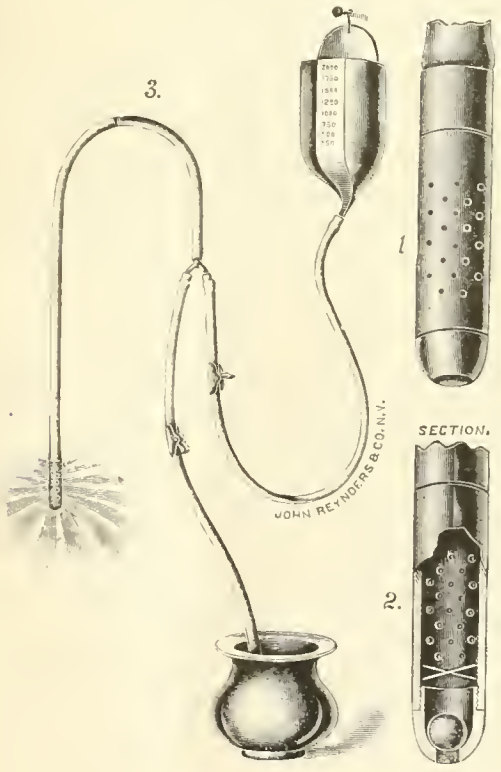
[6] Bell, J. W. "A Combined Stomach Tube and Douche." The Medical Dial, September, 1899, p. 296.

[7] Gross, M. "Double-Current Gastric Douche." MEDICAL RECORD, 1895.

[8] Turck, Fenton B. "Recurrent Gastric Needle Spray or Douche." Cited from Hemmeter, "Diseases of the Stomach," p. 287.

with a waste pipe the apparatus is complete. If the waste pipe is closed, and the water made to run through the douche, the liquid will press the ball downward, thus closing up the large opening. The water will then come out through the small side openings like a very fine shower, sprinkling over quite a large area (Fig. 3). The inflowing tube being closed, and the waste pipe opened while the capsule is inserted into the liquid, the latter will push the ball upward, and thus the large opening will be free, and the water will easily return through it. The liquid will certainly return not only through the large opening, but also through the numerous small side openings. While these, however, do not admit the return of coarse particles, the latter will easily be able to pass through the large hole.

Method of using: The douche end of the apparatus is dipped into warm water, and then inserted into the stomach. It is necessary to pay attention that the capsule lies immediately below the cardia, and is not situated deeply in the stomach. The length of tubing from the mouth should be sixteen and one-half to seventeen inches. It may be useful to make a mark at this point of the tube. The tube is now attached to the irrigator, the outflowing pipe closed, the inflowing one opened, and the stomach sprinkled with about a quart of water. In order to make the water return from the stomach, the tube is inserted a little farther into the stomach, about four to six inches, the outflowing pipe opened, and the inflowing one closed. The liquid from within the stomach now returns. This procedure may be repeated three to four times. The temperature of the water should be regulated according to the therapeutic indications. The douche may also be connected with two irrigators, one containing




cold, the other warm water; the stomach may thus be sprinkled alternately with cold and warm water.

I have used the above-described gastric douche since the beginning of this year in many cases, and can say that it can be applied without any difficulty, and works well. I therefore do not hesitate to recommend it for general use in douching the stomach.

20 East Sixty-third Street.

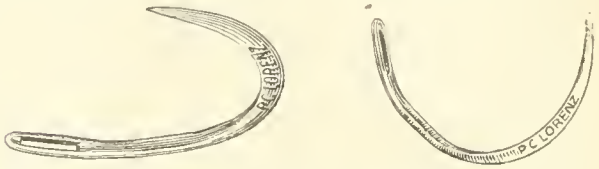
## AN IMPROVED NEEDLE.

By GEORGE GRAY WARD, Jr., M.D.,

NEW YORK,

ADJUNCT PROFESSOR OF GYNÆCOLOGY, NEW YORK POST-GRADUATE MEDICAL SCHOOL; INSTRUCTOR IN OBSTETRICS, CORNELL UNIVERSITY MEDICAL COLLEGE; ASSISTANT ATTENDING PHYSICIAN, MOTHERS AND BABIES' HOSPITAL.

All operators are acquainted with the aggravation of having a curved needle turn in the grasp of the needle-holder, especially when operating high up in the vagina or in the bottom of the pelvic cavity, at a critical




stage of the operation; also with the tendency of a needle of full curve to break when gripped too strongly with the holder. I have endeavored to overcome these difficulties by devising a needle which, while in its general shape a full curve, is perfectly straight at the junction of the middle third with the heel, so that the jaws of the needle-holder grasping the needle at this point exert equal pressure on both the upper and lower surface of the needle, instead of having to bear upon a concave surface above and a convex one below, as is the case with ordinary full-curved needles, and which is the cause of the frequent breaking.

To overcome the tendency of the needle to turn, it is made of a rectangular shape at the point of grasp, the upper and lower surfaces being perfectly flat and at right angles to the sides.

The point of the needle is made in two styles, that of the familiar Hagedorn and of the trocar. They can be used with any form of needle-holder. In practice they have fulfilled all my expectations.

230 West Fifty-ninth Street.

## Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending November 25, 1899:

| | Cases | Deaths. |
|---|---|---|
| Tuberculosis | 183 | 149 |
| Typhoid fever | 52 | 10 |
| Scarlet fever | 163 | 9 |
| Measles | 291 | 12 |
| Diphtheria | 269 | 31 |
| Laryngeal diphtheria (croup) | 10 | 5 |
| Cerebro-spinal meningitis | 0 | 4 |
| Chicken-pox | 25 | 0 |

**Powdered Sugar** is said to possess decidedly inferior sweetening properties to those of the coarsely crystallized article. In the process of pulverization it is claimed that the heat and electricity produced transform a certain proportion of the sugar into glucose, whose sweetening powers are two and a half times less than those of saccharose.

**The Cleanly Japs.**—In the neighborhood of Matsumoto an off-day for rest can nowhere be more agreeably spent than at the delightful thermal springs of Asama-no-Yu. Indeed, I am free to own that such places, with their variety of situation and style, are among the pleasantest accessories to mountaineering in Central Japan. Whatever may be the character of

the establishment that has grown up around these natural hot baths, whose waters are credited with such marvellous therapeutic powers by the simple country folk who flock to them, it is certainly very refreshing after some days' hard scrambling to spend a quiet week and relax one's stiffened limbs in the grateful warmth of the Onsen, the sulphur bath. Sometimes, as here, one finds accommodation at a comfortable inn on the outskirts of a busy plain. Sometimes it is a group of chalets in the heart of the Alps, where a secluded valley is shut in by precipitous tree-clad mountain sides. Or, more quaint and curious still, you find yourself the first foreign traveller sharing a rude shanty with a party of rustics far up the side of some tall peak, where the customs of the bathers are primitive in the extreme. The Japanese value baths to an extraordinary extent. In one out-of-the-way place I know of they will stay in for a month at a time, and sit with large stones on their knees to keep them from floating or "turning turtle" in their sleep.—From "The Land of the Rising Sun," in *Fireside*.

**Advantages of Spectacles.**—Dr. Frankland always wore spectacles. One day on Ludgate Hill a porter passing him was nearly pushed off the pavement by an unintentional motion of the doctor. The fellow with characteristic insolence exclaimed, "Damn your spectacles." Frankland smiling observed, "It is not the first time they have saved my eyes."—*Sanitarian*.

**Lady Randolph Churchill to the Front.**—Lady Randolph Churchill, who is the prime mover and general manager of the American women's scheme for equipping and supplying with physicians and nurses the hospital ship *Maine* for aid to the British wounded in South Africa, on being interviewed, had this to say: "There is but one motive, one reason for the project of sending a hospital ship to the Cape. We have had oratory and societies for the promotion of Anglo-Saxon friendship. This is the golden opportunity to put that expression of good-will into tangible form. It is especially the province of American women to promote this cause, and it is woman's function to foster and nourish the suffering. American people are more adept at it, we believe, than any others. The *Maine* is to be essentially an American women's ship. We are not only to aid the wounded, but are to show the world that American women can do that good work better than any one else can do it. I am going to the Cape in the *Maine*, not because my son is there, for he will be one thousand miles away, but because I want the generous efforts of American contributors to be carried out under the personal supervision of a member of the executive committee. I am going because I think I can prevent any kind of friction between the American nurses whom Mrs. Whitelaw Reid is sending out and the British officials."

**Plea for the Employment of Skilled Surgeons in South Africa.**—An influential British journal says: "The great number of the wounded in South Africa, and the serious nature of the injuries from which so many of them are suffering, must throw an undue, almost a breaking strain upon the members of the R. A. M. C. In many families in England the anxiety about the condition of the wounded is intense. Should not our government at once obtain the services of, say, a dozen highly skilled surgeons of senior rank from the great hospitals of London, Edinburgh, and Dublin, and send them to South Africa? There are many injuries of the head and abdomen which can alone be successfully treated by surgeons of the greatest operative skill and of the widest experience and learning. This course was followed in the Franco-German war, when such men as von Langenbeck, Burghard, and others gave their services, and in the American-Spanish war, at which Senn, Nancrede, and several more experienced and skilful surgeons supervised operations, and acted as consultants."

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended November 24, 1899:

| | | Cases. | Deaths. |
|---|---|---|---|
| **Smallpox—United States.** | | | |
| Illinois, Chicago | November 11th to 18th | 3 | |
| Kentucky, Louisville | November 8th to 16th | 1 | |
| Louisiana, New Orleans | November 11th to 18th | 1 | |
| Massachusetts, Chelsea | November 7th to 14th | 3 | |
| Ohio, Cleveland | November 11th to 18th | 1 | |
| Virginia, Portsmouth | November 11th to 18th | 3 | 2 |
| Washington, Seattle | October 7th to November 4th | 5 | |
| **Smallpox—Foreign.** | | | |
| Belgium, Antwerp | October 21st to 28th | 5 | |
| Austria, Bohemia Prague | October 21st to 28th | 9 | |
| England, Bedford | October 28th to November 4th | 1 | |
| Gibraltar, Gibraltar | October 22d to November 4th | 2 | |
| Greece, Athens | October 22d to November 4th | 7 | 2 |
| India, Bombay | October 1st to 24th | | 9 |
| Madras | October 14th to 20th | | 1 |
| Italy, Messina | October 28th to November 4th | | 1 |
| Japan, Osaka and Hiogo | October 1st to 14th | 1 | |
| Mexico, Chihuahua | November 4th to 11th | 11 | |
| Vera Cruz | November 2d to 9th | 7 | |
| Russia, Odessa | October 22d to 28th | 9 | 2 |
| St. Petersburg | October 2d to November 4th | 27 | 5 |
| Warsaw | October 16th to 22d | | 7 |
| Straits Settlements, Singapore | September 23d to August 7th | | 5 |
| Turkey, Constantinople | October 31st to November 6th | 1 | |
| **Yellow Fever—United States.** | | | |
| Florida, Key West | November 11th to 20th | 2 | 2 |
| Miami | November 15th to 22d | 25 | 2 |
| **Yellow Fever—Foreign.** | | | |
| Brazil, Bahia | Octobes 18th to 22d | 1 | 1 |
| Colombia, Barranquilla | October 22d to 28th | 1 | 1 |
| Cuba, Havana | November 4th to 11th | | 5 |
| Nuevitas | November 14th | * | |
| Mexico, Vera Cruz | November 2d to 9th | 4 | 3 |
| * One death on United States transport *Ingalls*. | | | |
| **Cholera.** | | | |
| India, Bombay | October 17th to 24th | | 1 |
| Japan, Osaka and Hiogo | October 7th to 14th | 1 | |
| **Plague—United States.** | | | |
| New York quarantine November 18th, one suspect—death on British steamship *J. R. Taylor*, from Santos. At sea, two suspected cases on board. | | | |
| **Plague—Foreign.** | | | |
| Brazil, Santos | October 22d to November 17th | 23 | 10 |
| Sao Paulo | October 17th to November 17th | 2 | |
| England, Plymouth | October 9th | * | |
| India, Bombay | October 10th to 24th | | 188 |
| * One case on steamship *Peninsular* from Bombay. | | | |

## Books Received.

*While the* MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

THE SCARLET STIGMA. By James Edgar Smith. 12mo, 88 pages. James J. Chapman, Washington, D. C.

THE URINE By Dr. J. W. Holland Illustrated. 12mo, 124 pages. P. Blakiston's Son & Co., Philadelphia, Pa

THE TREATMENT OF FRACTURES. By Dr. John B. Roberts. Illustrated. 8vo, 159 pages. D. Appleton & Company, New York.

TRANSACTIONS OF THE AMERICAN SURGICAL ASSOCIATION. Edited by Dr. De Forest Willard. Illustrated. 8vo, 315 pages. William J. Dornan, Philadelphia, Pa.

TRANSACTIONS OF THE AMERICAN ORTHOPEDIC ASSOCIATION. Vol. xii., 8vo, 362 pages. Illustrated.

THE MODERN TREATMENT OF WOUNDS. By Dr. John E. Summers, Jr. Illustrated. 8vo, 134 pages. Medical Publishing Company, Omaha, Neb.

MANUEL PRATIQUE D'HYGIENE. By Dr. Huiraud. Illustrated. Royal 12mo, 733 pages. G. Steinheil, Paris.

CHIRURGIE DU FOIE ET DES VOIES BILIAIRES. By J. Pantaloni. Royal 8vo, 564 pages. Illustrated. Institut de Bibliographie Scientifique, Paris.

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 56, No. 24.
Whole No. 1518.

NEW YORK, DECEMBER 9, 1899.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### ELECTROSTATIC CURRENTS AND THE CURE OF LOCOMOTOR ATAXIA, RHEUMATOID ARTHRITIS, NEURITIS, MIGRAINE, INCONTINENCE OF URINE, SEXUAL IMPOTENCE, AND UTERINE FIBROIDS.[1]

BY WILLIAM JAMES MORTON, M.D.,

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THE agreeable duty of reading in my turn a paper before this society, individually engaged in so many special directions of work, has led me to choose from my own branch a certain new line of investigation of my own in electrotherapeutics, which I cannot but believe marks a distinct advance, and which may, I trust, prove of interest.

In 1734 the Abbé Nollet, of France, administered the first spark to a human being with a therapeutic purpose in mind. Thence sprang up the treatment of various diseases with frictional or so-called static electricity, by the direct application of the spark to the patient's person. The practice had its phases of vogue and of disuse until, in 1879, Professor Charcot revived its use in his famous clinic of the Salpêtrière.

In 1880 I had the good fortune to be one of Professor Charcot's pupils. The electrostatic treatment took a strong hold upon my imagination and my judgment. I bought two influence machines and a complete outfit of electrodes, and brought them home to this country, and in March, 1881, read a lengthy paper and exhibited the machines and outfit before the New York Academy of Medicine. At that time there was not a single influence machine in existence in this country in medical circles, nor scarcely, if at all, in scientific laboratories. The single-plate frictional machine did service for the pure scientist, while in medicine statical electricity therapeutically was practically unknown.

Thus at the New York Academy of Medicine, in 1881, began the epoch of electrostatic therapeutics in this country. To-day influence machines may be counted by the thousand in the land. Thousands of physicians' offices are equipped with them, and day by day not alone does their number increase, but also the scope of their application in the cure of disease. Is this folly? By no means. A great therapeutic truth lies in the electrostatic currents. The year's fashionable drugs come and fade like a line of spectres, but the electrostatic machine stays with us. It has come to stay.

I found in 1880 the statical electricity machine, a machine whose output was solely sparks, whether in its abstractly scientific uses or in its medical uses. I made it a machine whose output was also currents. In other words, I found it a machine whose output was a single electrical impulse; I made it a machine whose single electrical impulses and sparks could be employed in slow or rapid series as a potential variator to produce a current in any other part of the circuit. Hence to-day we have two epochs in the history and the uses of electrostatic apparatus and machines: (1) the period of the spark, from 1734 to 1880; (2) the period of the spark and of spark-gap currents, from 1880 to the present date.

I will ask your attention to-night, therefore, to (1) electrostatic treatment by sparks (Abbé Nollet); (2) electrostatic treatment by spark-gap currents (the writer).

1. Sparks.—Owing to its familiarity, I forbear detailed mention of the spark treatment. Briefly, a single long, "clean" spark is given with the ball electrode at its greatest practical working distance from the body, or a fine, prickling, "frictional" spark is administered by rubbing the electrode over the clothed skin. The long, clean spark is percussive; the percussion effect is produced not only upon the surface of the body, but within the tissue. I have termed the effect within tissue as "perturbatory." This perturbation effect within tissue produces a temporary maladjustment of tissue particles, followed by a readjustment and a consequent reaction of tissue to its normal metabolic relations. We might term the effect molecular gymnastics. The frictional spark—its second form alluded to—is counter-irritative, and also produces ingoing peripheral nerve effects upon the repective nerve centres (Hodge and others).

2. Currents, namely, Spark-Gap Currents.—In my paper before the New York Academy of Medicine, in 1881, I demonstrated and described this class of currents. In a recent paper, read for me by Dr. Apostoli before the Société Française d'Electrothérapie, I augmented the scope of spark-gap currents by a description of a phase of them which has great practical value in electrotherapeutics. The first spark-gap current, that of 1880, I christened the "static induced current." It is now in universal use wherever static electricity is employed, and recognized in text-books, and therefore requires no further mention. The second current is as yet little known, but, to my mind, is the culmination of all that is best in statical electrotherapeutics, not alone because of its therapeutical qualities, but also because of the facility of its application. We will, for the present, term it the "electric wave current," for the reason that the patient's person is at the passage of each individual spark across the spark gap a source of departure of an electric or Hertzian wave into space. We may, for simplicity, call both currents "spark-gap currents," since the existence of the spark gap and its employment is the essential feature of my discovery.

It is, indeed, a remarkable fact, when one recalls the immense amount of attention that was bestowed upon statical electricity up to 1880, a period of about one hundred and fifty years, that currents derivable from a static or frictional or influence machine, or charged Leyden jar, or any form of electrostatic apparatus, had escaped observation. But such is the fact. There is no record that any electrostatic apparatus, up to that date, had ever been employed to produce physiological tetanus in contradistinction to the single con-

[1] Read before the New York Harvard Medical Society, November 25, 1899.

traction produced by the spark directly or indirectly applied.

My desire to-night is to present to this society the actual working methods of producing this new current, to compare it to the static induced current and the spark, to show some of its modes of application and some of its effect upon living tissue, and to detail briefly cases and forms of disease in which electrostatic applications are useful.

For comparison, I first exhibit the static induced current by application to the persons of various members of the society. (Here followed a practical demonstration.)

It will be noticed that the patient is within the direct circuit of serially discharging armatures of oppositely charged condensers, and that two electrodes must be used as in ordinary electric administrations.

I next exhibit the electric wave current. (Demonstrations.) Here the patient forms no part of a metallic circuit. His tissue is charged and discharged with great rapidity—a rapidity equalling the rapidity of the discharge at the spark gap. Electrically, his situation is, that he forms a part of a "displacement circuit" of Maxwell in contact with a terminal metallic electrode (indeed, is a part of it so far as he is an ordinary conductor likea metal). The electric current now exists only in the dielectric air and in the dielectric portions of the patient, while his conducting portions, subjected to variations of potential, exhibit physiological reactions of an electrical type, but differing in wide degree from those exhibited by other and familiar forms of electrization. The patient's entire person is now subjected to the electric waves at each impulse of the spark at the spark gap; say easily two hundred or three hundred waves per second.

**Physiological Effects.**—If we take any given muscle or neuro-muscular mechanism as a type of the effect produced, we find we have established a physiological tetanus of a character less painful for a given degree of muscular contraction or noticeable to the patient than by any known electrical current.

How, then, do electrostatic currents act and cure?

There is a local effect upon the part affected, whether nerve, muscle, brain, spinal cord, joint, or what not, and at the same time a general or constitutional effect. Both effects are capable of positive proof and have been fully proven. The constitutional building up and regeneration of the patient's health tend to secure permanency of the local cure. The local effect is undoubtedly due to the agitation or perturbation of the tissue; the constitutional effect consists of an acceleration of the combustion processes, in varying degrees. Professor d'Arsonval, of Paris, has shown by laboratory experiments on man and on the lower animals that the production of water, carbonic acid, and urea is increased from forty to fifty per cent. Professor Renzi[1] has shown that fifty per cent. more neutral sulphur, producing sulphuric acid, is oxidized, and that there is a decisive action upon the metabolism of the nuclein. The salient fact is that the metabolism of the patient is augmented, and, as a consequence, his nutrition is improved.

**Methods.**—If we consider the variety of electrostatic treatments outlined that have a distinct meaning and effect upon the patient, to say nothing of the other varieties of electrotherapeutics involved in so-called galvanism and faradism, we cannot wonder that an electrotherapeutist must stand aghast when the simple remark is made by the patient, "Oh, I have taken electricity." Indeed, many physicians entertain the same idea of unity of electricity in its medical applications. A parallel case would be of an electrical engineer who was told to apply it in his profession. He would reply: "Shall I use electricity to produce light and illuminate, or heat and warm things, or electrolysis and decompose things, or cataphoresis and cause things to merge one with the other, or to run motors and cause things to move, or what not?"

[1] Revue Internationale d'Électrothérapie, September, 1899.

Applications to Treatment. Cases and Diseases.

**Progressive Locomotor Ataxia.**—By electrostatical treatment we may in the first and second stages of this disease confidently claim to make of progressive locomotor ataxia arrested locomotor ataxia. The pains cease, the girdle sensation disappears, the bladder troubles no longer exist, the gait improves, the sexual power returns—in short, the progress of the disease is arrested, leaving the patient with remaining defects due to the already destroyed tissue. This may clearly be termed a cure of locomotor ataxia. I cite a few cases, eight in number, cured or whose pains and other definite symptoms had ceased up to the time when last heard from. In all cases distinct improvement is noted from the time of beginning treatment.

Case I.—J. H. McG——, aged thirty-one years; September 23, 1895. Symptoms: frequent attacks of lightning pains, absent knee jerk, girdle sensation, incontinence of urine, constipation. He cannot stand with the eyes closed. There is loss of sexual function. His gait is ataxic. He has pin-point pupils. Duration, nine months.

September 30th: He feels the floor or pavement and walks better.

October 28th: The incontinence of urine is much less, and he walks farther and better.

November 27th: No incontinence of urine is present.

November 29th: He had a slight attack of shooting pains, the first since treatment began.

January 3, 1896: There is no incontinence of urine.

October 26th: He resumed business and has no attacks of pain.

In November and December he had a slight attack of pain.

May 7, 1897: He has now had no pain attacks for five months, and none up to January, 1899, nearly two years later.

Case II.—J. H——, aged thirty-one years, March 29, 1895. The disease began one year ago. He has shooting pains in the legs, which are numb from the knees down. There is the Argyll-Robertson symptom of the eyes; knee jerk is absent. He cannot stand with the eyes closed.

July 19th: He walks better and farther, and has no pains.

August 5th: He walks several miles.

January 3, 1896: There are no further pains. He considers himself well. He has sawed and split a cord of wood, and promises to return if symptoms reappear.

Case III.—P. B——, aged thirty-eight years, August 29, 1894. The disease began five years ago. He was in bed two months. There are lightning pains, Argyll-Robertson pupils, ataxic gait, Romberg symptoms, and numb areas. The knee jerk is absent.

November 14th: He walks better and has less pain.

March 1, 1895: He can walk five or six blocks, while previously he could not walk at all.

March 30th: He had a pain attack.

November 4th: Sexual functions returned.

April 21, 1897: He remains free from all symptoms.

Case IV.—W. R. C——, aged thirty-eight years; July 7, 1897. The disease followed a railroad accident nine months ago. He has shooting pains, ataxic gait, contracted pupils, but accommodation is preserved; failure of eyesight, much inco-ordination of legs, and Romberg symptom. The knee jerk is absent. He has girdle sensation, incontinence of urine, and constipation.

September 10th: The incontinence of urine ceased and all active symptoms were ameliorated in severity.

December 29th: Pains are occasional and slight. The patient was lost sight of at this point, and could not continue treatment.

Case V.—F. G——, aged fifty-eight years, November 30, 1894. The disease began nine years ago, with prickling in the feet, then shooting pains; he now has ataxic gait, with absence of knee jerk; Argyll-Robertson pupils; he cannot stand with the eyes closed.

December 3d: Improvement.

December 12th: The pain attacks occurred only twice since treatment was begun; formerly they were very frequent.

March 12th: The patient could not come longer for treatment, but seldom had pain and resumed his occupation.

Case VI.—J. F——, aged fifty-seven years; November 25, 1895; typical locomotor ataxia. The patient entered the office with an excruciating attack of lightning pains. After twenty minutes' treatment he was completely relieved, showing the immediate effect of electricity. The patient took treatment only very seldom, and at last accounts was not cured, but was greatly relieved.

Case VII.—C. M. H——, aged forty-eight years; March 28, 1895. The patient has shooting pains in both legs, ataxic gait, inco-ordination, abolished knee jerk, slowness of urination, constipation, loss of sexual power, and optic-nerve atrophy. Pains occur every night. He was under treatment two months; the pains ceased after the first ten days of treatment. One year later he reports that the pains have but seldom recurred, but I have no history of his entire recovery.

Case VIII.—S. M. H——, aged seventy-seven years. The knee jerk was abolished. He has darting and shooting pains which he calls "cannon-ball pains," so great are the shock and terror of their invasion. He has frequent and distressing pain at brief intervals during the entire night, and every three or four minutes during the day. In addition to the further usual symptoms, a symptom most marked is a profound anæsthesia from the waist downward, within which sensations of contact, temperature, and pain are abolished. He takes opium to relieve pain. A very interesting observation may be recorded here: Upon beginning treatment with the friction spark (ordinarily painful and creating a burning sensation) anywhere from the knees downward or in the gluteal and sacral regions, no sensation whatever was perceived by the patient; then suddenly at the expiration of four minutes the patient would exclaim, "There, you've fetched it!" and now the sensations were quite restored. The sensation of contact returned first, then that of temperature, then that of pain. The sensations thus restored remained restored a few hours, but were more easily regained at the next and at each successive treatment, until finally after a few weeks the restoration was perfect and continuous, and the patient can now walk much better and otherwise get his bearings.

This effect I have noticed in all cases in which there are anæsthetic and analgesic areas. In a case not here reported this improvement of itself, as well as that of the lightning pains, was a great satisfaction to the patient. The above-mentioned patient must be recorded as greatly improved, but it was probably impossible to cure him.

A patient, Mr. D——, was exhibited before the society, who had had locomotor ataxia for five years, and who on beginning treatment five weeks previously suffered from daily attacks of lightning pains. Answering a question of a member he stated that he had not had a single attack of pain since beginning treatment, could walk ten blocks where he couldn't walk one, and that he had reduced his morphine from six grains daily to none at all during the last three days.

**Rheumatoid Arthritis.**—This is commonly considered an incurable disease. But recently one of my instructors in the Post-Graduate Medical School and Hospital has collected from the records of the hospital and published[1] the results of the electrostatic treatment as pursued by me for many years, of upwards of thirty cases, in some of which a complete cure took place, and nearly all showed improvement to a point of an arrest of the morbid processes. Here also the active process may be arrested as in locomotor ataxia, leaving, of course, as in that disease, "remaining defects" due to prior tissue changes.

Since these thirty cases have been published I will not further refer to them here, but will add from my private notes two instances of complete cure of a severe and typical case of rheumatoid arthritis, and present one of the patients to you for your personal examination and questioning.

Case IX.—Miss J. B. F——, aged fifty years, September 4, 1895. The patient was engaged in severe literary occupation daily and subject to much anxiety. The disease began in January last, nine months ago. In February the metacarpo-phalangeal joints of both hands began to swell and were tender to the touch. This condition has steadily progressed to date. At the same time some of the corresponding joints in the feet swelled, and the disease soon extended to the wrists, shoulders, elbows, and knees. She took salicylic-acid treatment without benefit. She then went to Paris for treatment, and took vapor baths, these "broke her up" very much. In Paris she took electro-static treatment with marked benefit, and her physician there, Dr. ——, referred her to me in this country. Careful examination demonstrated that there could be no doubt of the diagnosis. The joints presented the usual rheumatoid arthritic contour with tenderness on pressure and restricted movements. They had never been hot or red. The patient wore large shoes and walked with difficulty. The disease was evidently in a stage prior to joint destruction, when the disease, as is frequently shown by an *x*-ray picture, is yet confined to the soft tissues. The patient was told that it might take a year to cure her. In September, 1896, one year from beginning treatment, she was quite recovered and has remained so ever since, in spite of most adverse circumstances of occupation and troubles. (This patient was exhibited to the members of the society, and the cure and diagnosis were confirmed.)

Case X.—Mrs. R. S. T——, aged thirty years. September 2, 1881; this was a case of characteristic arthritis deformans, located mainly in the right knee for six months, also somewhat in the left knee and in the joints of the fingers, wrist, and elbow. The patient had become a cripple and came to the office in a rolling-chair. The right knee was rigidly flexed at about a right angle; the joint was ankylosed and admitted of movement corresponding merely to about two inches of a segment of an arc described by the foot.

October 27th: Daily treatments were given. The area of pain, soreness, and swelling is reduced to a single central region. She has voluntary flexion of eight inches at the foot; forced flexion is increasing.

November 3d: Swelling in the joint increased today.

November 11th: There is an extensive puffed area to the left of the patella, but the knee permits of much freer motions.

At the end of three months the patient returned home cured. Dr. Jones, of St. Paul, whom I met in 1895, tells me the trouble never returned and that the

[1] The Post-Graduate, November, 1899, "Rheumatoid Arthritis," by Dr. W. B. Snow.

lady danced at the Assembly balls with her daughters. Later the patient called at my office and presented no signs whatever of ever having had rheumatoid arthritis. This case emphasizes the advantages of early treatment.

**Incontinence of Urine.**—CASE XI.—The patient, a Hebrew pedler, aged twenty-nine years, reports that all his life he has had almost nightly an escape of urine while in bed. This incontinence had become more troublesome than ever, and caused him to apply for relief. Electrostatic treatment was applied three times a week to the perineum, with the result that each week the loss was less or more infrequent, and ceased entirely at the end of three weeks. Later reports show that the cure was permanent.

I could add many cases of incontinence of urine in children, all cured by the same method. The electric wave current causes no pain, and hence is available with children, who generally have a fear of electricity.

**Sexual Impotence.**—The results in this class of cases are positive. Objectionable as this class of cases may be to report, a single case is justified as typical of many.

CASE XII.—J. S. C——, aged forty-six years; October 1st. His trouble began seven years ago with monthly emissions; these grew more frequent, until upon slight provocation they would occur many times a week and even in the daytime. He now has an average of four emissions a week. He then developed what he terms "internal emissions"; that is to say, complete erection without actual seminal emission, followed by profuse perspiration and exhaustion. (Probably the emission occurred backward.) He has severe pain in the back of the head and dull aches down his legs after such attacks. He wakes up exhausted in the morning, and now finds himself on any and all occasions completely impotent by reason of failure of erection.

November 4th: But one emission in three weeks; the "internal emission" ceased since the last four days. He sleeps well, eats well, and is gaining flesh; "head clearer" and is less nervous; the pains in the back of the head have ceased, and memory is improved.

December 15th: No more "internal emissions" occurred.

January 2d: He has had nine weeks' freedom from any emission; then one occurred.

March 1st: He had a successful coitus; in splendid health and is perfectly cured. Later reports show no relapse.

**Neuritis, Sciatic, Brachial, etc.**—In this disease electrostatic treatment is in truth specific, for no case in my hands has yet failed to be cured when sufficient and reasonable time is given. I do not give details, for I have recently published[1] 80 cases of this disease, in which my results were summed up as follows: Sciatica, 39 cases; axillary and brachial neuritis, 41 cases; total, 80. Average duration of treatment: sciatica, 32 days; axillary and brachial cases, 22 days. There was immediate relief from pain in all cases. Of the 80 cases, 57 were known to be permanently cured; 23 were relieved, so far as my records go; their ultimate history was not easily obtainable, but they are believed to have been cured.

**Migraine or "Sick Headache."**—CASE XIII.—Mrs. A. W. T——, aged thirty-nine years; November 14, 1895. During the last fifteen years she has lost at least a week out of each month with one of the most intense attacks of migraine I have ever seen, and now, although her menstrual periods have long since ceased, the disease has progressed until the headaches occur almost daily. The usual attack begins by a precursory sensation of feeling cold "like a clod of ice," especially "down the spine," and no amount of bed-covering or increased heat in the room will cause her to feel warm; at the same time she has a sinking, tired feeling and a "perfect goneness all over"; then begins a sharp pain in the right temple, "just as if a nail were being driven in," until the entire region of the right eye is involved; the sense of chilliness, faintness, and nervousness increases, and finally intense nausea supervenes with flatulence. Often a "blur" comes over the right eye, and she is now reduced to a condition in which she does not leave the house and is a continual sufferer. She "has tried everything" to get cured during her fifteen years of suffering, and is now discouraged, despondent, and so nervous that she starts at the slightest unexpected sound or movement, and does not trust herself to go out alone. The patient divides her attacks into "nail headaches" and ordinary sick headaches, the former being by far the most severe and most dreaded. She is much debilitated, with the usual symptoms of this condition. She began treatment.

November 16th: Severe headache.

November 26th: No headache to date, but nervous and prostrated.

November 28th: A slight attack.

December 4th: Headache to-day.

December 20th: No headache since last record, but experiences a dull feeling of "congestion in the head."

January 28, 1896: It is now two months since a "nail headache" has occurred. In this interval she has had several attempts at headache, which did not, however, culminate in an attack.

February 23d: It is now three months since she had a distinct attack. The patient has gained in weight, sleeps and eats well, and her chronic constipation has disappeared without other treatment than electricity. Her tongue, previously for the last three or four years "white-colored and lead-looking," is now red and normal.

May 18th: The patient's general appearance shows a remarkable change to health. She has gained weight. There is no further hemianopsia, nor "blurring sensations," before the eyes.

May 23d: She discontinued treatment, cured. I advised her to live out-doors all summer. She endured the fatigue of packing and departure without exhaustion.

Remarks: This patient was under treatment about six months. This I consider a short time to cure a migraine of fifteen years' standing. I may frankly say that the disease fought every step of the way, and that often both the patient and the doctor had reason to feel discouraged. But perseverance on the part of both won.

**Uterine Fibroid Tumor. Symptomatic Cure and One-Third Reduction of Mass.**—Finally I append a case of fibroid tumor treated by the electric-wave current, the first as yet reported.

CASE XIV.—Mrs. C. A. S——, aged forty-five years; April, 1899. A sister had a fibroid tumor, and was operated upon and died; hence the patient dreads operation in her own case. She first noticed her present illness ten years ago. She had abdominal cramps and other symptoms. Five years ago she had a good deal of hemorrhage. Three years ago she first noticed the presence of a tumor. She consulted with her family doctor, Dr. S——, who sent her to Dr. F——. He advised the removal of the tumor by surgical operation, because of the severe hemorrhage and the consequent drain upon her health. Friends advised seeing Dr. E——, who at first favored operation, but finally advised some delay. Later on she saw Dr. S—— and Dr. S——; the latter advised operation and removal of the tumor. She saw also

[1] William J. Morton, M.D.: "Cases of Sciatic and Brachial Neuritis and Neuralgia, Treatment and Cure by Electrostatic Currents." MEDICAL RECORD, April 15, 1899.

Dr. A——, who told her the tumor was the size of a seven-months' child.

Present symptoms. The tumor was fully of the size of a gravid uterus carrying a seventh-month child. Externally, through the abdominal walls, the mass was well-defined, round, and intensely hard; internally some parts of it pressed down deeply in the pelvic basin and were very hard to the touch. The patient experienced a distressing feeling of weight in her lower abdominal region, also at the same region "a burning feeling." She had much difficulty in urination; she could scarcely walk about, and in fact spent most of her time in bed. Her feet and ankles were often swollen. She felt a "pressure in her head," which she says made her feel as if she was going insane, and her eyesight became defective. But the most distressing symptom was the almost continuous hemorrhage. During the last three years, at the occurrence of each monthly period hemorrhage would continue from twelve days to three weeks out of each month, and frequently she was so weak that she could not raise her head. She had also frequent fainting spells.

Coming to me as a last resort, since she could not make up her mind to undergo a surgical operation, I felt justified in trying upon her the new electrostatic current, and that, too, wholly externally, since I had lost confidence to some extent in galvanism for these cases, and because, reasoning from analogy, this current ought, *a priori*, to set up a normal in place of a faulty nutrition in the parts acted upon. The patient has received about three treatments a week with the exception of during the summer. Omitting details of varying conditions, the patient to-day, November 5th, makes the following report: The feeling of weight, burning, and oppression in the pelvis has long since disappeared. Her feet no longer swell; urination is undisturbed, and she walks about everywhere and for a long time without discomfort. She is in splendid health, and, most important of all, she has had no hemorrhage since the first few weeks of treatment. The tumor, from being a heavy, solid, hard mass, has been reduced fully one-third in size, and upon its left-hand side has become quite soft to the touch both externally and internally. It is also more movable. In short, the symptomatic cure is perfect, while the tumor as a physical mass is also undergoing retrogression. In the mean time her menstruation has resumed a perfectly normal character, so that the results reported cannot be attributed to a cessation of menstrual activity. No medicines, or any other treatment, were employed. The progress would certainly have been more rapid if the treatment had been daily rather than tri-weekly, and possibly had it been internal rather than external. The patient is still under treatment, and she as well as her physician confidently expects a complete cure.

Several members of the society desired to examine this patient, and she kindly consented to meet Dr. Egbert H. Grandin and Dr. Charles Schram.

Dr. Grandin writes: "Unfortunately she is menstruating and I cannot examine her. The history you gave me is similar to that which I obtain from her."

Dr. Schram, after a careful examination and report upon the heart, writes: "In her present condition the insufficiency of the heart action would probably cause a laparotomy to be fatal."

I would here state that I have treated in the same manner and with immediate benefit other cases of menorrhagia than those associated with uterine fibroids, as well as cases of vaginitis, ovarian pain, ovarian tumor, etc.

To record cases further is impossible within the scope of this brief paper, whose primary object was to make a practical demonstration of a new method of treatment, namely, the electrostatic wave current, and this has led me naturally to include classes of cases in which the treatment is applicable.

Basing the statement upon a large clinical experience in my dispensary and private practice, I find the electrostatic-current treatment applicable with great efficacy, not only in the above-mentioned classes of cases of locomotor ataxia, rheumatoid arthritis, incontinence of urine, sexual impotence, neuritis and neuralgia, migraine and uterine fibroids, but also in ordinary rheumatism, acute, subacute, and chronic; in gout, in synovitis, in enlarged prostate, in anæmia and chlorosis, and especially also in neurasthenia and melancholia, and all conditions in which a state of general malnutrition exists.

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## THE NATURE OF EXPERT TESTIMONY, AND THE DEFECTS IN THE METHODS BY WHICH IT IS NOW ADDUCED IN EVIDENCE.[1]

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MR. PRESIDENT, MEMBERS AND GUESTS OF THE ASSOCIATION: I trust you have noticed that to-night we are all giving unsworn testimony to our opinions upon one branch of opinion evidence. The other speakers are experts; I am but an ordinary witness. Therefore, if it were true that expert testimony is open to suspicion and less to be relied upon than that of ordinary men, this paper would be the most—instead of being, as it is, the least—valuable contribution to our discussion. Thus, by *reductio ad absurdum*, you are satisfied at the threshold of the inaccuracy of that premise.

You will not expect of me, in the half-hour allotted this paper, any very novel views upon that part of the subject allotted to me for dissection. It has been cut up and turned over many times. But every autopsy, even though badly done, may be useful; if not as a "bringer of new things," at least as a refresher of memory; and the end of this paper will be attained if it only helps to revivify your ancient knowledge.

There is undoubtedly widespread agreement that expert testimony as now given in legal proceedings is unsatisfactory, and equally widespread disagreement as to the method of making it satisfactory. In a way this is fortunate. If everything was perfect, or if we all agreed as to methods of remedying imperfections, no one could busy himself with reform; and, consequently, the ranks of the unemployed would be dangerously crowded. Life would become stale. We should not, for example, have had the pleasure of coming here this evening; or, if we had, then, as soon as my esteemed friend, Mr. Justice Bartlett, had read his thoughtful and interesting paper, the chorus would have cried, "Those are our views precisely," and we should have left this hall with that profound sense of loss experienced by good physicians and lawyers when a patient dies, or a cause is finally settled. We should have had one topic less to talk over in common, and to differ about.

Ordinarily diagnosis precedes treatment. Your programme to-night reverses this rule. We began with the remedies, leaving final diagnosis, as sometimes happens, to be made after the autopsy. It is for me only to examine the constitution and ailments of expert testimony, fully aware that my predecessors have done the same thing, in so far as they have followed the precedent of that unprincipled horse

[1] A paper read at the annual meeting of the New York State Medical Association at the New York Academy of Medicine, October 24, 1899, in conjunction with papers by Chief Justice Willard Bartlett, ex-Judge Joseph F. Daly, T. Charlton Lewis, Esq., and Theron A. Wales, M.D.

which, when the veterinary was about to treat him by insufflation, blew first.

Is it not paradoxical at least to say: "Expert testimony is less to be relied upon than that of ordinary witnesses or the conclusions drawn from the latter by average jurors"? Does not that seem equivalent to saying: "Inexperience is a more certain guide than experience; wisdom less to be depended upon than ignorance; trained thought a poorer reliance in its own field than unskilled conjecture"? Yet law reports are full of judicial opinions that all expert testimony is open to suspicion, to be received cautiously, and to be subordinated to testimony as to the "facts," so-called. Experts, as a class, are pronounced not only biassed but, by implication—yes, even in direct expression—dishonest.

In the old and ever-cited "Tracy Peerage Case" (10 Cl. and Fin., 154), Lord Campbell said that they come with such bias that hardly any weight can be given to their evidence. In a very recent case, Ferguson *vs.* Hubbell (97 N. Y., 507), Judge Earle, of our court of appeals, professing unwillingness to indorse the strong language of Lord Campbell, contented himself with this mild statement: "It is generally safer to take the judgments of unskilled jurors than the opinions of hired and generally biassed experts"; and most of us have smiled at the amusing, if cynical, classification of liars, wherein primacy of that interesting group is given to experts.

But text-books and essays have so fully cited the utterances of this sort, as well as others, more kindly, that it would waste time to recite them here. Let it be ours to inquire whether, on general principles, this extreme denunciation is justified, whether there is more truth in our legal paradox than in its medical counterpart, thus expressed by a brilliant essayist: "In science there are three unpardonable sins—trusting the senses, non-experts attempting to do the work of experts, and using deduction for induction, and vice versa."

As college lads some, perhaps most, of us were taught that Right is founded not in the nature or will of God, nor yet in the nature of man, but in the nature of things. Is there not room to believe that evil in expertism lies more in the nature of things and our imperfect legal methods of eliciting truth, than in the bias and depravity of expert man? It certainly is in the very nature of things that expert testimony, like all other testimony, whether to opinion or to so-called facts, must vary with the witnesses. Why, then, this apparent assumption that experts, even in the inexact sciences, should agree in their testimony, and that their disagreement necessarily affords presumption, if not of dishonesty, at least of bias? Because the expert avowedly testifies to "opinion" only, and is therefore not punishable for perjury, even in case of wilful falsehood, is it fair to assume that he deliberately lies more frequently than the ordinary witness? How often is that ordinary witness punished for perjury, or restrained by fear of its penalties? The address of the president of our State Bar Association, two years ago, was as harrowing a picture of the perjury of ordinary witnesses as has ever been presented when experts have furnished the artist's material. I am optimistic enough to believe that an expert is as honest as are other witnesses; pessimistic enough to think that perjury is too frequent with all classes of those who testify in court; and charitable enough to fancy that much of what many suppose to be wilful falsehood is really only the result of inaccuracy in observation, inference, memory, and understanding, supplemented, far more than is commonly imagined, by clever suggestion or by ineptness on the part of examining counsel. Ordinary witnesses, even the honest, constantly differ in their testimony as to those every-day occurrences, supposed to be apprehended immediately by the senses, and called "simple facts"; the reason being, as we all more or less distinctly perceive, that every witness is, in the last analysis, only giving an opinion.

Some men are so constituted as to accept every apprehension of sense and result of mental processes as positive facts. What they see, or think they see, they know absolutely. Others are so convinced of the relativity of all knowledge that, to them, nothing is certain; they accept mathematical axioms with mental reservations. As describing this, the nonsense aimed at John Stuart Mill almost becomes sense:

> "There was a philosopher, Mill,
> When you said 'Twice two 's four,' he said, 'Still,
> Perhaps, up in heaven,
> It makes six or seven,'
> This abnormal philosopher, Mill."

Medical jurisprudence is—contrary to what seems to be a general opinion—the science, not of applying legal principles to elucidating medical questions, but of applying medical knowledge to the solutions of legal problems; and in practice the law must derive this aid from medicine through expert testimony. It would never do for the court and jury to retire with a medical encyclopædia and "cram up."

An expert is only a person specially experienced, skilled, or learned in some art or science; or, as some would have it, in any department of knowledge or skill, wherein the formation of a sound opinion necessitates a previous course of study and experience beyond the lines followed by the average man. This expert is called upon in litigation to enlighten the court and jury by giving an opinion upon a state of "facts," either within his knowledge, or more often narrated to him for the purpose of eliciting his opinion and serving as its basis. Even an ordinary witness, if he cannot otherwise sufficiently convey his meaning to the jury, is allowed—where his testimony necessarily presents a conclusion—to give opinion evidence, providing that he recites those facts personally observed by him, which serve as the data of his opinion. The expert differs from him in this—that the former may give his opinion not only upon facts that he has observed personally, but—and to this end he is most frequently called—upon facts testified to in the case by others. Thus, both a medical man and a layman may testify upon the issue of A's sanity; but while the former may base his opinion upon facts testified to by other witnesses, the latter must narrate those personal observations of his own which have led to his conclusions; and there is judicial opinion that the testimony of neighbors to A's sanity, given under this rule, is more satisfactory than the opinion of a physician based upon a hypothetical question. But I think that if the judicial mind rendering that opinion had been analyzed, there would have been found in it an unrecognized—subliminal, if you please—impression, that the neighbor's opinion, ostensibly based upon his recital in evidence of certain erratic actions of A, rested actually upon very many observations not before the court or jury.

One class of experts in the law has a great advantage over all others. Their opinions are authority; for a time at least. I refer not to attorneys, who are rarely called as expert witnesses, save upon the point of a fellow-attorney's fees—when agreement is likely—but to that great body of experts who rarely if ever go upon the witness stand, yet are always under a continuing oath, and in every case, upon the facts before them, render their opinions as to the law—the judges. When they give an opinion, whether it be right or wrong in our opinion, it is of binding force until set aside; and that is more than can be said of yours of the faculty, or ours of the bar. I have sometimes wondered whether those judges who have been

most denunciatory of the differing conclusions at which reputable medical experts have arrived at upon the facts in evidence have reflected that they, too, belong to a body of experts in the law, whose members often differ, very honestly and ably, in drawing conclusions, even from agreed facts. You laymen would think, for instance, that it is much easier to define the word malice, to say whether a corporation is liable for its servants' malicious acts, whether certain words are defamatory within the ordinary understanding of reasonable men, and whether a criminal statute is retroactive in effect and, therefore, *ex post facto*, than it is to tell whether certain physical symptoms indicate typhoid fever or appendicitis, whether morphine poisoning can be absolutely diagnosticated from symptoms alone, or what, with reasonable certainty, is the prognosis of a morbid condition; say, traumatic hysteria. Let us see. Since memory runs not to the contrary, English judges have cudgelled their brains over the legal definition of malice; and yet, only recently, in the great case of Allen *vs.* Flood (1898, App. Cas. 1) involving that definition, two judges and six law lords reversed the judgment of ten judges and three law lords; in other words, eight judges reversed the opinion of thirteen, not because the former were necessarily wiser, but because they sat higher in the forum. In another recent English case, Neville *vs.* Fine Arts and General Insurance Company (1895, 2 Q. B., 156; 1897, App. Cas., 6) the judges, avoiding with much skill the vexed question of corporate liability for the malicious acts of servants, passed upon the point whether certain words would be ordinarily understood, by reasonable men, as defamatory. Pollock, B., Lord Esher, M.R., Lopes and Rigby, L.JJ., decided that reasonable men would so understand them. But upon appeal, Lords Halsbury, L.C., MacNaghten, Shaw, and Davey were of opinion that the words were not so understandable—in short, that Pollock, Esher, Lopes, and Rigby did not possess the understanding of reasonable men. Coming home now, across the water, we find the recent medical case of People *vs.* Hawker (14 App. Div., 188; 152 N. Y., 234; 170 U. S., 189), wherein the facts were agreed upon, and the only question involved was one of law, whether a statute forbidding one convicted of felony to practise medicine could apply to a licensed physician, so convicted prior to its enactment; in other words, whether the statute was *ex post facto*. The trial judge decided negatively. The appellate division of this department, by a vote of three to two, reversed him; the court of appeals in turn reversed the appellate division, two of its judges dissenting; and finally, the supreme court of the United States, after two arguments, affirmed the court of appeals, three of its members dissenting. Surely no one would presume, because of these differences of opinion, to doubt for a moment the ability, the learning, the absolute honesty of these various experts of the law; and it is equally manifest that the frequent differences of opinion among medical experts—the only class we are now considering—should not of themselves alone justify the criticisms so freely made. We must seek further, therefore, the explanation of our paradox.

As has been said already, judges, although experts in the law, do not render their expert opinions from the witness stand or under cross-examination; nor are those opinions, like those of other experts, avowedly to be passed upon, and they may be disregarded by the jury except when in cases of criminal libel jurors are expressly made judges of the law and the fact. In civil cases judicial opinions not only theoretically but, as a general rule, practically control the jurors in matters of law. In criminal cases, however, jurors, although directed save in actions for libel to follow the law as laid down by the court, constantly disregard judicial instructions as well as expert testimony; and while in so doing they violate a moral and legal duty, they exercise, nevertheless, a power undoubtedly possessed by them in practice under their right to bring in a general verdict of "not guilty," no matter how absurd it may be; and rarely if ever do they incur for such misconduct a greater penalty than a contemptuous rebuke and discharge from further service. Yet, although it thus appears that the jury may disregard upon occasion even the most authoritative expert opinion, nevertheless—let laymen jeer as they will at the glorious uncertainty of the law—the opinions of the judges who sit high on their thrones of awful state are hedged about, and properly and justly hedged about, with that reverence which attaches to authority. But how is it with the scientific experts? Divested of all pomp and panoply, they utter their opinions from the same stand with other witnesses, the obvious truth-tellers and the unmistakable liars, and they utter them, too, under the same procedure that is adopted to elicit what we fondly call the facts of the case.

To elicit in litigated cases the truth from minds as far as possible apart in qualities, powers, and processes, we have certain arbitrary rules of evidence. They are not careful, scientific formulations, beaten out by the brain laboriously and systematically; but they have been largely struck off by rough common sense as occasion arose, at nisi prius, and preserved for us in the museum of precedents. They have answered—they still answer—their purpose of getting at the truth approximately, minimizing lying, and putting an end, at some time or other, to litigation. But they are not to be venerated as the best guides to absolute truth. Only within comparatively late times has effort been made to systematize them. They are still to be sought among the bewildering and contradictory cases wherein substantive law is confusingly blended with the law of procedure. Our reverence for them, like our veneration of the boasted Saxon institution of jury trial, is based somewhat upon misapprehension. The jury came to us, apparently, not, as we have fondly supposed, from our Saxon but from our Norman ancestors, whose descendants in France of to-day disregard in legal procedure pretty much everything that we have come to hold sacred. So, too, our evidential rules, while serving to get at truth in a rough, everyday fashion, in accordance with our traditions and the spirit of free government, are by no means, as some fancy, the best rules for the attainment of scientific truth. If, for instance, Darwin had excluded hearsay evidence, the origin of species would never have been written; and even in ordinary affairs, there is not a day, scarcely an hour, when men, lawyers, and laymen do not, where honor, life, and property are involved, act with assurance and safety upon testimony inadmissible in courts of justice.

Undoubtedly, our legal procedure is intended and supposed to elicit the whole truth relevant to the issues of a trial. We hope and are fain to believe that this is its usual result. But let us consider for a moment its nature. Litigation means contest between two sides. The law's theory is, that each side shall have a fair field, and no favor for the presentation of so much truth as makes for its contention. Each litigant calls witnesses who swear that their evidence shall be the truth, the whole truth, and nothing but the truth; but that means that they will answer truly and reverently, not that they will volunteer speeches as the witnesses did, to the amusement and amazement of our part of the world, in the great case of recent date. The legal theory is that, between examination and cross-examination, the witness's visible supply of truth will soon be exhausted and his reserve tapped. Each side has and generally must have a theory of the case, to be supported as to matters of common obser-

vation, so-called "facts," by the testimony of ordinary witnesses to what they have apprehended, or think they have apprehended, immediately by the senses; only they are not allowed openly to confess that they only think they have apprehended. They are told to tell "facts," as though they knew any facts except with the oath of the conscious or unconscious cerebration of their thinking apparatus.

As a rule, this part of the testimony is disposed of with comparative ease, leaving upon the jury's mind rather distinct impressions. As to matters of special knowledge each side supports its theory of the case by the opinions of experts, and the examinations of these gentlemen are at times drawn out interminably and often with the result of befogging and boring jurors to the detriment of the examiner. Let us illustrate: We have an accident case, so-called. The issues are: Who was at fault? If the defendant, then what are the extent of the plaintiff's injuries, and the consequent reparation due to him? So far as the circumstances of the occurrence are concerned there are conflicting stories, and each attorney adopts, honestly we will hope, that theory of the case which best harmonizes them in his client's favor. He will not, knowingly, call false witnesses. He will not lure honest witnesses out of the jurisdiction. He will not consciously misstate the law. But probably, as a famous advocate and diplomat once said, "it will not be his chief effort to elicit all of the truth that tells against his client." When it comes to the medical theories of the case, the diagnosis and prognosis, the attorneys must necessarily resort for them to medical men, who, if honest, will make as thorough and fair an examination as possible, and advise the attorneys what, in their opinions, is the plaintiff's condition, whether it is attributable to the accident, and what can be said with reasonable certainty of his future history. Such information is absolutely necessary to attain the ends of justice, and therefore physicians were among the earliest experts called for the enlightenment of the court. They will always be necessary. The question now agitated is whether we shall go back to what it seems was the ancient method of allowing the court to select experts of quasi-judicial character to inform it, whether we shall adhere to present methods by which opposing counsel, having chosen their witnesses, beat the truth out of them—or, sometimes, keep it in them—by pitting them against one another under examination and cross-examination; or whether we shall make a blending of these methods. It is not within my province to-night to examine these proposals or the objections to them. That has been done already better than I could do it. My only function is to point out what defects are in the very nature of expert testimony, and what are in our methods of adducing testimony.

It is objected that under our present system experts become partisans—"hired advocates," as we lawyers are called by those deeply conscious of their own unselfish virtue—medical counsel, who, unlike legal counsel who rarely if ever testify, go upon the witness stand to plead a cause, not to tell the truth. I have already intimated my belief that this opinion is exaggerated. Experts are unprincipled sometimes, of course; but I do not believe they are so—I should bitterly regret to think they were so—as a rule, and prefer to think the criticism superficial. In a celebrated trial for murder, medical and chemical experts of the highest personal and professional reputation were subjected by some to very harsh condemnation because of their differences in opinion as to the possibility of diagnosticating morphine poisoning from symptoms alone. But it seems to me that, to one reading the record of that trial carefully, these inferences became largely reconcilable, leaving no reason to impugn good faith. It may well be questioned whether a different result would have followed if the scientific witnesses had been official experts or had passed State examinations and registered, as it has been suggested all experts should be required to do before being recognized as such. Certainly, if the experts in that case differed corruptly and not honestly, if they espoused under oath theories they did not believe, we might well despair of the honesty not of physicians only but of mankind. It would be fortunate, no doubt, if as a general rule in every case each party could have medical counsel to frame the medical theories of the case and suggest physicians or surgeons imbued with those theories who might be called to testify in support thereof. We may concede that it is a theoretical defect in procedure that compels us to call an adviser as a witness; but before essaying to remedy the defect by a rule forbidding such practice, it is to be borne in mind that occasions may often arise when the witness may necessarily have to be also the instructor of the side calling him. If, for example, in the day of Jenner a case had turned upon his much-opposed theory, would he not have had to be called both to advise and to testify? Many like illustrations will suggest themselves, and it is not to be forgotten that every advocate wants to know what his witnesses will testify to before calling them, that he is entitled to call any one who can testify honestly to a theory that sustains his client's cause, and that, if need be, he has a right to learn that theory from the person who may be the only available witness to maintain it.

It is, perhaps, in qualifying the witness that our procedure is most defective; and beyond doubt much of the disrepute into which medical expert testimony has fallen is due to the fact that our courts, through laxity or inability to test special fitness, too often allow incompetent men to testify as experts. There is at present no certain standard in this regard for judicial guidance. The latest utterance of our own court of appeals upon the subject is in the case of People *vs.* Rice (159 N. Y., 400), which holds that a license to practise medicine, while *prima facie* truth of expert competency, is neither conclusive nor essential. Upon that point the general rule seems to be that any physician may be admitted to give testimony in any department of medicine; but there are jurisdictions in which it does not obtain; and I do not think that medical men themselves are disposed to regard it with favor. One of your own profession (Dr. Pearce Bailey, in MEDICAL RECORD, March 4, 1899), in writing lately upon the medico-legal relations of traumatic hysteria, declares the result of his observation and experience to be that "a large number of medical witnesses who qualify as experts in litigated causes of traumatic hysteria have no rational conception of what hysteria is, and are totally unable to give an expert opinion in regard to it." From this premise he infers that no matter how honest or distinguished such practitioners may be, their testimony is "fatal to all attempts to arrive at the truth of the issue." Possibly a wise system of examination might secure a permanent class of highly qualified experts, but it is more likely that the system's value would lie not so much in securing competent men as in excluding ignorant pretenders to medical knowledge. As it is now, counsel in great cases seek the best learning they can find; yet a layman's clever cross-examination may discredit a witness reputed to possess and, in fact, possessing knowledge far greater than that of the class who would be most likely to aspire to positions upon a State board or care to be listed in a class of professional witnesses. In the murder case already referred to, a gentleman of national repute, an authority among medical writers, testified that in his opinion opium or morphine poisoning could not be positively diagnosticated from symptoms alone. He said that he based his opinion

on his reading and very largely on his own experience. His cross-examination was very brief. It consisted substantially in asking what was his experience, and the number of cases to which he had been personally called in recent years. He admitted with perfect candor that within twenty years he had seen but three cases of opium poisoning, and one case of morphine poisoning. Having admitted that what convinced him of the cause of death was, in one case, the autopsy, he was then asked whether he had ever diagnosed such a case without an autopsy, and also asked whether he thought himself competent with this limited experience to testify against physicians who in the same time had seen seventy cases and were constantly seeing them. No one well informed in the premises doubted the learning, candor, and ability of the witness, nor could exception be taken to the cross-examination which deprived his testimony of any force. No law can be framed constitutionally, that would preclude such a cross-examination. And it is food for thought whether it would be desirable to have members of a State board frequently put through such a course of questioning.

Another defect in procedure is said by experts to be that we lawyers will not let them tell the truth even when they want to. One distinguished gentleman who has testified very often as a chemical expert, in a letter written to Mr. Tracey Becker and by him incorporated into an interesting paper before the Central Medical Club at Buffalo last year, thus complained: "In all my employment I have found the task of keeping the counsel who was to examine me in chief within the bound of my convictions much more troublesome and difficult than the most searching cross-examination." This is a sad picture of chemical counsel struggling with legal counsel on the same side for a chance to tell the truth; and obviously there is no remedy for such a state of things except to let this expert address the jury, as M. Bertillon lately did in France, or submit written opinions. But with all due allowance for undue zeal or the inability of many examiners in chief to develop the case, we may still consider this to be about as sweeping as the assertion of Mr. Dale, of the Philadelphia bar, under whose leadership the bill drafted by a committee of the Pennsylvania State Bar Association to regulate expert testimony was referred back to the committee without approval at that association's meeting last summer. He said: "We all know that men whose minds are devoted to the subject of insanity acquire a peculiar bent, so that the large majority of the eminent men who have studied insanity, and are called upon the witness stand to express an opinion as to the mental status of any particular person, will invariably, and with entire honesty, state that those men are insane"; and, in the spirit of prophecy, he said that, if the bill should become a law, successful prosecutions for murder would in that commonwealth be at an end.

Still another defect, as some take it, in our method of eliciting expert knowledge is the hypothetical question; and the bill of the Pennsylvania Bar Association just referred to proposed to do away with it entirely. But, on the other hand, our courts have expressed themselves often as considering the hypothetical question the best if not the only means of eliciting opinion. Time does not suffice to discuss this topic in detail.

To the minds of many, it is in the contingent fee, especially in connection with lack of qualifications, that the source of most of the corrupt practices on the part of the lawyers and experts is to be found. As you know, acceptance of a contingent fee was once considered disreputable among attorneys. We all remember how slyly Sam Weller slipped into his testimony the remark that it was very honorable and generous in Messrs. Dodson and Fogg to take the Widow Bardell's case "on spec." But the widow won from the jury nevertheless, and contingent fees were taken notwithstanding their theoretical impropriety, based upon the idea that all persons, attorneys not excepted, will lie and cheat in their own interest if given a chance, a reason for which persons in interest were formerly forbidden to testify. Now our code expressly allows contingent fees to be taken by attorneys, whether wisely or not we will not consider; that, too, being a point upon which expert opinions differ. Parties now may testify in their own interest, even prisoners charged with crime. With all these classes of witnesses, the jury is directed to consider their interests in weighing the evidence; and it certainly seems proper to show to the jurors what interest the expert may have, that they may consider it—although in this regard courts and counsel are generally considerate of the witness; it will then be for the jury to weigh expeft testimony and decide how far the balance is affected by motive. It is our belief in the freedom of the judges from bias that, probably more than any other reason, differentiates in the public mind their opinions from those of scientific experts. Yet while we thus believe in the honesty and fairness of our judges, conspicuous examples are not lacking where their opinions have been assailed by large numbers of persons who, whether right or wrong, have firmly believed their determinations to have been influenced by extra-legal reasons operating consciously or unconsciously upon the judicial mind. Thus the *London Law Times* of December 18, 1897, suggested that "it is curious that politics took sides perhaps involuntarily" in deciding the case of Allen *vs.* Flood above referred to. The same periodical in the following week cited from a speech of Lord Brougham to show that in his very recent day the decisions of English judges could be predicted from their political leanings. In our own country there are those who think—wrongly, let us hope—that the decisions of the Electoral Commission and of the Surratt and Income Tax cases, while not due to gross pecuniary motives, were due to influences outside of the record. But in mentioning these cases I cannot make it too clear that personally I am far from sharing such beliefs, nor do I believe that even a small percentage of members of the bar entertain doubts of the judicial fairness. The cases are cited only to show that even our highest and purest sources of opinion will be suspected and assailed by those prone to think evil whenever there is plausible ground for suspicion, and therefore it is not to be wondered at if men even of reputation and character fall under condemnation when their testimony is given, or supposed to be given, in the understanding that their reward will be large or nothing, according as the theory for which they are called shall prevail or fail.

The last objection to our present system of eliciting expert opinion is that it begets intolerable prolixity, due often to counsel's lack of preparation, sometimes to his exuberance of knowledge. In the court's power to limit examination and cross-examination within reasonable bounds, some see a remedy for this evil; but here again to discuss the remedy would be to transcend my own limits.

The subject, as you know, is not new and abounds in difficulties. We are not to determine the questions it suggests to-night; but we will achieve something toward its determination, perhaps, if our discussion sets lucid minds to work upon the problem. How vexed that problem is a few recent examples will show. In 1898, a bill was introduced into the New York legislature framed by a conference of physicians and lawyers appointed by various learned bodies of this State. When it was read in the State Bar Association by the delegate of that body, it met with some approval, but with so much more dissent that upon its reference

back to committee with instructions to report, that latter body considered it not worth while to take further action in the premises. In the following year, in the last session, another bill, approved, I think, by this Academy, failed to become law.

The bill of the Pennsylvania Association already referred to was carefully drawn, following in the main the lines of Judge Endlich's address to that body, which you may find in volume xxxii. of the *American Law Review* at page 51. It, too, was referred back to committee, after an interesting discussion which will appear in the report, which I cannot even summarize in my brief time, although advance sheets have been sent to me with great courtesy by the association's secretary.

In Illinois, a report was made last summer to the State Bar Association by a minority of a committee appointed to consider the subject, the majority not having convened. That report is terse. Avowing inability to formulate legislative remedy for the evil that we all admit, it expressed an opinion that such remedy can be found in the exercise by the courts of their existing prerogatives, and in the cultivation of high professional standards by bar and faculty.

What has struck me more than anything else, in reading the various essays and reports upon this topic, is the small consideration given to definitions, which are the starting-points of accurate inquiry.

At the risk of uttering trite knowledge, let me remind you in closing how vague our ideas are apt to become upon matters whereon we feel assured. The line between opinion evidence and evidence as to fact is as vague as that between sanity and insanity. Statements of "opinion and belief" differ from "statements of fact" only in that the first two, which are usually convertible, indicate the witness's consciously reasoned judgments short of certainty or convictions; whereas the latter are expressions of his certain judgments based upon perception and unconscious reasoning or inference. It has been often pointed out that we use the word "belief" to express our flimsiest guesses, as well as our deepest convictions. We say with reverence that we believe in God, and with carelessness that we believe it will rain before the week is out. What we assert absolutely as the perception of our senses is often only inference. A man was lately sentenced to death upon an honest witness's testimony that he saw the prisoner chase, stab, and fall upon the deceased. Upon a new trial, it was shown that, while the prisoner did pursue deceased, it was the latter who in his flight drew the knife and, essaying to turn upon his pursuer, fell upon it and died, the prisoner falling upon him. What the first witness saw was the pursuit and the flash of the knife. The stabbing was his inference due to the perspective from his point of view, but it was accepted as a fact. Pardon me if I recall the commonest deceit of our untrustworthy senses. Squibsters and their readers have laughed inextinguishably over Deacon Jasper's preaching that the "sun do move," but Jasper and his congregation see it moving every day, and know that if the earth turned over they would fall off. For sixty-seven hundred of our planet's seven thousand historic years, every one was of Jasper's opinion. Ptolemy apprehended that the earth's diurnal rotation would account for many unexplained phenomena. But there was the lack of variation in the perspective of fixed stars and other stumbling-blocks; and so his geocentric theory was accepted until Copernicus and Kepler came along the other day with their larger explanations, and now the semi-educated laugh loudest at Jasper. But how many here to-night would enter the list with Ptolemy in support of the heliocentric theory as against the geocentric? Some, I have no doubt. Mr. Lewis, I feel sure; but not I, for one, with my remembrance from college days that Benjamin Peirce, the giant of our mathematicians, once said that Ptolemy's theory would reconcile all phenomena as well as the Copernican only by such a complexity of reason as few minds could grasp; wherefore science adopts, as always, the simple hypothesis, trusting that in the great autopsy of the universe the latter-day experts will be proved to have been right. Witnesses, whether experts or laymen, are constantly hectored and called upon to testify to "facts" by attorneys who have little realization of what a "fact" is, and no habit of questioning the testimony of their senses. Apropos of this you will appreciate a recent utterance put forth in Tremont Temple, Boston, on the fifth day of this month, by a gentleman of whom I would speak with great respect, reputed to have been a friend of Mr. Lincoln, a district attorney under Mr. Cleveland, a former judge, and so sincere that he declined renomination to the bench in order to do a work that you and I scarcely consider worthy of such a disciple. Here it is: "My only art will be the simplicity and courage of conviction, my only argument a statement of facts; and, after all, how resistless is the potency of a fact? The sole purpose of inquiry in every court of justice in Christendom is, and ever has been, to invoke facts; the world is weary of theories, it longs for facts; it is surfeited with dogmas, arguments, and platitudes, and cries out for facts." Now, what do you suppose the "facts," the indisputable facts were to which this worthy gentleman, judge, and lawyer—presumably habituated to weighing evidence—fancied he was testifying? Why, that God Almighty had failed to make His gospel clear until 1866, and had then revealed it to that very shrewd lady of Massachusetts, Mrs. Mary Baker Glover Patterson Eddy, whose new evangel of spirit and health this estimable gentleman is preaching, as one of the board of lecturers of the First Church of Christ Scientists, led thereto, as it would seem, by a belief that Christian Science had cured him of asthma, and therefore that its droll theories are all facts. Need I recall your former *confrère* of this city, Dr. Dexter, and that worthy judge of our supreme court associated with him, Edmonds, whose book, full of recent letters from Lord Bacon, contained also appreciative communications from persons who, sentenced to death by the judge, returned to thank him for the kindness and consideration with which he had performed that somewhat unpleasant duty. Need I suggest that to-day keen and trained intelligences are declaring that from an obscure woman of Boston they are receiving absolute demonstrations of immortality, by events strikingly similar to those with which other wanderers in the same region have familiarized us? Certainly a theory, especially if it promises to make its promulgator a shining figure in the ranks of time, does wonderfully influence the power to observe facts. We believed myopic Zöllner when he told us of the distant stars; but we doubted when he said he saw Slade tie knots in endless chains, push articles of matter through a material table, and thus afford evidences in support of the great epoch-making discovery that there is a fourth dimension in space.

At the fountain-head of our difficulties with expert testimony lie fundamental sources of error and uncertainty. No consideration of remedies is adequate that disregards them. Discussing the matter we wander among paradoxes. Shall we accept the expert's conclusion or the jury's verdict? Shall we go with the extremists who sometimes seem to travel in a circle—as did he who, starting to prove that only expert testimony was reliable, concluded that impostors and thaumaturgists preferred to be investigated by clergymen, physicians, and lawyers, rather than by laboring men and children—or shall we walk safely with our wise, conservative Horace, in the middle path?

# THE DIFFERENTIAL DIAGNOSIS BETWEEN CHRONIC JOINT DISEASE AND TRAUMATIC NEUROSES.[1]

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Those who have had extensive experience with disease of joints realize how difficult it is at times to decide whether or not a joint is involved when the symptoms of inflammation are just beginning to make themselves manifest, and that frequently several examinations of the patient may be necessary before an exact diagnosis is arrived at. They also realize how frequently such cases are treated for rheumatism, growing pains, and neuralgia for months before the deformity becomes so prominent as to force the true nature of the disease upon the observer. It is usually supposed, however, that after deformity and disability have taken place the picture is so marked as to make it impossible to fall into error, and that such cases need only to be seen in order to be recognized.

My experience, however, leads me to differ from this view, as I find certain cases in which there is no joint inflammation present symptoms so nearly approaching those of arthritis that they have been treated by men of large experience as if the joints were involved. I believe these mistakes in diagnosis are usually caused by failure to get the complete history of the case in the first place, by too superficial examination in the second, the patient's clothing not being sufficiently removed to enable the physician to make a proper investigation; and third, by a lack of attention to minor symptoms which, properly interpreted, would prevent the observer from reaching an erroneous conclusion.

Many cases of injury are followed by pains and disorders of the nervous system, and this not only in instances when the injury has been caused by a railroad accident, or been received in consequence of the carelessness of some person who can be held responsible for the damage, but when the patient alone is to blame and the possibility of legal redress does not enter into the question. That a traumatic neuritis is set up in these cases there can be no doubt, and the variety of neurotic complications that may follow such an injury is most surprising. At times also there are neurotic disturbances, the result of misplacement of the viscera, which may be classed as traumatic neuroses, though the trauma is merely that of abnormal pressure on a nerve or an abnormal stretching of its fibres.

In many of these cases, among symptoms that are present are pain in the neighborhood of a joint, accompanied by a limitation of motion in the joint, and more or less marked deformity, the physician being called upon to determine the nature of the disturbance which has given rise to these symptoms.

Has the patient Pott's disease or not? Has there been a fracture of the vertebra, or is tuberculosis or malignant disease of the spine present, or is the difficulty simply a neuritis set up by a traumatism and aggravated perhaps by inherited tendencies, a rheumatic diathesis, or an exhausted state of the nervous system? Are the atrophy and disability and distortion of a limb the result of hip disease or not? Does a patient require rest and protection for the joint, or should vigorous exercise be prescribed? These problems are extremely difficult to answer, and in many instances can be answered correctly only by the most careful and thorough examination of the patient's previous and present condition, taking into account the history of the case and noting on more than one occasion the attitude of the patient, the location of the pain, the presence or absence of muscular spasm, the range of temperature for several days and at different times in the day, the presence of motor or sensory disturbances in other parts of the body, and finally by taking careful note of the patient's mental condition.

One of the distinguishing points between a nerve inflammation and an inflamed joint is the rapidity with which symptoms of an injury to a nerve follow the trauma which produced it, while it may be months after the injury that manifestations of joint inflammation are marked enough to attract attention. While atrophy is a prominent and constant symptom in chronic inflammation of the joint, and makes its appearance usually before pain is at all pronounced in its character, yet it does not follow the onset of a marked traumatism so speedily as in the case of injury to a nerve.

Another of the most important factors in discriminating between a traumatic neurosis and a chronic inflammation of a joint, is the subnormal temperature that is usually present in the former, just as it is in various diseases accompanied by marked depression of the vital forces. There seems to be a lowering in tone throughout the entire system, with a corresponding decrease in the body heat. In chronic inflammation of a joint, however, there is usually a slight increase in temperature, say to 99° F., and one of the best guides to the activity of the destructive process going on in the bone is found in the reading of the thermometer. The local temperature also is apt to be much depressed after an injury to the nerve supplying this part, and at times an extremity or a part of an extremity will show a lowering in the surface temperature of one or two degrees below that of its fellow, or of other parts of the body. On the contrary, if an inflamed joint be at all near the surface, the increase in its temperature is usually sufficient to be detected by the touch, should a surface thermometer not be at hand. I would draw attention here to the fact that we may have a lowering of surface temperature in an extremity which has been kept at rest for a long time, either in bed or in a splint, while a joint in this extremity, as the knee or ankle, for instance, shows a marked increase of heat, and this distinction must be kept in mind in making a diagnosis between these cases and those of local subnormal temperature due to nerve involvement.

One of the early, probably the very first, symptoms of an inflamed joint is involuntary spasm of the muscles controlling that joint, and as the disease goes on this spasm becomes more and more pronounced. One of the peculiarities of this spasm is that passive motion within a certain limited range may often be made with entire absence of pain or resistance, while efforts at voluntary motion on the part of a patient, or motion greater in extent than that which the severity of the inflammation permits, at once excites muscular spasm and gives the appearance of complete ankylosis. Nature does not oppose motion of a joint so long as that motion fails to inflict injury, but as soon as it begins to cause irritation the muscles that control the joint at once spring into action in their effort to relieve and prevent the pain which is caused by the motion. If an anæsthetic is given in such a case the sensibility of the nerves is destroyed, and the muscles in consequence fail to control the movements of the joint, because they are no longer stimulated, and the physician is hereby deprived of the very symptom which would have been of vital importance to him had he made use of it intelligently. In many so-called "hysterical joints," and in these neurotic cases of which I speak, there may be a simulation of ankylosis and of muscular spasm, but careful observation will usually enable the physician to distinguish this from the true spasm of joint disease. By engaging the attention of the patient in other things and noticing the position of

[1] Read before the New York State Medical Association, October 26, 1899.

the joints meanwhile, motions will often be observed in joints supposed to be ankylosed. At times the patient may be induced to move the joint by placing the body in a different position from that in which the movement has usually been attempted, and then attempting to secure motion of some other joint, the movement of which will act on the joint under examination, the patient meanwhile having the attention concentrated on efforts to move the other joint, about which there is no question as to the diagnosis.

In cases of joint injury the location of the pain is to be borne in mind, and it may be a help toward excluding joint disease if the patient locates the pain in different places at different times, and at points other than those where the nerves supplying the affected joint should come to the surface. In spinal cases a tenderness along the whole length of the spinal column is almost proof in itself that the case is neurotic and not ostitic, the pain of bone inflammation being almost always confined to the distal extremities of the spinal nerves; or if the pain is felt in the back, it is only in a limited area. Should the patient be awakened at night, especially just as he is dozing off to sleep, by sharp pains that cause a loud, sudden cry, it is almost certain that inflammation of bone is present. The general appearance of the patient will often aid greatly in eliminating bone inflammation. The expression of certain neurotics can hardly be described, but, their appearance once recognized, the picture is as typical as the expression of melancholia or mania.

In some neurotic cases there will be found a peculiar œdema of an extremity which, being associated with great tenderness, may give rise to the supposition that a bone abscess is present, but a distinction can generally be made by the observation that the pain is not so localized as in a bone abscess, and extends frequently along the course of some nerve, and may at times be accompanied by nodosities of this nerve, changes in the color of the skin, purple or blue spots which may be elevated, and at times by patches which are very painful.

The histories of several of the cases that have fallen under my observation show how difficult it is at times to make a differential diagnosis between these diseases, and I will therefore briefly review a few of them:

Case I.—Last summer a girl of about twenty years of age was referred to me by a colleague at Bellevue Hospital for diagnosis and treatment. She was supposed to be suffering from hip-joint disease, and was wearing a long traction splint at the time of her admission. Her right thigh was flexed at about 45°, and adducted so that it crossed the left about half-way between the hip and knee, and was said to be ankylosed. The patient had been confined to bed for months. The question was whether or not an excision would be necessary to enable her to walk. On questioning the girl I noticed a curious expression which is often found in neurotic individuals, as well as a peculiar hesitating and deliberate speech which put me on my guard for something besides an inflamed joint. On asking her where her pain was, I noticed that when indicating the place she moved the affected limb under the bed-clothes, which I had purposely refrained from removing. On turning down the bedclothes and examining the limbs, the right hip joint was apparently firmly ankylosed in the position of flexion and adduction I have described; but as I examined it I managed to tickle her, and found that there was a sudden movement in the hip joint unaccompanied by pain. The right knee was bent and the hamstrings much contracted. The right ankle was in a position of equinus so marked that the dorsum of the foot was almost in a line with the shin. The foot was cold, and no motion of the toes or foot could be provoked by tickling or pricking. Examination showed the head of the femur to be in the acetabulum, and the trochanter in its proper relation to Nélaton's line. The patient complained of intense pain on efforts being made to move the hip joint, but her face and the accent of her voice caused me to think there was but little real discomfort. She also complained of pain over the bladder and lower abdominal region generally on palpation. The trunk seemed so curiously twisted as she lay in bed that I suspended her by the arms in a suspension swing, allowing part of her weight to rest on the sound foot, when I discovered a marked rotary lateral curvature of the spine, the patient complaining bitterly of any efforts to correct the latter, but always in a tone that to my mind precluded the possibility of her suffering real pain from the manipulations. I found that two years previously she had jumped from a second-story window and fallen between a wall and a house in a narrow space, and been violently bruised about the buttocks. For several days she had kept at work till the pain was so great that she was obliged to go to bed. She was then sent to a hospital, where a diagnosis of hip disease was made and a hip splint applied, which she wore for about a year. Later on she was admitted to Bellevue with the right thigh flexed and adducted, and was put to bed for several months with weight and pulley attached to her leg, without any improvement of position or relief of the pain from which she apparently suffered. Her temperature had not been elevated.

My diagnosis was a traumatic neuritis of the sciatic nerve, with subsequent deformity of the hip, knee, ankle, and trunk, probably from old synovitis, accompanied by contraction of many muscles and by fibrous adhesions in the joints. Under ether the adductor tendons were slowly stretched and the adhesions of the capsule of the hip joint broken up. The knee was also straightened by stretching. The tendo Achillis was divided subcutaneously and the foot put at a right angle with the leg. The patient's entire right lower extremity and trunk were then enveloped in plaster-of-Paris bandages, the right thigh being in a position of extreme abduction. For two or three days the patient complained bitterly of pain in her back caused by her position, but after that was perfectly easy. In two weeks she could move the toes, and on being removed from the plaster-of-Paris cast six weeks after the operation she could move the foot a trifle. Faradism was then given daily to the entire limb, together with gentle frictions and passive motions, and after a week the patient was encouraged to make active motions of her joints, under supervision. On noting a tendency for the adduction of the hip to recur, I placed her legs in the position of extreme abduction, and told her that unless she kept them in this position all the time I would be obliged to reapply the plaster-of-Paris cast. After this there was no tendency toward adduction. As soon as the muscles of the legs were a little stronger the patient was compelled to walk with crutches, and in less than a month could go all over the hospital without crutch or cane, having full motion of all her joints and good position of her trunk. At one time during her convalescence I was absent for ten days, and found on my return that the patient, who was just beginning to walk, since being free from strict control had assumed many of her old attitudes. I spoke very sharply to her, and found at my next visit that she had improved materially, and after that she made steady progress until she left the hospital.

Case II.—In 1897 a woman of about thirty years of age was put under my care at Bellevue by a colleague. She was employed in a factory where she ran a machine which required her to stamp violently with her left foot whenever the treadle was pushed, and to this she attributed her trouble. A couple of years before

coming under my observation she commenced having pain in the left knee, and shortly afterward a dark purple spot made its appearance on the inner aspect of the joint where the pain had been. She said this spot had swollen, grown darker in color, and finally the skin had peeled off, leaving a raw surface that had been slow to heal. She had visited one of the hospitals of this city and her knee had there been opened, but nothing being found the joint had been closed. The pain not diminishing after the operation, but extending along the upper part of the tibia, and being accompanied by some œdema, she was advised that in all probability she had an abscess in the bone, and an exploratory trephining of the tibia was advised. Not being willing to submit, she was discharged from the hospital, but, being unable to work, she applied for admission to Bellevue. She had visited an *x*-ray studio in the mean while and had two skiagraphs taken of the knee. These she showed to me when I first saw her, but they failed to disclose anything abnormal in the bones of either thigh or leg. When she first came under my observation she had been confined to bed for some months. The left lower extremity was somewhat shrunken and flabby and colder than its fellow, except at a spot one inch by three on the inner side of the knee, which was raised perhaps an eighth of an inch from the surrounding skin and purple in color. The slightest pressure on this spot seemed to give great pain, which radiated up and down the limb along the course of the saphenous vein. The outlines of the knee joint were fairly normal, but any movement of it was said to be attended by great pain. The skin over the tibia was œdematous, and pressure here was also very painful. As in the preceding case, however, the patient's voice did not to my mind indicate actual pain. The temperature during her stay in the hospital had varied, now and then running up to 102° F. with a rapid pulse, and again being subnormal. The purple spots appeared, she stated, after the pain had been very intense in this location for several days, and after lasting some weeks they would disappear, leaving no traces. Sometimes they appeared at the same time as menstruation, and the pain in the leg was always aggravated at this time. Menstruation was regular, but very scanty and accompanied by great pain before the flow began, this pain being in the pelvis and reaching around toward the buttock, whence it ran down the inner and posterior aspect of the thigh. There was also marked tenderness along the spine and between the shoulders, aggravated by the use of her arms. The extremities were cyanotic, cold, and damp. The pulse was rapid and feeble. These symptoms seemed to me so at variance with chronic inflammation of the knee that I concluded the pain was reflex in its character, and due to irritation of her pelvic nerves, probably in consequence of her occupation, added to natural inability to resist fatigue. Vaginal examination showed a very small uterus with a pin-hole cervix. This was stretched and the uterus faradized, with the result that menstruation became much more profuse and not attended by cramps and pain. The leg was wrapped in thick cotton and bandaged loosely, as tight bandaging caused a feeling as if the limb would burst. Motion in the knee was prevented by a splint, and the patient was put on crutches. Digitalis and nux vomica were given in compound tincture of cinchona. After two months the conditions had improved so that pressure could be made on the foot without causing pain, and the patient was gradually allowed to put her weight on her foot. The splint was removed daily and faradism and massage were gently applied. At various times the patient overexerted herself in various ways, and each time part of the old disability would reassert itself, but in the course of three months the splint was laid aside, then the crutches were abandoned, and little by little free motion returned to the knee. The patient can now walk four miles, but if she becomes overtaxed either physically or mentally the œdema and pain in the entire extremity recur to some extent.

Case III.—In June, 1888, Miss B——, aged twenty-six years, consulted me for supposed disease in the spine. She was a tall, fairly well-nourished girl, and gave a history of having fallen twelve years before, and of having pain and inability to walk gradually increasing since that time. At the time that she first consulted me her spine was markedly curved, but not with the usual sharp projection of spinal caries. She walked with great difficulty, complained of pain on the slightest jar, was unable to step without great pain, could not lie down or arise without aid, and when lying down was unable to turn over without assistance on account of pain. On rising from a chair she was obliged to put her hands on her knees to aid her. The left lower extremity was much smaller than the right, and sensation in it was markedly diminished. At this time she was wearing a plaster jacket, which had been applied by an eminent surgeon in this city. After careful examination of the case I came to the conclusion that, although there were marked pain around the abdomen, pains down the legs, very great sensitiveness on the slightest movement, and marked rigidity of the spinal muscles, her symptoms were more attributable to a uterine disturbance than to ostitis of the vertebræ, and I requested vaginal examination. I found the uterus markedly retroflexed and firmly bound down in the pelvis, and told her that when her uterus was replaced and held in its normal position, her symptoms would subside, and that I did not believe there was any disease of the vertebræ. It was not until some time after this that I learned from the patient her history, which she was very unwilling to give me at the beginning of the examination. About the age of fourteen years she had a fall, striking her right hip on the curbstone. She did not feel any effects for a few days, but afterward began to have pain on certain movements of the limb and body, when it seemed to "catch her," as she expressed it, and caused her intense pain. Several physicians examined her, thinking that she had displaced the joint, but found that it was sound. After about a year her feet began to swell, and the soles, particularly the heels, became sore, swollen, and painful. Then the left hip became affected as the right had been, and she was said to have sciatica, and for a number of years was obliged to use hypodermic injections of morphine to quiet the pain. The pain was worse while lying down, and often after going to bed she would be obliged to get up, and stand in a certain position for hours. Five years before the patient consulted me, her back began to ache. Three months after the onset of this symptom she went to Philadelphia and was examined by a very prominent physician, who pronounced it disease of the spine and ordered a leather jacket. Up to this time she had always been able to go about, and even walked quite well, but after the application of the jacket she became, as she describes it, perfectly "helpless," her arms becoming so weak that she could hardly lift them. Her physician then removed the jacket and advised her to remain in bed until the spine had become consolidated. This advice she did not follow, because she suffered so much pain while lying down that she was unable to do so. She then visited New York, and while here was seen by a professor in one of the colleges, who pronounced her trouble Pott's disease, and called another gentleman in consultation who agreed with him in diagnosis, and said that unless she would wear a support she would become humpbacked. He first applied a brace of his own, and, finding this gave no relief, applied a Taylor brace.

The latter failing to give comfort, he tried a plaster jacket, which she was enabled to "endure" for some three years. About this time the left lower extremity began to diminish in size. This history I did not learn from the patient until a number of months after first seeing her, her answers to my inquiries at that time being most vague and unsatisfactory. Having discovered the retroflexion of the uterus, I endeavored to replace the uterus and hold it in position by boroglyceride tampons, with some slight improvement. I then advised the patient to consult the late Dr. Lusk as to the advisability of performing "Alexander's operation" of shortening the round ligaments. This operation was performed by Dr. Lusk and held the uterus in very satisfactory position. The old pain in the back and legs began to diminish immediately after the operation, but the patient was restless and insisted upon going around too soon, and part of the old pain returned. As this pain persisted to some degree after the application of a suitable pessary, I attributed it to neuralgia of the sacral plexus and applied intra-pelvic galvanism with relief. I also directed the patient to take regular and systematic gymnastic exercise and massage to straighten her curved spine and relax the contracted muscles of the entire anterior part of her trunk. She speedily became more upright in carriage and has had steady diminution of her aches and pains. She wrote me under date of December 20, 1890:

"Since my operation I have never once felt the slightest return of those attacks in my hip I suffered with so long. I am quite straight and can keep myself up better. My health is excellent, and it would be impossible for me to tell you how well I am. I have neither ache nor pain. All troubles have vanished entirely. My muscular strength is much improved also."

The fact that all these cases presented symptoms so like those commonly associated with chronic disease of the spine, the hip, and the knee as to have caused various surgeons of experience to consider the bones involved, shows that the diagnosis was by no means clear, and I have gone somewhat into detail in the recital of these histories, as it seemed to me that they were worth careful study.

From the numerous other cases that have come under my observation I would say that in taking a differential diagnosis between chronic joint disease and a traumatic neurosis, the following points were chiefly to be noted:

1. A neurosis is apt to follow injury sooner than is disease of a joint.

2. The temperature is usually subnormal in a neurosis and elevated in inflammation of a joint.

3. The local temperature is usually much lower in case of a neurosis than in disease of a joint.

4. Atrophy progresses more rapidly after injury to a nerve.

5. True muscular spasm is not present except in joint disease. It may be simulated, however.

6. True night cries are pathognomonic of joint disease.

7. The appearance of the patient, if indicating a disordered nervous system, may aid in the diagnosis.

**Renal Hemorrhage.**—As a rule, renal hemorrhage from a neoplasm begins spontaneously, is unaccompanied by pain, and is uninfluenced by either movement or rest, ceasing suddenly without apparent cause, just as it began. It is apt to be more abundant than when caused by stone, and clots frequently form in the bladder. Its duration and the intervals between the hemorrhages are irregular. In some cases the bleeding may be occasioned by exercise and cease when the patient remains quiet.—W. K. Otis.

## Progress of Medical Science.

**Spasmodic Dysmenorrhœa.**—Morice, in discussing spasmodic dysmenorrhœa, states that it can exist aside from any lesion of the uterus or its appendages, whether congenital or acquired. This variety of dysmenorrhœa is related essentially to the different nervous or hysterical conditions of woman, whether they be acquired or hereditary, simple or tainted by the arthritic diathesis. It is found in young girls from puberty, and more often in women who have not borne children. It may be that this spasmodic condition of the uterus modifies the chances of conception, or it may be that it becomes itself the agent provocative of miscarriage. It is relieved by antispasmodic and soothing medication, and in cases of miscarriage by the mineral-water treatment.—*L'Abeille médicale.*

**The Glands of the Eye.**—Dr. Rohmer, of Nancy, in *L'Abeille médicale*, explains the physiological function of the glands of the eye as follows: The acinous glands of the conjunctiva are sufficient ordinarily to lubricate the eye and to maintain the moisture necessary for the functioning of the anterior membranes of the ball—the transparence of the cornea, and the protection and defence of both cornea and conjunctiva. When a reflex irritation, transient or even longer, occurs, of a psychical nature, *e.g.*, emotion, or a physical nature, *e.g.*, a foreign body, bright light, etc., the orbital gland secretes abundantly, and a flow of tears is established. In a word, the conjunctival glands are in a constant state of function, while the orbito-palpebral gland comes into play only on exceptional occasions, but which all the same may be relied upon to add its function.

**The Treatment of Gout.**—Luff (*Lancet*, November 18, 1899, p. 1361) lays down the following principles in the treatment of gout: In cases of acute gout the paroxysm must be treated and the severe pain relieved. This can be effected by free administration of colchicum and potassium citrate, and by a mild mercurial pill and sodium-sulphate purge. The painful joint or joints should be packed with wool saturated with a warm alkaline and anodyne lotion. The elimination of uric acid should be promoted. To this end free diuresis should be encouraged by the administration of plenty of water, and by the employment of potassium citrate or bicarbonate, or similar salts, which exercise a diuretic effect, and at the same time reduce the acidity of the urine. Green vegetable food should be taken freely for the same purpose. The excessive formation of uric acid should be checked. This object is mainly attained by a carefully selected dietary. When the acute attack of gout has subsided, butcher's meat need not be excluded from the dietary. On the contrary, it is better for most patients to partake moderately thereof. Although a mixed diet is best suited to gouty patients, it is important that the dietary should be a simple one, and it is especially desirable to avoid at any one meal much mixing of proteids and carbohydrates. The stomach of a gouty patient, unlike that of a healthy individual, is not well able to digest half a dozen different kinds of food at the same time. The metabolism of the liver should also be promoted by the administration of guaiac, and by an occasional mild cholagogue pill, and by keeping the bowels open. Attention should be paid to the general hygiene. Suitable exercise should be insisted upon as soon as the patient is fit for it. Enlarged joints and other gouty deposits should be treated with a view to the removal of the deposited sodium biurate. This can be accomplished in various ways. Massage and muscular movements increase the flow of lymph in

the lymph channels, and thus tend to promote the removal of uratic deposits, and to increase the metabolism of the joints. With this treatment passage of the constant current through, and the application of cataphoresis to, the affected joints and tissues may be combined advantageously. Baths of various kinds, including superheated air and radiant-heat baths, are valuable. Suitable treatment at a properly selected spa is also of great benefit.

**Treatment of Measles.**—In the *Revue des Maladies de l'Enfant*, Professor Grancher's treatment of measles is described by Vallat. Measles being diagnosed or even suspected, the child is placed in a soapy bath, followed by a bath of sublimate, in order to procure as perfect antisepsis of the skin as possible. At the same time all abrasions and eruptions are surgically dressed. Antisepsis of the superior respiratory passages is attained by the instillation of mentholated oil into each nostril. In order to make the alimentary canal as antiseptic as possible, a saline purgative is given in the beginning, and if constipation exists, an injection of boiled water is made into the intestine. In order to avoid bronchitis and broncho-pneumonia, the patients are bathed systematically according to the rules formulated by Renaut, of Lyons. This is exactly like the Brand method. Every three hours, night and day, the rectal temperature is taken. If it reaches 39° C., the child is put into a bath of 38° and left there from eight to ten minutes. The head is bound with a handkerchief, and if there is congestion, the vertex is wet during the entire bath with water at the temperature of the chamber. If the child is two or three years old, a little champagne or cognac and water are given. After the bath, the child is rapidly dried with hot linen cloths and put back to bed. Sooner or later, perhaps after the third or fourth bath, the fever falls and does not return. Sometimes, however, the temperature remains elevated three, four, or even five days. If, in spite of the baths, the catarrhal bronchitis becomes aggravated, or especially if a bronchitis develops, a little of the infusion of ipecac is given, from 30 to 80 cgm., according to the age of the child. It is well to add a little opium to relieve the cough. In case the patient is faint, a little ammonium acetate, to which is added a small quantity of benzoate of sodium, is given.

**The Tetany of Diseases of the Stomach.**—In the *Klinische Vorträge*, No. 254, Dr. Albu reviews this subject. Steinheim, in 1830, first called attention to this affection. Dance, Corvisart, Tonnelé, Trousseau, Kussmaul, Chvostek, and still later many others have added much to the knowledge of the subject. Tetany may be defined as the spontaneous occurrence of intermittent tonic muscle spasms of both sides of the body, especially in the hands and arms, depending on an excitability of the nerves of the affected muscle groups. The essential feature of this affection is the increased excitability of the nerves. This is shown as well for the galvanic as for the faradic current. There is also a mechanical nerve excitability which is most markedly seen in the region of the facial, and is called forth by tapping the nerve twigs with the percussion hammer, or by stroking them with the finger-nail. By pressure on the nerves in the bicipital groove, the writer's position of the hand is assumed, in which the thumb is pressed into the palm. This position is so characteristic of tetanus, that it alone, at times, is sufficient to make the diagnosis clear. The forearms are generally a little bent, and the upper arms adducted. The affected muscles are very hard and sensitive to pressure. The lower extremities are seldom involved. The convulsions are almost always symmetrical, generally lasting a few minutes, sometimes hours, more seldom for days. The interval between attacks varies from minutes to days. The diagnosis of tetany with visible spontaneous convulsions is easy, but must be differentiated from the tetanic, epileptic, and hysterical forms. The supersensibility of the nerves must be emphasized. The prognosis is always grave. As to the etiology of tetany, it varies to the greatest extent. There have been many theories. First, that of rheumatic influence was advanced. Much work has been done to prove the bacterial origin of this affection. The connection of tetany with the extirpation of goitre has been noted. For many years the occurrence of tetany in pregnant, parturient, and nursing women has been remarked. The most notable cases of tetany, however, have been connected with the various disturbances of the digestive tract, the most interesting being enlargement of the stomach. Fermentation naturally follows in its train. Three leading theories have been advanced to clear up this subject. The oldest is that of Kussmaul, who thought the cause of this affection to be concentration of the blood in consequence of the abstraction of water from the organism. This idea has been given up for some time. The second theory suggests that tetany comes from reflex excitation of the nerve centres by the irritation of the nerves of the mucous membrane of the stomach. This explanation was originated by Germain Sée and was upheld by Fr. Müller. Since Trousseau, tetany has been considered in almost all text-books under the head of neuroses. Later, when it was proved to be an infection or intoxication, it was taken from this group. Authors differ as to whether it is an affection of the central or peripheral nervous system. The third theory considers tetany as the consequence of abnormal changes of the contents of the digestive canal. Gerhardt, followed by many others, was the first to embrace this explanation of the disease. After all, however, the intoxication theory seems the most probable. There has been much experimental work in relation to this theory, but an absolute proof does not yet exist. Finally, the discovery of indicanuria, acetonuria, and diaceturia stands as clinical proof for the existence of abnormal changes of material in the intestinal tract. Weight is also given to this theory from the fact that other forms of tetany, especially that of goitre, are caused by the evolution of poison. As to the therapy of tetany, there is no remedy which can either stop an attack or prevent a recurrence.

**Poisonous Effects of Filix Mas and Their Prevention.**—Dr. Grawitz (*Deutsche Medizinal-Zeitung*, October 30th) says that the best-known injurious action of the drug is its poisonous effect upon the nervous system. Besides such mild symptoms as nausea, vertigo, syncope, and tremor, there occur severe convulsions, absolute unconsciousness, and delirium, which eventually may terminate in coma and death. In many instances the blood is so altered as to destroy the red blood cells by the absorption of the poisonous property of the ethereal extract, with the subsequent deposit in the liver, thickening of the bile, and production of icterus. Not infrequently, as the result of treatment by filix mas, gastro-intestinal catarrh occurs. In otherwise healthy persons, inflammatory symptoms on the part of the kidneys are rare. If, however, old inflammatory conditions exist in the renal organs then the ethereal extract might very well cause an increase in the symptoms and pathological condition. The same applies to the liver. From the foregoing experience it may be concluded that the large doses of 20 gm. and over, as formerly given, are very unsafe, and that in adults 8–10 gm., and in children aged over six years, half that amount, are the proper doses. In using the drug all laxatives, oils, and oily vehicles, particularly

the much-used castor oil, are to be avoided, inasmuch as the poisonous acid of the extract is very easily absorbed by oily substances. The most important conclusion of the toxicological examinations seems to be the observation that every weakness of any special organ, *e.g.*, liver and kidney, and that every general lack of resistance on the part of the entire organism increase the danger of a local or generalized poisonous effect. In the treatment of ordinary tapeworm the drug should be given only for therapeutic and not for diagnostic purposes. Before undertaking to expel the worm everything which tends to weaken the patient must be guarded against. It must always be kept in mind that the tænia produce a series of nervous and intestinal disturbances, and in many instances, on account of diminished assimilation, emaciation and anæmia. Even robust people after a long siege by the worm feel a marked weakness of the nervous and general system. It may be, therefore, that in many cases the preliminary treatment, with its weakening tendency upon the nervous system, may influence the occurrence of cerebral poisonous symptoms. On account of this possibility due to rigorous fasting and purging before the expulsion, the preliminary course of treatment has been omitted for many years. The day before expulsion the patients take their usual meals. On the morning of expulsion they receive Carlsbad or Epsom salts upon an empty stomach, and after a movement of the bowel the drug is given with coffee. In some instances even the laxative is omitted.

**The Diagnosis of Typhoid Fever.**—In a discussion of typhoid fever Dr. William Osler states (*New York Medical Journal*, November 4th) that there are no two or three symptoms characteristic of the disease. The hard-worked practitioners of country districts, in which the disease is now more prevalent, must rely in great measure on experience and common sense, and to them he says: "Learn to suspect typhoid fever and not malaria, in every case of fever of six or seven days' duration, particularly if it resists the action of quinine. For too long you have employed the Anglo-Saxon method of procedure, and in a given case have assumed innocence of anything so serious as typhoid until in the onset of some serious symptom the guilt was only too evident! It is high time now that you adopt the Gallic usage, and regard every case of continued fever as guilty, that is, as a typhoid, until the contrary be clearly demonstrated."

**Thrombosis in Chlorosis.**—This comparatively rare condition is described in four cases by H. Schweizer (*Virchow's Archiv*, vol. cliii., No. 2, 1899), with a *resumé* of the fifty-one previously reported cases in literature. The most potent cause, according to the author's investigations, for the thrombotic formation is a fatty degeneration of the intima of the blood-vessels. Influences which are particularly hurtful to the chlorotic patient seem to be poor food, confinement for a long time in badly ventilated rooms, and continued hard manual labor. The comparative frequency of the thrombosis formation shows high figures for the extremities, about seventy-four per cent.; twenty-four per cent. occur in one of the brain sinuses. One case is reported of thrombosis of the pulmonary artery. Thromboses in the brain sinuses are usually fatal, while the mortality for those occurring in the extremities reaches about twenty-five per cent.

**Serum Treatment in Typhoid Fever.**—In an article in *L'Union médicale de Canada* for October, 1899, Dr. Lesage reviews the history of the serum treatment of typhoid fever. In 1888, Chantemesse and Widal gave to mice repeated injections of bouillon typhoid cultures sterilized by filtration. In 1891 Briegner, Kitasato, and Wassermann, and in 1892 Bitter, instead of filtering the cultures, extracted by means of alcohol an active principle, their cultures being concentrated and heated to 80° C. In 1892 Sanarelli and Bruschettini sterilized their cultures by heating them to 120°. All these experiments demonstrated that the serum of animals which have been inoculated with the typhoid cultures possesses both preventive and curative properties as regards typhoid fever. The serum may be injected before or after the typhoid virus, the whole secret being in the dose administered. If, for example, the serum and virus are injected at the same place and time, half a cubic centimetre will suffice. If, however, the serum is injected before or after the virus, and at a different point, about two cubic centimetres would be necessary. About this same time, Stern and Chantemesse and Widal, experimenting with the blood serum of individuals who had already had typhoid fever, proved that its efficacy diminished proportionally to the length of time between the two injections. They also discovered that the serum of individuals who had never had typhoid fever was in certain cases endowed with immunizing properties. In 1895, Beumer and Peiper immunized sheep with typhoid cultures sterilized by a temperature of 55° to 60°, and obtained a very active serum. Finally, in 1896, Loeffler and Abel were successful in immunizing goats against the infection of the typhoid and of the colon bacillus, by means of the same kind of serum. Although the experiments of Chantemesse and Widal in 1892 and 1893 were unsuccessful, their later efforts were more satisfactory. The lack of success was thought due to the fact that experiments in the serum treatment of typhoid fever were made by the aid of serum of animals immunized against the colon bacillus. A report was made at the Congress of Rome in 1894, by Demel and Orlandi, who had obtained some favorable results by these means. Cultures of the bacillus pyocyaneus were employed by Presser in 1895, with mediocre results. Rumpf at the same time made the same trial with the bacillus pyocyaneus with similar outcome. He proved that cultures of this bacillus do not possess a specific power antagonistic to the typhoid bacillus, but act simply by exciting the natural means of defense of the organism. In the same year, 1895, Klemperer and Levy succeeded in augmenting the dog's natural immunity against the typhoid bacillus, by injecting into the peritoneum virulent cultures of Eberth's bacillus. They obtained in this way a serum so active that it would even bring about a cure if the injection was made a certain time after infection took place. Then with the same serum they treated five typhoid patients in the first seven days, and they all had an illness of the lightest character. It is easy to prove that the serum has not had any disagreeable effect. In 1899, Funck, of Brussels, obtained serum with curative properties from goats immunized by cultures of Eberth's bacillus, killed by phenic acid. Finally, in 1896, Chantemesse reported to the Society of Biology at Paris a serum taken from goats immunized against the toxin of the typhoid bacillus, of such power that one-fifth of a drop, injected twenty-four hours before the dose fatal for these animals, positively protected them against injurious effects of the virus. Following the example of Klemperer and Levy, he treated exclusively by this serum three patients ill with typhoid fever. In each case, the temperature gradually fell from the moment of injection, and "seven days after the treatment was begun, the patients were restored to normal temperature and to health" (Chantemesse). These results merit notice and are sufficient to inspire a hope that serum treatment may be found effective not only in typhoid fever, but also in other maladies now regarded as incurable.

# MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 51 Fifth Avenue

New York, December 9, 1899.


## SANITATION OF STREET-CARS.

THERE was a time, and not so long ago either, when the New York electric street-cars bore an evil reputation for the manner in which they frequently ran down unwary pedestrians. Happily now, owing to improved brake machinery, which has given the drivers better control over their vehicles, the fatalities and injuries arising from this cause have been very considerably lessened. Still, even in this respect there is room for further improvement, and it seems decidedly curious that, taking into consideration the marvellous development of electric street-car service, and the peculiar aptitude of the American brain for invention, that a practical and efficient fender has not been produced. The fender now in vogue is to all intents and purposes as much a fraud as a safeguard. *Public Improvements* thus describes the ideal fender: "A fender should, in so far as possible, prevent injury to a person on the track of an electric car. It should prevent his getting under the wheels or under the car itself, and it should be so devised that the person will not receive injury from the fender itself either by being picked up or thrown against the front of the car. In order to prevent injury to the person it should have a resiliency or spring. And it should be so constructed as to retain its proximity to the ground despite the rocking of the car."

But it is rather with the internal economy of the New York street-car that we would deal. Locomotion on the surface lines in New York is fairly swift and punctuality is well observed, and as regards these two features, so essential to an American, the lines will compare favorably with the methods of transit employed in the majority of European towns. In the matter of comfort, however, there are many centres of population on the other side which can easily give points to New York. The cars here interiorly are for the most part commodious and comfortably upholstered and seated, and were it not for a serious drawback, which outweighs in the opinion of many all these manifold advantages, travelling in New York would be almost luxurious. But to the person who, owing to the calls of business, is compelled or who has occasion to make use of a New York street-car, at the time when the toilers are going to and from their work, the journey will decidedly not be one of unmixed pleasure, but, on the contrary, often a stern and hard struggle to gain even a footing, in which the weakest will go to the wall. Wedged in a seething mass of perspiring humanity, probably, if a delicate and well-dressed woman, jostled by workmen smeared and grimed with the effects of their day's labors, the end of the journey comes to the weary traveller as an immeasurable relief. This is a democratic land, in which, of course, a workman has as much right to use a street-car as a millionaire; but even the rights of democracy have their limits, and if regulations could be enforced to curtail the number of passengers to the seating capacity of the cars, the evil results of overcrowding would be avoided, and all classes of the community would be correspondingly benefited. This is a consummation that from the present outlook would seem to be more than problematical, nor until the public insist that efficient measures be devised to relieve the pressure put upon the existing means of transit can we hope for satisfactory reforms. We must e'en now take things as they are, while at the same time reserving to ourselves the privilege to protest and criticise and to suggest improvements.

The desiderata in a public conveyance are that it must be suited to the weather; in the winter warm and closed, but well ventilated, and in the summer open and airy. It should admit of being easily and quickly closed, and vice versa, and should at all times be as free from draughts as possible. As a writer in *Cassier's Magazine* says, "The car will not be satisfactory unless it can readily conform to the requirements of a season fickle at all times of the year." That the car does not now conform to these requirements is a proposition evident to all those who are in the custom of using this method of locomotion, and while freely allowing that so long as overcrowding is permitted to the extent it is, no effectual measures can be contrived which will bring it up to this standard, yet, if more attention were paid to some important details, the comfort of the passengers would be enhanced and their health would not suffer as is at present the case. For instance, there is room for considerable improvement in the ventilation system. In the winter there should be no necessity for opening windows for this purpose. These should be kept rigorously closed, and ventilation should be effected from the top. No passenger should be allowed to open a window at his own sweet will, thereby endangering the health of his fellow-travellers. Again, the doors should not be opened except when required to admit or let out a passenger, and in particular the doors at the end near the motorman should be always kept shut. Draughts are undoubtedly the cause of many a death.

The health board performed yeoman service when it interdicted the spitting nuisance in cars, and conductors should be impressed with the need of enforcing this healthful regulation. When the corporations controlling the railway service in New York are brought to realize that they cannot entirely ignore the health and comfort of their patrons, then and not till then will be evolved the model street-car.

The remedy, after all is said, lies in the hands of the people. The New York public is a long-suffer-

ing race, but even a worm will turn. If the inhabitants of New York will combine and persist in their efforts for the betterment of the existing modes of transit, the owners must eventually bow to their will.

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## RINDERPEST AND HORSE SICKNESS IN SOUTH AFRICA, AND THE BRITISH ARMY TRANSPORT SERVICE.

Much stress has of late been laid upon the healthfulness of the South African climate. So far as man is concerned the salubrity of South Africa cannot be questioned, but for beasts of burden it is by no means an ideal land. Rinderpest is there more prevalent and more virulent than in any other part of the world. This disease is by far the most fatal known among horned cattle. According to a description in the London *Lancet*, "rinderpest is a specific, malignant, and highly contagious fever, characterized by acute inflammation of the mucous surfaces. It is spread only by communication direct or indirect from sick to healthy animals. It is essentially a bovine disease, though it may be communicated to other animals, especially to buffalo, and some of the antelopes in South Africa; sheep and goats are also liable to infection by the disease, but only to a slight extent." To furnish some idea of the fearful ravages wrought by this pestilence among cattle, Cape government statistics published in May, 1898, gave the total number of cattle in Cape Colony prior to the outbreak of rinderpest as 1,639,435. Of these 575,864 were destroyed, a percentage of a little over thirty-five. This wholesale destruction alarmed the British government, who sent out Koch to investigate the origin of rinderpest and to endeavor to find a cure or remedy. His researches were attended with a fair measure of success, and he produced an antitoxin which is said to have had the satisfactory result of checking the spread of the disease. Other investigators, notably Eddington, have improved upon Koch's serum. However, it is to be feared that the snake of rinderpest is but scotched, and not killed.

There is also another disease peculiar to South Africa which almost solely affects horses, although other members of the equine species are in a lesser degree liable to it. We refer to the South African horse sickness. This malady is of a most deadly nature, the mortality among horses in Natal in 1854–55 having been 64,850, while in 1892 13,979 horses succumbed to it. At one time it was believed that the disease was caused by insects, but later investigations have disproved this theory. Œdema mycosis, the technical term for the complaint, has, according to the most eminent authorities, no apparent connection with insects or surface wounds, but appears to depend, not upon conditions of the surface soil, but on temporary conditions of the vegetation which forms the pastures. Eddington thinks it is produced by a fungus which remains passive under the influence of dry air and is killed by prolonged drought, frost, and cold rains. This fungus forms abundantly during the night of a South African summer when much dew falls. It is stated that in the Cape Colony, Orange Free State, and Transvaal the disease rarely occurs before February, is worst in April, and like yellow fever disappears at the first touch of frost. In Natal it generally begins just before Christmas along the sea-coast. The disease, according to Hayes, occurs chiefly among animals which are allowed to graze while the dew is on the grass, and the growth of the microbe is supposed to be connected with the dampness of the grass. The disease contracted is almost always fatal, but the measures of prevention appear to be the folding of horses until the sun has dissipated the moisture of the dews. Horses are particularly liable to the complaint, mules much less so, while the humble but useful ass, which is, as is well known, a native of Africa, is wholly proof against the destructive microbe. With regard to what are termed salted animals, that is, those which have had the disease and are supposed to have become immune, opinions differ considerably. Many of the greatest veterinarian authorities hold that no immunity can be conferred by these means.

In view of the British military operations in South Africa these diseases may have an important bearing on the result of the war. The lines of railway available will not be nearly equal to the strain of transporting a tithe of the provisions required daily for the army of invasion, to say nothing of conveying the sick and wounded from the scene of action, and of sending to the front ammunition and other necessary military impedimenta. Therefore the greater part of the requisite traction power must be provided by animals. A very large quantity of mules have been purchased for this purpose by the British government, but the supply will yet fall far short of the demand, and the employment of trek-oxen must be perforce resorted to. If, unfortunately, rinderpest were to break out among these in epidemic form, it can be easily understood that the advance of the British troops would be much hampered and possibly entirely checked. Again, it is not unlikely, seeing that the time is approaching in Natal when the conditions favoring horse sickness are most in evidence, that the British cavalry and artillery horses may many of them be struck down by this disease. Taking everything into consideration, rinderpest and horse sickness may be destined to play a decisive rôle in the South African campaign.

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## THE MOST SANGUINARY BATTLES OF THE PRESENT CENTURY.

The despatch from Lord Methuen to the Queen in reference to the battle at Modder River, in which he is reported to have said that it was the bloodiest one of the century, has occasioned a good deal of amusement in the United States. None of the papers believe that Lord Methuen said any such thing, unless, indeed, he spoke of the loss compared with the number of men engaged. The New York *Sun* makes the apposite remark that "as the number of Boers engaged was only about eight thousand, according to the British reports, and General Methuen is in command of only one division of the British army sent to the Transvaal, no battle between these forces could have

been the bloodiest of the century unless the slaughter of both armies was complete." In many of the New York journals a list is given of the bloodiest battles since the commencement of the year 1800. The New York *Sun's* list is as follows: "At the battle of Austerlitz in 1805, the French lost 7,000, and the killed and wounded of the allies numbered more than 300. The French losses at Bautzen in 1813 were 13,000, and at Wagram in 1809 they lost 18,000. At the Moscova on the retreat from Moscow they lost 30,000. At the battle of Leipsic in 1813, a three days' battle, the French losses were 65,000. More than 40,000 of the French perished on the field, altogether 80,000 being killed. At Waterloo the British lost 6,932, the French 28,850. In the last great attack on Sebastopol the French lost 1,646 killed and 4,500 wounded, and the English lost 385 killed and 1,886 wounded. At Plevna between 18,000 and 20,000 Russians were killed and wounded, the Turkish loss being about 5,000 less than the Russian. In the war between Prussia and Austria in 1866 the Prussians lost 9,172 and the Austrians 44,314 at Königgrätz. In the Franco-Prussian war, the Germans at Weissenburg-Worth lost 12,914 and the French 5,000 in killed and wounded. At Vionville-Mars la Tour, the Germans lost 15,799, or twenty-two per cent. of their army, the French loss being equally great. At Gravelotte, St. Privat, the German loss, according to a German authority, was 20,173. Another puts it at 25,000 and the French loss at 19,000.

"In the American civil war the aggregate losses at the battle of Stone's River were 13,249 on the Federal side and 10,266 on the Confederate side. At Gaines' Mill the North's aggregate loss was 6,837 and the South's 8,751. At Gettysburg the Union losses in killed were 3,070, wounded 14,497, and the Confederates 2,592 dead, 12,760 wounded. Chancellorsville, Union dead 1,606; wounded 9,762; Confederate, 1,665 and 9,081 respectively."

To this list might be added the battle of Solferino, in which perhaps a larger percentage of combatants was placed "hors de combat" than in any other fight within the century. Fourteen thousand Austrian soldiers were killed or wounded, and about the same number of the allied armies. Again, the battle of Omdurman deserves a place, for although the British troops suffered but slightly, the Dervishes at the lowest computation lost a third of their number.

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**A Portrait of Dr. Metcalfe Presented to the Academy.**—Dr. T. Gaillard Thomas has presented to the New York Academy of Medicine a portrait of Dr. John T. Metcalfe, painted by Layams about twenty-five years ago. Dr. Metcalfe, now in his eighty-second year, has lived at Cold Spring on the Hudson since his retirement from practice in this city. His many pupils and admirers, who are now themselves entering the ranks of the "older practitioners," will most highly appreciate Dr. Thomas' gift, and will rejoice to see Dr. Metcalfe's kindly face added to the gallery of eminent physicians in the Academy.

## News of the Week.

**The Association of Acting Assistant Surgeons, United States Army,** was organized at a meeting held in the Seventh Regiment armory in this city on December 5th. The meeting was called by Major Azel Ames of Massachusetts and a number of the physicians who served as contract surgeons during the Spanish War. The main object of the association is to secure legislation from Congress looking to the carrying out of the promises made when their services were contracted for. They claim that many verbal promises were made to induce them to accept appointments as acting assistant surgeons. But when the time came to draw pay it was announced by the Treasury officials that the salaries of acting assistant surgeons were affected only by the act of Congress that provided for them the amount of $150 per month, that they were not entitled to extra pay provided by Congress for volunteer officers and enlisted men, because they were attached to no regular regiments. It appeared after the war that these officers were neither regulars nor volunteers, and the contracts and subsidiary agreements with the surgeon-general's department were practically annulled. The following officers were elected: *President*, Dr. Azel Ames; *Vice-Presidents*, Dr. Timothy Leary, Dr. A. R. Jarrett, Dr. T. B. Buffom; *Secretary*, Dr. J. P. Warbasse, of Brooklyn, N. Y.; *Treasurer*, Dr. Charles W. Brewer, *Historian*, Dr. W. S. Terriberry. A legislative committee was also elected.

**The Answer.**—"Can we diagnosticate obliteration of the receptaculum chyli?"—ANDREW H. SMITH, *M.D., in the* MEDICAL RECORD.

Why, certainly.—*The Sun.*

**A Fire at the Johns Hopkins.**—Dalton Hall, the chemical laboratory of the Johns Hopkins University, was seriously damaged by fire on Monday morning. It is estimated that the loss will amount to $12,000 or more. The upper story of the building was almost destroyed, and the lower floors were drenched. The chemical museum in the southwest wing of the first floor was ruined. The fire was discovered just beneath the private office of Professor Morse on the third floor.

**A New German Hospital.**—The new German Hospital in Williamsburg was formally opened Monday afternoon. It is at Stanhope Street and St. Nicholas Avenue, and was built through the efforts of the Plattdeutscher Volksfest Verein of Williamsburg. The institution has accommodations for several hundred patients. The house staff consists of Drs. L. Jacobowitsch, C. P. Freschbeier, Ernest Thun, and Edward Randall.

**New York Post-Graduate Medical School and Hospital.**—At the last faculty meeting of the New York Post-Graduate Medical School, held November 27th, Drs. R. T. Morris and S. Lloyd were made professors of surgery, and Dr. Max Einhorn professor of medicine.

**New York Graduates' Society of McGill University.**—The fourth annual dinner of the above society was held on Tuesday evening, November 28th, in the pink banquet room of the Hotel Majestic, Central Park West. The chair was taken by the president, the Rev. Dr. Edward H. Krans. The following were at the guests' table: Dr. George F. Shrady; Dr. J. A. Irwin, vice-president of the British Schools and University Club, New York; the Rev. Professor Bracq, of Vassar College, and Mr. A. Rives Hall, B.A., B.C.L., a delegate from the parent society in Montreal. The decorations were of flags and flowers. Back of the president's chair two large American and British flags were gracefully draped. On all the tables American, British, and German flags were grouped. An innovation this year was the presence of many ladies. They contributed to the evening's enjoyment by music and singing. The toasts were the President, the Queen, and the Governor-General of Canada. The toasts, "Old McGill," "The Founder," "First Principal and Benefactors" followed. The latter was proposed by Dr. Wolfred Nelson and eloquently responded to by the Rev. Dr. Krans. An affectionate tribute was paid to the sterling merits of the late Sir John William Dawson, whose death occurred this month. In speaking of the many benefactors to McGill, the gifts of Sir William McDonald were referred to. They amount to over $3,000,000, "and the end is not yet." "University Expansion and Influence in the Twentieth Century" was ably responded to by Dr. J. A. Irwin; "Sister Societies of McGill," by Mr. A. Rives Hall; "The Ladies," by Professor Bracq; "Our Guests," by Drs. George F. Shrady and George Wells. Dr. Shrady, in well chosen and felicitous phrase, said that he had been at all the banquets of the society, and that he felt himself a McGill man. "College Reminiscences" called out addresses from Dr. H. N. Vineberg, Dr. Meek, Mr. Gunn, and Mr. Harcourt Bull. The secretary, Dr. W. Ferguson, read letters of regret from a number. The officers elected on the evening of the dinners are as follows.: *President*, Rev. Dr. Edward H. Krans, M.A., LL.D.; *First Vice-President*, Dr. Wolfred Nelson, F.R.G.S.; *Second Vice-President*, Dr. James Albert Meek; *Third Vice-President*, Dr. Hiram N. Vineberg; *Secretary*, Dr. W. Ferguson; *Treasurer*, Mr. R. A. Gunn.

**St. Vincent's Hospital, New York.**—Drs. Charles H. Lewis and José M. Ferrer have been appointed visiting physicians to St. Vincent's Hospital.

**An Impersonator.**—Dr. Frederick Gutmann of this city writes to warn his colleagues against a man who represents himself to be Dr. Gutmann, and recounting a tale of misfortune solicits aid from physicians.

**The Plague** is reported to have appeared at Cadiz. Alarm has been caused in Japan by the occurrence of several cases of plague at Kobe. The disease was brought from China. Dr. Kitasato, the discoverer of the plague bacillus, has been placed at the head of the commission appointed to combat the disease. Another case of plague has developed in one of the crew of the ship *J. W. Taylor*, from Santos, which has been in quarantine for some time. Three other ships laden with coffee have since arrived at this port from Santos. All are detained at quarantine, and the health officials of this city refuse to admit any of their cargo. As the coffee in the four ships is valued at about one million dollars, the extreme caution of President Murphy of the health board became a serious matter. The absurdity of the law which insists that the chief of the health department of this city shall have no medical training or knowledge was never more clearly manifested.

**Leprosy in Guam.**—In a report to the Navy Department Lieutenant-Commander V. L. Cottman notes the existence of leprosy in the island of Guam, and makes some suggestions regarding its eradication. He holds that immunity in the island from this disease cannot be secured until all those who are suffering from it are isolated. Leprosy patients live now, he says, in the same houses with persons who are free from the malady, the natives being indifferent to its dangers.

**Diphtheria and the Schools.**—The public and parochial schools of Wellsville, Allegany County, N. Y., have been closed, owing to the prevalence of diphtheria. Several children have died and others are ill with diphtheria. At Glen Ridge, N. J., the board of health recently decided to close the primary department of the borough school on account of the prevalence of diphtheria. A number of new cases were reported, and the board decided that it would be wise to close the primary department for the present, at least. At Montclair, N. J., there has been contention between the board of health and the pastor of the Catholic church, caused by the board's determination to close the school in the latter's parish. Many cases of diphtheria had been reported among the children attending the parochial school, and the board, therefore, decided to suspend the sessions until the small epidemic had subsided. The priest, however, contended that the closure of his school, the public schools being open, was an unjust discrimination which was not warranted by the actual condition of the epidemic.

**Associated Health Authorities of New Jersey.**—At the annual meeting held at Mickleton on November 27th, Dr. W. F. Elgin, of Philadelphia, delivered an address on "Vaccine Lymph and its Production according to Modern Methods." Dr. Isaac Crowther, president of the Associated Health Authorities of Pennsylvania, presented a communication entitled "Contagious Diseases, and the Care and Duties Required of the Family and Others to Prevent their Spread."

**The Pay of Civilian Surgeons in the British Army.**—In reply to a question raised in the House of Commons, Mr. Wyndham said authority had been given to supplement the army medical staff in South Africa by the employment of fifty-six civilian surgeons and eleven nurses of the Army Nursing Service Reserve. The civilian surgeons would receive £1 a day with a horse and the allowances of a captain, and at

the conclusion of service they would be entitled to a gratuity of two months. The nurses would receive £40 a year with pay allowance, and a gratuity of £20 on the completion of their duties. The three consulting surgeons, MacCormac, Treves, and Makins, are to be paid at the rate of £5,000 a year.

**Philadelphia County Medical Society.**—At a stated meeting held November 22d a resolution was adopted on motion of Dr. J. Madison Taylor, recommending the appointment of one hundred and fifty medical inspectors with an annual salary of $300 each, for the purpose of making daily examinations of children in public, parochial, and private schools, under the auspices, authority, and supervision of the board of health and board of education. Dr. G. Hudson Makuen exhibited a case of pseudolalia in a boy of about thirteen, in whom systematic training, in conjunction with removal of pharyngeal adenoid tissue, had resulted in marked improvement in the speech defect. A second case of stammering was presented. In both hereditary predisposition existed. Dr. Henry Tucker made a report of a case of rheumatoid arthritis treated with hot air, and exhibited the patient, a young woman of about twenty-five years, in whom extraordinary improvement followed forty-five exposures to temperatures in the neighborhood of 250° F. in the course of three months. It is noteworthy that improvement did not set in until after the twelfth exposure. Dr. William S. Newcomet read a paper on "The Use of *X*-Rays in the Study of the Lung," and Dr. T. M. Tyson one on "The Practical Use of the Fluoroscope and Radiographs in Lung Diseases." Dr. H. B. Allyn presented a communication on "Dilatation of the Heart."

**Pathological Society of Philadelphia.**—At a stated meeting held November 23d, Dr. A. V. Meigs read a communication entitled "Morbid Cavities in the Liver," and exhibited illustrative microscopic sections. Dr. J. P. Arnold reported a case of sarcoma of the mediastinum, invading and destroying the middle and lower lobes of the right lung. Dr. Simon Flexner presented a communication on "Experimental Pancreatitis," exhibiting numerous gross and microscopic specimens. The lesions, interstitial, hemorrhagic, necrotic, and gangrenous, were induced by injection of various acids, hydrochloric and nitric, into the pancreatic ducts. Drs. W. S. Wadsworth and W. G. Spiller reported a case of tumor of the occipital lobe, presenting during life stellate degenerative changes in the retina like those associated with nephritis and attended with convulsions, although the growth was far beneath the cortex, invading the posterior horn of the lateral ventricle. Histologically it proved to be an alveolar sarcoma. Dr. J. P. Arnold presented several congenital anomalies in frogs—absence of one eye, a double anterior foot, and transposition of liver, heart, and spleen.

**Philadelphia Neurological Society.**—At a stated meeting held November 27th, Dr. F. X. Dercum exhibited a case of facial dystrophy in a well-nourished Russian woman, twenty-two years old, who presented atrophy and impaired activity of the muscles of the face, the greater on the left, without alteration in electrical reactions. Dr. W. G. Spiller exhibited a case of tabes dorsalis with preservation of the knee jerks in a woman, with optic atrophy, Argyll-Robertson pupils, lancinating pains, and slightly defective station and gait. Dr. F. Savary Pearce reported a case of melancholia cured by gynæcological operative suggestion, in a woman with uterine displacement and a delusion of pregnancy, in whom relief was afforded by curettage of the uterus. Dr. Pearce reported also a case of epileptic ambulatory automatism due to gastro-intestinal intoxication, occurring in a man with severe digestive derangement, and treatment directed to which exerted a restraining influence on the convulsive disorder. Dr. F. X. Dercum exhibited a case of cerebrospinal syphilis with unusual brachial palsy, occurring in a young colored man, who presented especially bilateral paralysis of the lower-arm type, with some involvement of the deltoids also. Dr. Wendell Reber exhibited a case of isolated abducens palsy, probably peripheral, occurring in a middle-aged woman, with a history of rheumatism and also of exposure to draught. Only the left external muscle appeared to be paralyzed, and improvement followed the administration of mercuric iodide, sodium salicylate, and potassium iodide, and local manipulation and applications of electricity. Dr. William G. Spiller reported a case of amyotrophic lateral sclerosis showing the extent of the motor cortex in man, in which he detailed the results of a most thorough and painstaking investigation, which disclosed tracts of degeneration from the sacral cord to the cerebral cortex passing through the corpus callosum. The study confirmed the localization of motor representation in the ascending frontal and ascending parietal convolutions. Marked pigmentation also was found in both cortical cells and cells of the anterior horns of the spinal cord.

**The State Sanatorium for Consumptives.**—The committee on sanitation for the State board of charities held a meeting in Rochester on Saturday last to get suggestions for a bill for the establishment of a sanatorium in the Adirondacks for the treatment of consumptives. Harvey W. Putnam, of Buffalo, and Dr. Enoch V. Stoddard, of Rochester, were present, but Dr. Stephen Smith of this city was absent. A number of physicians and others addressed the committee, and various opinions regarding the desirability of the proposed measure were expressed. One enthusiastic speaker said that the report of the sanitation committee, if it is put into legislation, will do more good in the State of New York than the work of all the charitable organizations for the next ten years. Another speaker, who was not enthusiastic at all, said that a sanatorium will merely set the pace, by spreading information throughout the State among the medical profession and among the people. As a home for incurables he did not see how the institution would benefit to any great extent. He had seen people cured of tuberculosis in western New York, he said, and they did not have to go to the Adirondacks or to Denver for it. He thought the establishment of sanatoria all over the State would be a benefit chiefly to the

politicians, whose lungs were in a very fair condition. The committee will report in favor of the establishment of a sanatorium, at the meeting of the State board of charites in this city on December 12th.

**Reading Notices** of proprietary articles have at last crept into the columns of one of New York's most conservative and hitherto proper medical journals. More's the pity!

**What Constitutes an Accident.**—A man died not long ago in Vermont in consequence of perforation of the intestine by sharp fragments of some indigestible material swallowed with the food. He was the holder of an accident policy insuring him, according to the usual formula, against "bodily injury sustained through external, violent, and accidental means." The company refused to pay on the ground that the cause of the man's death was not an accident, but the court has decided that this was an accidental injury within the meaning of the policy. In New York State it has been decided that the taking of poison by mistake is not an accident in the meaning of a similar insurance policy, but in Illinois the courts have ruled exactly the opposite.

**The Sectional Secretaries of the International Medical Congress.**—The executive committee of the International Medical Congress of 1900 has issued a notice that every one who desires to read a paper at the meeting must send the title and an abstract of his paper to the secretary of his section on or before May 1, 1900. The following is a list of the secretaries with their addresses in Paris: 1. Comparative Anatomy. Dr. Auguste Pettit, 6, Rue Saint André des Arts.—2. Descriptive Anatomy. Dr. Rieffel, 7, Rue de l'École de Médecine.—3. Histology and Embryology. Dr. Retterer and Dr. Loisel, 15, Rue de l'École de Médecine.—4. Physiology, Biological Physics and Chemistry. Dr. Dastre at the Sorbonne; Dr. Gley, 14, Rue Monsieur le Prince; Dr. Weiss, 20, Avenue Jules Janin.—5. General and Experimental Pathology. Dr. Charrin, 11, Avenue de l'Opéra; Dr. Roger, 4, Rue Perrault.—6. Pathological Anatomy, Dr. Letulle, 7, Rue de Magdebourg.—7. Internal Medicine. Dr. Rendu, 28, Rue de l'Université; Dr. F. Widal, 155, Boulevard Haussmann.—8. Medical Diseases of Children. Dr. Marfan, 30, Rue La Boétie.—9. Therapeutics. Dr. Gilbert, 27, Rue de Rome.—10. Pharmacology. Dr. Chassevant, 70, Rue de Rennes.—11. Materia Medica. Dr. Chassevant, 70, Rue de Rennes.—12. Neurology. Dr. P. Marie, 3, Rue Cambacérès.—13. Psychiatry. Dr. Ant. Ritti, the Charenton Asylum, Seine.—14. Dermatology and Syphilography. Dr. G. Thibierge, 7, Rue de Surène.—15. General Surgery. Dr. Walther, 21, Boulevard Haussmann.—16. Surgical Diseases of Children. Dr. A. Broca, 5, Rue de l'Université. Dr. Villemin, 58, Rue Notre Dame des Champs.—17. Urinary Surgery. Dr. Desnos, 31, Rue de Rome.—18. Ophthalmology. Dr. Parent, 26, Avenue de l'Opéra.—19. Laryngology and Rhinology. Dr. Lermoyez, 20 *bis*, Rue La Boétie.—20. Otology. Dr. Castex, 30, Avenue de Messine.—21. Stomatology. Dr. Ferrier, 39, Rue Boissy d'Anglais.—22. Obstetrics. Dr. A. Bar, 122, Rue La Boétie; Dr. Champetier de Ribes, 28, Rue de l'Université.—23. Gynæcology Dr. Hartmann, 4, Place Malesherbes.—24. Forensic Medicine. Dr. Motet, 161, Rue de Charonne; Dr. Thoinot, 8, Rue de l'Odéon.—25. Military Medicine and Surgery. Dr. Catteau, the Ministry of War. Paris.—26. Naval Medicine. Dr. Laugier, the Ministry of Marine, Paris.—27. Tropical Medicine. M. Kermorgant, the Colonial Ministry, Paris.

**Keeping Pigs in New York.**—Dr. Adami, of Montreal, in a biographical sketch of Sir William Roberts, recently published, remarks that there is "a rising young New York physician, known to many in Montreal, who upon the topmost story of one of the Madison Avenue palaces keeps and feeds, and ultimately analyzes a select herd of swine." A young New York physician who can afford not only to live in a "Madison Avenue palace," but to keep pigs there as well, is a rare bird and a lucky one.

**Inadequate Hospital Service.**—There is much complaint in Queens Borough of the insufficient hospital and ambulance service. The Jamaica Hospital is the only institution of the kind in the section, and it refuses to attend to accident cases beyond a radius of two miles from the hospital, and will not attend to medical cases without a physician's certificate as to the cause and nature of the disease. The hospital received $1,500 from the city this year, and a similar appropriation is made for the year 1900. On behalf of the hospital it is said that the appropriation received from the city is not half large enough, and that the money appropriated for this year was all used up by the 1st of July.

**Delicacies for the Sick.**—The New York Exchange for Women's Work calls attention to its Domestic Department, which will furnish all kinds of home-made delicacies for the sick at short notice. The Exchange is a charitable institution designed to help educated women in reduced circumstances, and is supported by voluntary contributions. Orders for invalids sent here are not only well filled, but the physicians who patronize the Exchange will be assisting one of our most worthy charities. The Exchange is at 334 Madison Avenue, corner of Forty-Third Street. The telephone number is 1226 Thirty-eighth Street.

**Navy Department,** Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending December 2, 1899. November 28th.—Passed Assistant Surgeon B. R. Ward ordered to the *Independence*, December 15th. Assistant Surgeon J. S. Taylor detached from the *Independence* December 15th, and ordered to the *Scindia* December 31st. Assistant Surgeon E. Davis appointed assistant surgeon November 21st. November 29th.—Surgeon G. P. Lumsden ordered to temporary duty on the *Franklin* December 1st, during absence of Passed Assistant Surgeon J. A. Guthrie, on leave; thence home and to wait orders. Passed Assistant Surgeon J. Stoughton, order of October 14th, detaching from the *Monadnock* and ordering

to the *Bennington*, revoked. Assistant Surgeon D. G. Beebe, order of October 14th, detaching from the *Bennington* and ordering to the *Ranger*, revoked.

**Smallpox.**—Two recruits suffering from varioloid arrived at Fort Slocum, David's Island, N. Y., from Birmingham, Ala., about two weeks ago. They were promptly isolated, as was the remainder of the detachment with which they came. The physician at the fort does not anticipate any spread of the disease. A quarantine against the island has been declared by the board of health of New Rochelle, and the children of the island will not be allowed to attend the New Rochelle schools for the present. Some excitement was created among the inmates of the girls' seminary of the Wesleyan University at Delaware, Ohio, by the discovery that one of the students was ill with smallpox. There were about three hundred boarders in the seminary, and over two hundred of them left for their homes at once. It is curious that vaccination, which affords such perfect immunity, should have greatly increased the dread of smallpox by making it an unfamiliar disease.

**General Leonard Wood** has been summoned to Washington from Santiago, and professional guessers are busying themselves as to the object of his recall. It is said on one hand that the President purposes appointing him civil governor of Cuba, while others think he was called home in order to give his opinion as to the advisability of instituting a civil government in the island at this time. Rumor also had it that he was to be rewarded by being appointed to succeed Dr. Sternberg as surgeon-general when the latter is retired by law. General Wood has, however, requested the newspapers to deny this story. He says that he has, it is true, served in the medical corps of the army, but has no desire to return to that branch of the service, and under no circumstances will he do so. The duties are pleasant enough, he says, but he has found another field more to his liking. Hereafter, he says, he will remain in the line of the army, and he does not care for a staff position.

**Obituary Notes.**—Dr. Adeline Martin Rea died at York, Pa., on November 23d, of pulmonary tuberculosis, at the age of twenty-seven years. She was graduated from the Woman's Medical College of Pennsylvania in 1893, and was a member of the York County Medical Society and of the Medical Society of the State of Pennsylvania.

Dr. J. P. Miller died at Oxford, Pa., on November 27th, at the age of sixty-three years.

Dr. J. H. Hassenplug died at Philadelphia on November 25th, of pneumonia, at the age of seventy-two years. He was graduated from Jefferson Medical College in 1850, and during the war was surgeon with the One Hundred and Ninth Pennsylvania Volunteers.

Dr. Frank West, of Baltimore, died in that city on November 16th, after a long illness. He was born in Maryland in 1851, and was graduated from the medical department of the University of Maryland in 1879.

Dr. Edgar Miles, one of the oldest practising physicians of Suffolk County, died at his home at Sag Harbor, L. I., on November 30th. He was seventy-five years old, and had practised in Sag Harbor and vicinity for fifty-five years.

Dr. Granville Brobst Slough died at his home in Easton, Pa., on November 27th, in the eighty-eighth year of his age. He was graduated in arts from Lafayette College, and in medicine from the Jefferson Medical College, in 1861. During the Civil War he served in the United States navy as a surgeon under Farragut.

Dr. John Stamford Sayre, formerly passed assistant surgeon in the United States navy, died on November 30th, at his home in Monticello, Mo. Dr. Sayre was born in Monticello August 7, 1857. He was graduated in arts from Princeton in 1878, and in medicine from the medical school of the University of Michigan in 1881. He entered the navy as assistant surgeon in 1884, and was assigned to the Asiatic Squadron, with which he remained until 1896. He was retired after attaining the rank of passed assistant surgeon, in 1897, on account of illness contracted while in the Far East.

Dr. Charles Edmund Jones, a homœopathic practitioner of Albany, N. Y., died on December 1st, in the fifty-first year of his age. He was a graduate of the Albany Medical College in 1872 and of the Homœopathic Medical College in this city in 1873.

Dr. William H. Kendrick, an eclectic practitioner in Indianapolis, died recently. During the Civil War he was on the medical staff of the army, and while stationed in Washington was attacked with pneumonia and apparently died. The body was about to be embalmed before being shipped to Indianapolis, when Dr. Kendrick suddenly returned to life. While unconscious he had visions of heaven, and always afterward believed that he had actually visited the celestial city.

Dr. Granville B. Slough died at Easton, Pa., on November 27th, at the age of sixty-one years. He was graduated from Jefferson Medical College in 1861, and during the Civil War was a surgeon in the United States navy.

Major Samuel T. Armstrong, surgeon of the Thirty-second Infantry, died on December 4th, at Manila, the cause of death being given in General Otis' telegram as leukæmia. Dr. Armstrong was born in Ohio, and was graduated from the St. Louis Medical College in the class of 1879. He was for some time a surgeon in the Marine-Hospital service, but resigned and entered into practice in this city. He was appointed brigade surgeon in the volunteer service from New York in June, 1898. He had been in the Philippines for some time. He was a member of the Academy of Medicine, the Pathological Society, the County Medical Society, the Society for the Relief of Widows and Orphans of Medical Men, and the Physicians' Mutual Aid Association.

Dr. Albert Fricke died at Philadelphia on November 17th, at the age of eighty-seven years. He was graduated from the medical department of the University of Pennsylvania in 1834, subsequently becoming resident and then visiting physician to the Pennsylvania Hospital. He was also at one time physician to the German Hospital.

# Society Reports.

## NEW YORK ACADEMY OF MEDICINE.

### SECTION ON OBSTETRICS AND GYNÆCOLOGY.

*Stated Meeting, November 23, 1899.*

BROOKS H. WELLS, M.D., CHAIRMAN.

**Mistakes in Diagnosis of Appendicitis.**—DR. S. MARX presented a series of specimens illustrative of this subject. The first had been obtained from a woman, twenty-eight years of age, from whom he had removed a dermoid cyst two years ago. Convalescence had been normal. A year later she had developed what her physician had considered to be an acute attack of appendicitis, but had recovered without operation. She had had two or three similar attacks before he had been called to see her because of one of unusual severity. Immediate operation had been demanded, and on incising the abscess cavity and evacuating the pus he had found within the cavity a large silk ligature. No search had been made for the appendix because the cavity had been walled off. Healing had taken place quite rapidly. The second specimen had been removed at an interval operation for appendicitis. The patient was twenty-four years old, and had had numerous attacks previously, one of these having been diagnosticated by an eminent surgeon in the South as an attack of gall-stone colic. There had, however, been no jaundice, no gall stones had been found in the stools, and the pain had been associated with more or less fever. Palpation through the rectum had pointed to the appendix as the offending organ. During the operation the appendix had ruptured at the base. It had been tied off in the usual fashion, and recovery had been uneventful. The operation in this case had been that known as the Kammerer operation. The third specimen had been taken from a woman of thirty-one years, who had been well up to six weeks before. She had then begun to bleed rather irregularly, and this had been associated with a rise of temperature, a rapid pulse, and excruciating pain—indeed, all the symptoms at that time had pointed to a ruptured ectopic gestation. The attending physician had diagnosticated an appendicitis, and had advised operation, but it had been declined. At the time the operation had been agreed to and performed, the temperature had been 102° F. and the pulse 130. A ruptured ectopic gestation had been found on the right side, and removed. The patient had made a satisfactory recovery. The fourth specimen had been taken from a woman who had been married only three weeks, but who had been infected with gonorrhœa by her husband even in this short period. She had developed all the usual symptoms of an appendicitis. Suddenly her pulse had risen to 126, and the pain and rigidity in the appendical region had been typical. Vaginal examination had been negative. Operation had been refused, and, on the following day, much to his surprise, the pulse and temperature had fallen to normal. This had continued for three or four days, and then there had been a temperature of 101° F. and a pulse of 118. She had then submitted to an abdominal section. This had shown the source of the pus not to be the appendix, but a pus tube. The appendix had been reduced almost to a fibrous cord, although there was no history of a previous appendicitis. The cavity had been drained for five days. On the seventh day she had unexpectedly developed a pneumonia, which had terminated fatally in a short time. The fifth specimen had been removed from a woman who had been perfectly well previously. Her illness had begun with tenderness in the right iliac region and general abdominal pain. The pulse was 108 and the temperature 102° F., in the rectum. Examination per rectum had thrown some doubt on the diagnosis because of the high situation of the tumor. On opening the abdomen it had been ascertained that the tumor was retroperitoneal and that the appendix was perfectly normal. Back of the peritoneum free pus had been found, but the woman's condition had been such that he had sutured the peritoneum so as to wall off the pus. Two days later he had continued the operation, and had found, and removed, a suppurating kidney. She had developed an acute pneumonia, but in spite of this had made a good recovery. It was probable that this kidney had become infected at her confinement, at which time she had had some cystitis.

DR. LE ROY BROUN said that he had been rather surprised at the positiveness with which Dr. Marx had spoken of his ability to make a diagnosis of ectopic pregnancy merely from the history. Although he had personally had a fairly large experience with these cases, he felt that all diagnoses of ectopic pregnancy should be looked upon as tentative.

**Appendix on Left Side.**—DR. P. A. HARRIS said that in a certain percentage of cases of ruptured ectopic pregnancies there would be a rather marked elevation of temperature, just as had occurred in Dr. Marx's case. The speaker then reported a case in which there had been a transposition of the appendix. An appendix about five inches in length had been found in the left side of the abdomen, and owing to the short mesentery its tip could not be brought beyond the median line.

**A Case of Mild Sepsis Treated by Unguentum Credé.**—DR. S. MARX reported this case, which had surprised him because of the good result obtained. He had used this ointment, he said, in a number of other cases, but without observing any benefit therefrom. In this patient the highest temperature had been 102.5° F. and the highest pulse 120. The patient was a primipara in whom he had induced a premature birth at the sixth month because of a grave and rapidly increasing melancholia. On the third day the temperature had risen suddenly to 101.5° F., and nothing could be found to account for this temperature except two caked breasts. At this time the physical examination had been negative. On October 17th typical pseudo-diphtheritic patches had been found in the vagina and on the vulva and cervix. The parts had been thoroughly cauterized with pure carbolic acid, chloride of zinc, and solution of iron successively, but without result. The parts had then been irrigated very frequently, but there had been absolutely no improvement. Repeated chilly sensations had then been complained of. Having no faith in streptococcus serum, he had tried unguentum Credé. The ointment had been first used in the evening, and by the next morning there had been a decided improvement in the membranous patches. The ointment had been used every four hours for the first day. In seventy-two hours there had been no trace of the patches. The speaker said that he had never seen any such effect from other remedies.

DR. JOHN POLAK said that he had employed Credé's ointment a number of times, and the results had been extremely variable. In one case the result had been excellent, and was of the more significance because no other treatment had been employed. The case had been seen three weeks and a half after confinement. At the time the temperature had ranged between 102° and 103° F.; the uterus had already involuted fairly well, and there had been no membranous patches. After each application of the ointment the temperature had dropped one to one and a half degrees. The treatment had been continued for over a week, and

then the temperature had reached the normal and convalescence had been completely established. The case was one of late and persistent sepsis, in which the ordinary local treatment would not have been of value, in all probability. In two cases of post-operative sepsis in which he had employed this method of treatment he believed some benefit had been derived from the ointment, although he could not speak positively on this point.

Dr. S. S. Jones said that he had used the Credé ointment in a number of cases of miscarriage in which the fever and other symptoms had pointed to a mild sepsis, and in these the ointment had seemed to act admirably. He thought the case reported in his paper last year had shown at least one thing—that the ointment had acted very much like an antitoxin. He believed its use would save life.

Dr. Vineberg remarked that he had seen a young woman's life sacrificed by depending upon the unguentum Credé. Such an agent might perhaps be used by experienced physicians, but the trouble with methods of this kind was that the necessary discrimination was often lacking. For this reason the treatment involved the employment of a dangerous principle.

**Nephrectomy for Ascending Tuberculosis.**—Dr. Hiram N. Vineberg reported this case, and presented the patient. He said that in October, 1898, he had reported to that section a case of tuberculosis of the bladder that he had had under observation for ten months, and he had then promised to report later on it if anything of interest should develop. The patient was a woman of forty-seven years who had been suffering from painful and frequent micturition for six years before coming under his observation in 1897. There had been no hæmaturia so far as known. It was very rare indeed, Dr. Vineberg said, for a case of tuberculosis to be followed from the bladder up the ureter. He did not consider it a descending tuberculosis because when first seen there had been absolutely no renal symptoms, and both ureteral orifices had then been free. A few tubercle bacilli had been discovered in the urine. Under topical applications, made twice weekly, the bladder symptoms had improved considerably. At first there had been a patch of redness at some distance from the left ureteral orifice, but early in the present year this redness had extended to the ureteral orifice. In March he had removed the left kidney, the wound healing by primary union. Later a fistula had formed, and had not closed for three months. Since the operation this woman had gained fifteen pounds, but the bladder symptoms had remained about the same. When in the recumbent position the urine came in contact more with the reddened area, and this explained the irritation experienced at night. The kidney had been completely destroyed by a suppurative process—for the most part, a caseous tuberculosis. When the involvement of the kidney occurred rather early there would not be much enlargement of the organ, but the destructive process would be quite extensive.

**Acute Salpingo-Oöphoritis Complicated by Appendicitis and a General Peritonitis, Probably Gonorrhœal.**—Dr. Vineberg reported this case because there was a strong probability that the general peritonitis was of gonorrhœal origin. When first seen the woman had been suffering a great deal of pain; the temperature was 101° F., and the pulse 120, small and wiry. The abdomen was tender all over. The uterus corresponded in size to a pregnancy at the sixth week. Inquiry had elicited the fact that the husband had gonorrhœa and had recently had intercourse with his wife. The uterus was curetted and decidual membrane removed. Then the abdomen being opened an acute general peritonitis had been brought into view. The right tube and ovary were highly inflamed, and were extirpated. The appendix was buried in adhesions. The flakes of lymph had been rubbed off the intestinal coils and the abdominal cavity flushed with saline solution. Gauze drainage was used. Some of the flakes of lymph had been examined microscopically and bacteriologically, but with negative result. The peritoneum had been very acutely and intensely inflamed; so much so that he had despaired of the woman's recovery, though believing that the peritonitis was gonorrhœal. However, she was now thoroughly convalescent.

Dr. Le Roy Broun took exception to the statement that this case was probably one of peritonitis of gonorrhœal origin; he would rather consider it a septic peritonitis.

**Pregnancy Complicated by Sarcoma of the Kidney.**—Dr. Edward A. Ayers made this report. The patient, a woman of twenty-one years, had ceased menstruating on November 28, 1898. One month later she had noticed a fulness on the right side, which had increased more rapidly than had the size of the uterus. When the patieat was seen by him on June 25, 1899, the temperature had been 90° F. and the pulse 90, while the urine had contained a large quantity of blood. The patient was profoundly anæmic. The uterus was enlarged to a size corresponding to a seven months' gestation. There was a large, hard tumor behind and to the right of the uterus. The tumor was thought to be a cystic sarcoma of the ovary. It was evident that the pregnancy could not go to term for lack of room for the uterus, and the anæmia was so profound that he had favored the induction of premature labor. On July 20th this had been done, and she had been delivered of a fœtus weighing less than four pounds. Subsequently he had done an abdominal section upon her, and had found the transverse colon adherent to the lower part of the tumor. The latter had proved to be the right kidney. Severe hemorrhage had been excited during the separation of the adhesions, and in spite of saline infusion and the usual measures the patient died three hours later. The tumor had an average diameter of nine inches, and weighed seventeen pounds.

Dr. Marx said that this case reminded him of a similar one seen by him a short time ago—that of a multipara, thirty-six years of age, pregnant at the sixth month. His diagnosis had been hydramnios, and labor had been induced, but to his surprise he had found a tumor of the left lobe of the liver. He had then learned that a small "wart" had been removed from the woman's left side a short time before, and that it had quickly recurred.

**Atresia Vaginæ Complicating Labor, with Report of a Case.**—Dr. George Grey Ward, Jr., read a paper with this title. He stated that the most common form of atresia of the vagina was a soft septum, one-eighth to one-fourth of an inch in thickness, situated in the middle of the vagina, and having a small opening. The danger of such a condition depended entirely on the degree of obstruction. If the stricture was fibrous or cartilaginous, the gravest consequences might ensue, such as delivery of the child through the rectum. Rupture of the uterus had also occurred. The atresia might be congenital or acquired. The former was rare, and was due to cessation of development. The acquired form was usually the result of bad management in previous confinements. Inflammatory affections of the vagina complicating various diseases might also be etiological factors. The treatment must always be dependent upon the character of the barrier. A septum that appeared thick and unyielding in the early months of pregnancy often became soft and yielding at full term. According to Playfair, there was seldom any serious difficulty from atresia of the vagina, but the obstetri-

cian should remember that the unaided dilatation of this second cervix might prove exhausting and disastrous to the patient. Hydrostatic dilators would render valuable assistance, and slight nicking of the stricture would often materially assist the progress of labor. Cases had been reported showing that attempts at dilatation, even during the early months of pregnancy, were apt to be followed by abortion. In the light of modern obstetric surgery Cæsarean section would be considered proper in those cases in which the atresia was very great, in preference to craniotomy or embryotomy. Dr. Ward then reported a case in which there had been a septum, one-fourth of an inch thick, at the junction of the middle and upper thirds of the vagina. The septum had been soft, but it had materially reduced the depth of the vagina. Dilatation of this stricture had been practised last June, and early in July labor had set in. Then with digital dilatation, and the aid of the forceps, delivery had been effected, and the patient had made an uneventful recovery.

Dr. E. A. Ayers reported, in this connection, two cases of atresia. The first case was that of a woman having a constriction near the cervix, and an opening admitting a uterine sound. The anterior lip of the cervix was united to the cicatricial tissue up to the margin of the external os. She was suffering from hemorrhage, apparently as a result of cicatricial tissue in the endometrium. The atresia had been produced, in all probability, by the use of too strong an antiseptic. In the second case, the atresia had probably resulted from the use of a very strong vaginal douche after labor at a time when the parts had been very much relaxed. In a third case there had been a tight stricture, which had been incised, and an effort made to effect delivery. Failing in this, he had made the mistake of doing a symphyseotomy instead of a Cæsarean section. Infection of the wound had occurred, and had led to pneumonia and death.

Dr. P. A. Harris reported a case of complete atresia of the vagina attended by him nearly four years ago at the Paterson General Hospital. The woman had borne three or four children previously, and had been in labor at the time of his examination. This revealed a small sulcus where the vagina should have been. Even by palpation through the rectum he had not been able to detect the presence of a cervix. He had done a Porro operation and delivered a living child. She had made a good recovery. According to the history she had received douches and uterine treatment about ten months before, and had been very sore for a considerable time as a result of this treatment. It was probable that some strong antiseptic had been used in the douche, and had cauterized the vagina, and that the woman had gone home before healing had taken place, and had then become pregnant, the vagina subsequently becoming stenosed.

Dr. Vineberg thought the case was one of very tough hypertrophy of the hymen. He had seen just such a case not long ago. He favored excision of the annular stricture during pregnancy, and suturing the vaginal wall to prevent reclosure. In one case in which he had done this the result had been good.

Dr. J. J. E. Maher said that about ten years ago he had reported a case of atresia of the vagina. He had seen the woman one month before labor and had found along the posterior wall of the vagina an aperture 2.5 mm. in diameter. Dilatation had been effected with a hydrostatic dilator, and delivery easily effected with forceps. This case had led him to search the literature, with the result that he had collected records of one hundred such cases. In this series a membrane had existed in fifty-six, and a mere band in only twelve cases. Perhaps the most difficult point to decide was in regard to the thickness of the obstructing membrane. He had accomplished this in one instance by inserting a laminaria tent, and when it had swollen noting the size of the indentation made in it. In the series referred to there had been twenty-one different complications, such as hemorrhage, unusual presentations, and pelvic contraction. Notwithstanding this, only thirteen mothers and forty-one children had died.

**The Treatment of Cancer by Its Own Toxins.**—Dr. P. J. McCourt read this paper. He said that he had been led to prepare a serum for cancer, working on new lines. To obtain the primary serum he had selected a typical case of rapidly recurrent carcinoma, the patient being otherwise in good health. The ulcerated surface was cleansed without the use of antiseptics, and sterilized dressings were applied to the part for forty-eight hours. The virus was then collected by curettage and mixed with perfectly pure vegetable glycerin, after which it was triturated and separated by means of a special separator that he had devised. After the fifth trituration, micro-organisms could not be found, but nevertheless this serum was very virulent, and was not fit for use. By repeated subdivision and attenuation the toxins became antitoxins. Alcohol must not be employed in any step of the preparation; even a mixture with animal glycerin, of standard purity, had been sufficient to render the serum inert. The serum was administered by the stomach, two or three times a day, for a long time. Toxic symptoms would rarely follow a correct selection of the preparation and of the dose, but a critical erythema, closely resembling erysipelas, might occur. The subcutaneous administration of this serum had proved irritating and useless. A strict regimen, including absolute abstinence from alcohol, must be enjoined —even a single glass of beer was apt to neutralize the treatment of an entire month. A considerable number of cancer cases had been kindly referred to him from a number of the hospitals in this city. Some of the results of the treatment had been encouraging, but in a preliminary paper of this kind he preferred not to dwell upon the results. Even in the most advanced cases the antitoxin had been found to relieve pain, improve the general health, and retard the progress of the disease.

## NEW YORK COUNTY MEDICAL ASSOCIATION.

*Stated Meeting, November 20, 1899.*

Frederick Holme Wiggin, M.D., President.

**The Tonsils as Portals of Infection.**—Dr. Emil Mayer read a paper with this title. He stated that certain forms of infectious diseases followed closely upon tonsillar affection, the same micrococci existing in the former as in the latter, and hence, they being mentioned tonsillar in origin, was to-day an established fact. Chief among the list of affections thus originated stood rheumatism, many others being noted that were not infectious in their nature, such as albuminuria, erythema, urticaria, etc. One writer had reported four cases of angina pectoris, another a case of phlebitis, while still others mentioned pneumonia and pleurisy. All of these had been said to be of a tonsillar origin. In addition to the diseases enumerated, it had been shown quite lately that we must add endocarditis to the list. One such case, typical of the rest, was recorded. A young man aged eighteen years had died of general pyæmia consequent upon tonsillar affection. The autopsy had revealed broncho-pneumonia and deposits on the tips of the pulmonary valves. The staphylococcus aureus had been found there and in the white tonsillar exudate. To the five cases re-

ported by Packard the author added a case of endocarditis following tonsillitis of the follicular variety, that had come under his own observation. He said that, granting that we had established the etiological factors of some of the infectious diseases, it became our manifest duty to take such steps as would tend to the prevention of such infection. We should positively maintain that neither follicular tonsillitis nor peritonsillitis was the innocent affection we had hitherto classed it as being, and should treat these conditions energetically. In the early stages peritonsillitis might be aborted. After the angina had subsided, a very careful examination of the fauces should be made, and every bit of tonsillar tissue removed either with the tonsil punch or by tonsillectomy with the galvanocautery. Operative procedures must under no circumstances whatever take place while an acute process was going on. The author arrived at the following conclusions: (1) Infection arose in the tonsil; (2) tonsillar affections were frequently serious in their sequelæ, and every step to prevent recurrent attacks should be taken; (3) the existing tonsillar disease should be energetically treated; (4) careful examination and treatment were absolutely essential in the interim; (5) following anginas the heart and other organs should be examined from time to time.

**General Infection.**—Dr. Isaac Adler said that this subject did not seem to be sufficiently recognized by the profession at large. There was now abundant clinical and experimental proof of the fact that the lymphatic system opened directly into the tonsillar crypts, and that there was an interchange from the surface of the tonsils to the lymph current at all times—a continual transmigration of leucocytes more or less loaded with the refuse of metabolism and with bacteria directly into the lymphatic system, and secondarily into the blood current. It was also known that the crypts of the tonsils, even in health, were a common hiding-place for various bacteria. Of all the bacteria which made the tonsil a breeding-ground it was probable that the staphylococci and the streptococci were the ones which most easily entered the lymphatic system and the blood current. Whether a streptococcus pneumonia or a staphylococcus pneumonia could be directly produced by tonsillar inflammation seemed to him as yet in doubt. That angina pectoris itself was not caused by tonsillar infection he would state positively, and also that tuberculosis did not arise from such infection. He was sorry to see that many in the medical profession still believed that there was a distinct relation between tonsillar inflammation and articular and muscular rheumatism. There was every reason to believe that all forms of rheumatism, both acute and chronic, were nothing more than infections with attenuated pyogenic bacteria—principally the staphylococcus aureus and the streptococcus. It was easy to understand that inflammations of the tonsils might, in certain instances, result in rheumatic manifestations. It was not uncommon for a severe rheumatism to begin with a tonsillitis. A rheumatic endocarditis was not one produced by any diathesis, but simply an infection of the valves of the heart by the staphylococcus or the streptococcus, principally the latter. Myocarditis, as well as endocarditis, had been observed as a consequence of infection from the tonsil. He would go so far as to class the case of systolic murmur described by the reader of the paper as one of acute myocarditis following tonsillar infection. He fully concurred with the author of the paper in the statement that the tonsils once inflamed became a menace to the entire system, and that repeated inflammations of the tonsil were a source of great danger. For this reason, recurrent tonsillitis was a positive indication for the ablation of the tonsils.

**Endocardial Infection.**—Dr. Frederick A. Packard, of Philadelphia, presented the histories of five cases, already reported, and two others having a similar character. He said that his attention had been first called to the relation between true angina and endocarditis by an illness occurring in a boy whose heart he had frequently examined before, and found free from abnormalities. He had been called on December 25, 1893, to see this boy, and had found him suffering from tonsillar inflammation. The next day there had been, for the first time, a loud, rough systolic murmur. The tonsillitis had disappeared within a few days, but the murmur had persisted, and had been heard at an examination made two years later. There had not been in this boy the slightest manifestation of rheumatism. The second case was that of a girl aged thirteen years who had also been under his care for some time. In her, too, there had not been the slightest suspicion of rheumatism. In 1894 she had had an acute attack of erythematous angina, with which there had been a curious irregularity of the heart, and marked tachycardia. This attack had passed off rapidly, but convalescence had been rather slow. Repeated examinations of the heart afterward had failed to show any abnormality. Almost one year later she had had a severe attack of angina, apparently of the same form as before, and on the second day she had developed a loud, harsh systolic murmur, heard well at the apex, and transmitted to the left of the axillary line. He had examined her only a few days ago, and she had this murmur. The third case was that of a boy coming to the dispensary, a stranger to him. There had been at the time an acute angina, but on the third day a harsh murmur had developed at the apex of the heart, and one week later pericardial friction sounds had been heard, together with a systolic murmur. Within a few days of this the systolic murmur had disappeared, but a presystolic murmur had then become audible at the apex. The boy had not been seen since that time. The fourth case was that of a male adult, thirty-two years of age, and was interesting on account of its being an adult. The man had been seen in Dr. Musser's ward. He had had angina when first seen, and two harsh murmurs. A year or two afterward this same patient had been seen, and there had then been dilatation of the heart with loss of compensation. The fifth case had occurred in a boy with whose family he had been acquainted. The boy himself had been attended by Dr. L. A. Starr, who had assured him that there had been previously no evidence of heart trouble. When he had seen this boy, there had been an acute angina, of four days' duration, and a harsh cardiac murmur had developed. Last winter one of the nurses at the hospital had been seized with a severe streptococcus angina, and had soon developed a blowing murmur at the apex. This summer he had learned from her physician that since that attack of tonsillitis she had had cardiac disease, and had lately developed evidence of lack of compensation. More recently he had had under his care a woman who had developed a faint blowing murmur at the mitral valve. It was possible that this was a hæmic murmur, but he was inclined to believe that such was not the case. From these and other cases it seemed to him most rational to look upon the tonsil as the original source of the infection.

Dr. Francis J. Quinlan said that there did not seem to him any lesions from infancy to adult life which caused so much illness as a tonsil the seat of either acute or chronic inflammation. The ring of Waldmeyer, in the vault of the pharynx, so prominent in childhood, was most favorably situated for receiving and conveying into the system all sorts of infection. Only a few months ago one of our most distinguished surgeons had fallen a victim to an infection which had started in a tonsillar inflammation.

Dr. M. C. O'Brien said that it had been often demonstrated that one small yellowish spot on the tonsil might be a prodrome of diphtheria. Many persons had been given large doses of quinine on the supposition that they were suffering from malaria, whereas even a superficial examination of the tonsil would have shown that the condition was one of an infection arising from the tonsil. We should constantly remember that the respiratory system was guarded very largely by the tonsils.

**Tonsillitis and Sudden Death.**—Dr. S. S. Jones said that he had often noted a relationship between tonsillar inflammation and rheumatism, and it certainly seemed very reasonable to look upon both as due to bacterial infection. One phase of the subject, of some importance, had not been touched upon. He had noticed a tendency in cases of tonsillitis to sudden death. These cases, he thought, might be explained by a sudden overwhelming of the heart muscle or of the pneumogastric nerve, by an infection, but it was quite possible that an endocarditis might explain some of them.

**Tuberculous Infection Seldom Starts in Tonsils.**—Dr. W. Freudenthal said that he had been especially interested in rheumatism and tuberculosis for a number of years. Some years ago he had described a series of cases in which, after an acute attack of tonsillitis, general rheumatism had followed. It seemed to him that too much stress had been laid upon the tonsils as the primary seat of the infection. The tonsils were very seldom the portals for tuberculous infection—indeed, he had never seen a tuberculous ulceration of the tonsil. When bacilli were inhaled, they could not be removed from the posterior pharynx. In the upper portion of the nasopharynx there was a quiescence, the air inhaled very seldom reaching these parts, so that the bacilli had an abundant opportunity to develop. He was convinced that the retropharynx was much more often the primary seat of tuberculous and other infections than were the tonsils. He had succeeded in proving that, in cases of tuberculosis, there were sometimes primary ulcerations of the retropharynx.

Dr. Mayer closed the discussion. Regarding the case that he had reported, he said that the diagnosis presented had not been his own, but that of the attending physician, and personally he was disposed to concur in the opinion expressed by one of the speakers, that it was a myocarditis. He would insist particularly that an ordinary tonsillotomy was not sufficient; the tonsils should be gouged out, or else removed by the method known as tonsillectomy.

**The Early Recognition of Pulmonary Tuberculosis.**—Dr. S. A. Knopf read this paper. Regarding tuberculin he said that it had proved very useful in cases of bovine tuberculosis, but it was dangerous in the human subject because of the occasional dissemination of the disease throughout the system after the use of this agent. Again, one observer in Vienna had reported the occurrence of the tuberculin reaction in twenty-seven out of one hundred cases of other diseases than tuberculosis, and Klebs, of Chicago, had claimed to have obtained this reaction in every case of chlorosis that he had subjected to this test. It was known that pulmonary tuberculosis was most frequent between the ages of seventeen and thirty-five years, and was most often observed in the poorly nourished, and those of light weight. A careful inquiry into the habits of life of the patient, past and present, and of previous illnesses, was, in his opinion, of the greatest importance as an aid to early diagnosis. Bad eaters were nearly all candidates for consumption. He believed that nearly all pleurisies were tuberculous. An increasing tendency to nasopharyngeal catarrh, especially if associated with a change of disposition or a feeling of inability to perform the usual duties, should be looked upon with suspicion. The very early occurrence of hemorrhages was not necessarily of grave prognostic significance. It should be remembered that observations made with the clinical thermometer were not useful unless made four times daily for several days in succession. A subjective symptom of some importance was a peculiar vibration of the affected lung noticed by the patient when talking loudly and energetically. The upper air passages should be minutely examined, and the nasal mucus examined for tubercle bacilli, as the finding of the latter would at least serve as one link in the chain of evidence. All that he had been able to observe concerning the pulse in the early stages of pulmonary tuberculosis was that it was persistently rapid, feeble, and more or less irregular.

**An Important Physical Sign.**—The physical examination of the chest could not be accurately made unless the patient was completely stripped to the waist. He looked upon a persistent low-pitched and rough inspiratory murmur at the apex as an exceedingly important early sign of pulmonary tuberculosis. He did not approve of administering iodide of potassium to increase the intensity of the râles heard in the chest, for the very fact that this might occur when iodide was given was evidence that there was a process of congestion which had been increased by the use of the drug, and hence such practice was obviously dangerous.

**The New Agglutination Reaction.**—Dr. Knopf said that he had made some experiments in the Health Department laboratory, with the co-operation of Dr. Biggs and Dr. Park, the serum being furnished from Dr. Lambert's service at Bellevue Hospital. The experiments with the pleuritic fluid drawn from a tuberculous guinea-pig had been a decided success. A mixture of one part serum and nine parts of the bacilli emulsion had given the true adherent film after eighteen hours, and when agitated, had broken up in the thin, large flakes characteristic of positive reaction. The experiments with the serum from a number of patients suffering from various diseases had been very much less satisfactory. Of ten cases distinctly diagnosed as pulmonary tuberculosis, four had reacted positively, two slightly, while one had given a doubtful reaction and one an absolutely negative reaction. One case of miliary tuberculosis had given only a slight reaction, and with one case, three days after a post-partum hemorrhage, a positive reaction had been obtained. A doubtful reaction had also been obtained in a case of chronic hemiplegia, and in one of alcoholic neuritis, while absolutely negative reactions had been secured in cases of tertiary syphilis and acute articular rheumatism. The diagnostic value of the method, therefore, was yet undetermined.

**Latent Tuberculosis.**—Dr. William H. Thomson said that the physician was often called upon to give an answer as to whether or not an individual had pulmonary tuberculosis. Such an answer could not be positive, and yet so much depended upon it. He knew of no other disease in which the early clinical history was apt to be so vague and unreliable. About three years ago a most interesting discussion had taken place in London on the subject of latent tuberculosis, which had been participated in by many eminent clinicians. This discussion had developed the fact that there were many cases in which the tuberculosis had been latent for five, ten, and fifteen years, and there was some reason to believe that occasionally pulmonary tuberculosis was congenital—not hereditary. All physicians must have been impressed with the great uncertainties of physical examination.

**The Emaciation Characteristics.**—In his own experience he had been especially guided and helped

by the fact that tuberculosis gives rise to a specific form of emaciation. By emaciation was meant a loss of bulk in all parts of the body except the nervous system, the most important manifestation being in the muscular tissue. *Pari passu* with the wasting of the muscles was a diminution in the bones. The leading cause of emaciation was an absorption of toxins. He was quite willing to base his diagnosis of tuberculosis on the occurrence of the specific form of emaciation regardless of the symptoms or physical signs. The chief feature of this type of emaciation was a thinning of the shafts of the long bones, so that they became flattened like laths. In other forms of emaciation the bones became more or less diminished, but were not flattened in this way. A second feature was the transformation of the muscles into ribbons. When a patient with chronic bronchitis took a long breath the hypertrophied muscles of the neck would appear prominently, while in the phthisical subject the thin, ribbon-like muscles would stand out in marked contrast with those of the bronchitis patient. Other elements easily discernible in the clinical picture of phthisis were the protruding chin, the elongated neck, and the sunken clavicles.

**Useful Early Signs.**—Dr. W. H. Katzenbach said that unfortunately cases of pulmonary tuberculosis were not usually seen by the physician until the patient had developed a cough or a hemorrhage from the lungs had occurred. The loss of body-weight was undoubtedly due, in many instances, to the absorption of toxins, and might be observable even before the body temperature had been affected. The occupation and environment of the patient should be inquired into by the physician, and the existence of the alcoholic habit searched for, as the latter had a most important bearing. The cough so commonly observed in alcoholic subjects often caused the physician to overlook the development of pulmonary tuberculosis. The changes in temperature were significant in the early stages. There might be either constant or intermittent fever; sometimes a subnormal temperature in the morning. In incipient cases the rise of temperature was often very moderate. Since influenza had become so prevalent in this locality a previous history of influenza had come to be a useful hint as to the possible nature of the malady. In cardiac disease hæmoptysis was not very common, and hence this cause of hemorrhage should be excluded before deciding that the hemorrhage was the result of a tuberculous process in the lung. Quite recently he had seen an example of pulmonary tuberculosis associated with cardiac disease, thus making this differentiation of the source of the hemorrhage peculiarly difficult. The cases exhibiting, on inspection, the features described by the last speaker were usually those which had already reached an advanced stage, and naturally in such the diagnosis was not so difficult as in the earlier stages. He had found it a useful procedure to stand behind the patient, and place the thumb on the scapula and the finger under the clavicle, and while making firm pressure ask the patient to take a deep breath. The occurrence of pain on one side under these conditions often pointed to involvement of that lung. Another useful sign was the conduction of the heart sounds at the apex of the lung and under the clavicle.

**Tuberculin and Serum Tests Unreliable.**—Dr. Alexander Lambert said that he was somewhat more favorably disposed toward tuberculin than was the reader of the paper. He had been struck by the fact that an exceedingly slight tuberculous lesion—even a healed lesion—would give a marked reaction. From this it was evident that the tuberculin reaction gave no hint as to the extent or severity of the tuberculous process. In pure tuberculosis an early sign, frequently obtainable, was the existence of a subnormal temperature in the morning, or a subfebrile temperature in the evening. A case was cited in which an individual who he had had no reason to suppose was tuberculous, had complained of a peculiar vibration in the chest whenever he hummed a tune. A physical examination of the chest had then revealed a lesion there. At the time he had not given this sign any particular thought, but had been reminded of it this evening by a reference to this sign in the paper just read. He had watched the experiments made at the health department laboratory with the serum, and had been profoundly impressed with its utter unreliability, other signs and symptoms being, in his opinion, far more valuable.

**Spontaneous Arrest of Tuberculosis Common.**—Dr. Herman M. Biggs said that no one could do much pathological work without becoming impressed with the fact that a large number of cases of tuberculosis passed unrecognized. The difficulty in recognizing this disease seemed to him to be due not so much to a dearth of diagnostic methods, but a failure to use them systematically. In a large series of autopsies on adults dying in the charity hospitals of this city he had found that in about sixty per cent. of the cases tuberculous lesions were present, yet in hardly one-half of these had the existence of this disease been suspected. The fact, that in such a large proportion of cases occurring among the poor, and under the most unfavorable surroundings, the process had been naturally arrested, was certainly food for deep thought. As a rule, the extent of the lesion in cases of tuberculosis was considerably greater than supposed during life.

**Koch's Use of Tuberculin.**—He had used tuberculin quite extensively, and not always with complete satisfaction; nevertheless he believed it was of very great service in those cases in which we could not arrive at a definite conclusion; and yet it was important that such a conclusion should be reached. He had been told by Koch about four years ago that tuberculin was administered to every person in the Berlin Pathological Institute in whom there was not distinct evidence of the disease. It had been administered under such conditions to over five thousand persons. The practice had been to begin always with a small dose—1 mgm.—and if there was no reaction at the end of four or five days, to give 2 mgm., and at the end of four or five days more, 5 mgm., and if on the repetition of this dose after another interval of four or five days there was still no reaction it was considered reasonably certain that no tuberculosis was present. Dr. Biggs said that this method of diagnosis had cleared up the doubt in his mind in a number of instances in which he had found it impossible to come to a definite conclusion by other means.

**Sputum Examinations Often Unsatisfactory.**—Dr. John Blake White commented upon the fact that the reader of the paper had laid greater stress upon the diagnostic value of the symptoms and physical signs than on the examinations for the specific bacilli, and added that this had been his own experience. He was glad to hear the condemnation of the tuberculin test, for he had no faith in it whatever, and was positive that similar results could be obtained by the mere injection of chemicals into the circulation. This opinion was founded on experiments made by himself some years ago at the City Hospital. He agreed with Dr. Thomson regarding the special kind of emaciation present in pulmonary tuberculosis.

Dr. Knopf closed the discussion. He said that while he had been greatly interested in the clearly drawn picture of the emaciation which characterizes tuberculosis, he could not but feel that this sign was present only in the later stages.

## THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

*Stated Meeting, November 27, 1899.*

GEORGE B. FOWLER, M.D., PRESIDENT.

**Cancer of the Uterus, and Its Early Diagnosis.**—DR. THOMAS S. CULLEN, of the Johns Hopkins University, presented a paper on this subject. He said that there were three different kinds of mucous membrane in the uterus, viz.: (1) that of the vaginal portion; (2) that of the cervix; (3) that of the body; and hence there were three definite varieties of carcinoma, and only three, in the uterus. His object in coming here at this time was to try and impress upon those present that there was no difficulty in making a diagnosis of carcinoma of the various portions by an examination of the scrapings. A number of excellent plates were exhibited in order to give a proper conception of the histology of the normal uterus. The presence of glands at a considerable distance from the mucosa was not, as had been supposed by some, an indication of malignancy. An idea that had gained quite general acceptance was that the mucous membrane of the uterus was shed at each menstrual period, but some recent studies had shown that such was not the case. Plates were exhibited showing one very characteristic appearance of carcinoma of the cervix, viz., myriads of minute finger-like processes. One of the plates presented demonstrated conclusively that the glands in the body of the uterus took no part whatever in squamous carcinoma of the cervix. Rarely in cancer of the cervix was there an extension to the lymphatic glands. The cells in cancer of the cervix were usually rather large, and the lymph radicles rather small. In the breast, on the other hand, there were small epithelial cells and large lymph channels. It was probable that the growth must extend far out into the broad ligament before extension into the lymphatic glands could take place. In one case, in which there was a squamous carcinoma of the cervix associated with pregnancy, the woman had been kept under observation until term, and then both uterus and child were removed. The child had lived four or five months, and had then succumbed to some intercurrent trouble. The mother was still alive and well, though the operation had been done two years ago. A very curious and interesting feature of the case had been the presence of a normal decidua formed on the lip of the external os, as well as in the uterus. In one case, in which a diagnosis of malignancy had been made from an examination of the scrapings, after removal of the uterus it had been impossible even for an expert to distinguish, from the external appearance, between this and the normal uterus. However, on cutting open the uterus, a malignant growth had been found. In such a case diagnosis without microscopical examination would have been impossible. The glandular growth of the cervix, the speaker said, was the most malignant type of carcinoma found in the uterus. True erosion of the cervix was characterized by loss of substance and disappearance of the epithelium, but a large number of so-called erosions were nothing more than eversions of the normal mucous membrane. As the blood-vessels in this portion of the mucous membrane were covered only with a layer of epithelium the surface appeared red. When such a surface was treated, as in the old days, by repeated applications of iodine, the result was a thickening of the epithelial covering and an appearance resembling healing of the surface, so that it looked like the outer portion of the cervix. This had led the physician to suppose that the "erosion" had been healed; but in a few weeks the thickened epithelium would be exfoliated, the blood-vessels would once more show through the thin epithelium, and the physician was then led to believe that the "erosion" had returned. Occasionally the hardening and dilating of the glands of the cervix would give an appearance suspiciously like carcinoma. In cases of adeno-carcinoma of the body of the uterus it was impossible to say definitely, by palpation, that malignant disease was present; indeed, such might be the case and still the uterus be diminished, rather than increased in size. In this class of cases one must depend upon microscopical examination for a diagnosis. In all cases in which the patient was between thirty and sixty years of age, and there were hemorrhages, and the diagnosis was not clear, the uterus should be curetted or a portion of the cervix removed. The diagnosis of malignancy having been made, no time should be lost in removing the entire uterus. It should not be forgotten that in securing the scrapings the curette must be systematically applied to the whole interior of the organ, otherwise the diseased portion might be passed by.

DR. PAUL F. MUNDÉ said that the great difficulty in the past had been to induce the patient to come to the physician sufficiently early to allow of scrapings being taken for diagnostic purposes. Five years ago he had stated, in a clinical lecture, that he had had five cases presenting irregular hemorrhages, in which, by microscopical examination of scrapings from the uterus, the late Dr. Heitzmann had made a diagnosis of lympho-sarcoma or of adeno-carcinoma, and had advised immediate removal of the uterus. Notwithstanding the high authority who had made this diagnosis, these cases had been treated by the application of acids and curetting, and all of the patients were to-day alive and well. He had felt that friability and readiness of certain so-called granulation tissue to bleed was a decided indication of malignancy, and that when these signs were not present, in spite of the microscopical findings, it was probable that there was no malignant disease present, or, at any rate, that the latter was in its incipiency. Unless we were willing to advertise in the daily newspapers, as the cancer-cure quacks were in the habit of doing, he did not see how we were to get these patients early enough for such methods of diagnosis. He had found on his case-book, covering the period of the last ten years, one hundred and thirty-two cases of malignant disease of the uterus, in one hundred and twenty-nine of which it had been situated in the cervix. Of these one hundred and twenty-nine cases of carcinoma of the cervix, in only four had the patient been seen sufficiently early to expect a cure. Of these one hundred and twenty-nine cases, vaginal hysterectomy had been performed nineteen times. He had given up vaginal hysterectomy except for carcinoma of the body of the uterus. For carcinoma of the cervix he did not consider vaginal hysterectomy a very good operation. In one instance he had tried the thermo-cautery, and had at first congratulated himself on the thorough removal of the carcinoma, but within a short time the patient had had three severe hemorrhages, and then, on performing abdominal section, he had found that the slough left by the cautery had involved the upper branches of the uterine artery. The patient had been so prostrated by these hemorrhages that she had not survived the shock of the abdominal section. Regarding erosions, he said that many years ago he had expressed the opinion that many of these erosions, occurring independently of cervical laceration, might be best relieved by excision of the red papillomatous mass, and suture of the cut surfaces. One year ago he had published a separate article on this same subject, and had described the good results of such treatment.

DR. W. GILL WYLIE said that he did not doubt that correct diagnosis of malignant disease of the uterus

could be made by such expert microscopists as Dr. W. H. Welch, but he had long been of the opinion that but few were competent to do this work satisfactorily. Again, the practice of excising a piece of tissue for examination was fraught with much danger, because such interference seemed to invite a rapid extension of the disease and greatly diminished the chances of success from any subsequent operation. The older the patient the slower the progress of the disease, and the longer the interval before recurrence. He had lately seen a carcinoma occurring in a woman only twenty years of age. He firmly believed that cancer was a local disease, and that carcinoma of the uterus could be cured—indeed, that hundreds, if not thousands of cases could be cited in proof of this statement. The great secret of success was not to disturb the cancer until ready to remove thoroughly all of the disease. Hysterectomy for carcinoma could be done with almost no risk.

Dr. Henry C. Coe said that it was impossible to add anything to the beautiful pathological presentation of the evening, but the paper had emphasized the fact that it was the duty of the physician, whenever there was a suspicion of malignancy, at once to explore the interior of the uterus, and, if it seemed necessary, to excise a portion for microscopical examination. It was strange that so many incurable cases of carcinoma of the uterus were still met with, and the explanation seemed to be that they were treated palliatively for a long time. It was not uncommon to meet cases of obstinate hyperplasia in which the pathologist reported a negative result upon his examination. This brought up the interesting question as to whether such an endometritis was a preliminary stage of carcinoma, and whether radical operation was justifiable under these circumstances. Again, in cases of small nodules of adeno-carcinoma the prognosis was stated to be good, yet he had had two or three such in which there had been a comparatively rapid recurrence. He would not be so hopeless as Dr. Mundé, yet he had seen too many cases of recurrence, after four or five years, to feel as Dr. Wylie did. He had seen too many recurrences after a long time to feel like speaking of a cure in a case of carcinoma until a period of five or ten years had elapsed. He heartily agreed with Dr. Mundé that, by excising an erosion of the cervix, one often anticipated the development of carcinoma.

Dr. Cullen closed the discussion. He said that the only symptom of carcinoma, in the early stages, was hemorrhage, and that was certainly not a reliable one; hence, the necessity for relying upon the microscope. Regarding the pathological work at the Johns Hopkins Hospital, he would say that in every instance, since 1893, the diagnosis made by microscopical examination of the scrapings had been confirmed by the subsequent examination of the uterus, and both the scrapings and the substance removed by operation had been preserved, and could be inspected at any time, so that this statement admitted of easy verification. In that institution, there had been one hundred and twenty or one hundred and thirty cases of squamous and adeno-carcinoma of the cervix, and nearly fifty cases of carcinoma of the body. In quite a large number of those presented here to-night by plates, the patients had been known to be alive six or seven years after operation. In a not inconsiderable number of cases the microscopist was apt to be misled by a gland hypertrophy, occurring perhaps in connection with a concealed pregnancy, in which the appearance closely simulated that presented by carcinoma. The youngest case on record—one carefully preserved at Prague—was an adeno-carcinoma of the cervix occurring in a girl aged eight years. In all cases of myoma, associated with hemorrhage, there was always a possibility of the coexistence of carcinoma.

# Correspondence.

## OUR LONDON LETTER.

(From our Special Correspondent.)

MEETING AT COLLEGE OF SURGEONS—MEDICAL SOCIETY; CASES EXHIBITED—CLINICAL SOCIETY; INTUSSUSCEPTION OF MECKEL'S DIVERTICULUM, RUPTURED KIDNEY, SPLENIC ANÆMIA—PATHOLOGICAL SOCIETY; THE KLEBS-LOEFFLER BACILLUS IN "PIGEON CANKER"—DEATH OF DR. REGINALD SOUTHEY.

London, November 17, 1899.

Yesterday the annual meeting of the fellows and members of the Royal College of Surgeons was held, Mr. Howse, V.P., in the chair. The report I noticed last week. A resolution of regret that the council disregarded the resolution of last July, and affirming that the new charter would afford an opportune occasion to give the members their rights, was carried by forty-two votes to six. In the talk on the matter Sir T. Smith said the fellows had been consulted on two occasions and voted against the proposal. On the other hand, it was suggested that the fellows had not been asked to give a plain yes or no. The chairman repudiated the notion that the council had suggested the replies by the form of the question. Further resolutions were carried against serving on medical aid associations and against sham diplomas like those of the Obstetrical Society. Another recommended notice of meetings in future to be posted to fellows and members.

The attendance of fifty persons at a meeting of this kind is not very encouraging to the reformers, and the Council will no doubt go on their way unabashed. The fellows, too, seem to have no shame at their position and will be brought to yield justice only by drastic measures. Meantime members are expected to be satisfied by the permission of the Council to wear a gown—a permission the Council has no authority to give or withhold.

The Medical Society had a clinical evening on Monday, when some interesting cases were shown. One was of a man of seventy-one years who was brought forward as recovering from aphasia and agraphia, supposed to be due to slight hemorrhage at the centres concerned. Another was a boy with a systolic thrill over the base of the heart, audible also in the back and neck, with hypertrophy of the left ventricle, which was thought by some to be due to congenital defect of the aortic valves, while others conjectured persistent ductus arteriosus in spite of there being no cyanosis. A man aged twenty years had a large hernia cerebri, which had followed an operation undertaken on account of symptoms of a tumor which had lasted some four years. Much relief was reported, although no tumor could be reached. Another obscure case was an Italian, with loss of flesh, weakness, vomiting, and pigmentation of the skin and nails, but this last was of long duration and conjectured to have been caused by his occupation—asphalt-laying. There was no history of malaria, but both liver and spleen were enlarged. Increase of white corpuscles and eosinophiles with decrease of red corpuscles was reported. A case of lockjaw relieved by deep incision of an inflamed gum elicited mention of two somewhat similar cases.

At the Clinical Society, Mr. Bertram Robinson read an account of a case of acute intestinal obstruction due to an intussusception of Meckel's diverticulum in a boy aged five years. The symptoms were very obscure, but under anæsthesia a lump was felt in Douglas' pouch about three inches long, firm and tubular. This did not clear up the case, and a mid-line incision was made. The reduction of the inverted diverticulum was

impossible, and it was excised. The child died two hours afterward, though he revived at first. Mr. Symons mentioned that he had seen cases of obstruction from the diverticulum, but not of intussusception following.

Mr. Bland Sutton related a case of primary nephrectomy for rupture of the kidney caused by a cab running over the patient, a man aged thirty-five years. There were marked signs of internal hemorrhage and large swelling in the right loin, but no contusion or scratch on skin. Blood appeared in the urine. Mr. Sutton made an incision in the right linea semilunaris and found the other viscera uninjured; he then detached the peritoneum overlying the swelling in the loin, and found the kidney torn right across, so he removed the fragments and surrounding clot. The patient made a rapid recovery. Mr. Sutton would use the term primary in cases in which the kidney is removed within twenty-four hours after an injury; when days or weeks had elapsed, he would say secondary nephrectomy. In reply to inquiries why he did not close the abdominal wound on finding a ruptured kidney, and remove it from behind, Mr. Sutton acknowledged his course to be debatable. He had been brought up as a "loin surgeon," but had gradually come round to Mr. Knowsley Thornton's plan. He had now dealt with twenty-five cases in this way, and found the peritoneum could, with a little care, be brought together so as to shut off the general peritoneal cavity, and this plan gave a better means of draining than from the loin.

Mr. G. R. Turner related a similar case in which he had operated through an abdominal incision. He had been led to do so from seeing a case in which both liver and kidney were injured.

Dr. Norman Dalton related a case of enlarged spleen in a woman, aged thirty-eight years, who died suddenly. There was great anæmia, but no hemorrhages. At the post-mortem the stomach was found strangulated, and there was a perforation at the cardia from sloughing. The transverse colon lay above the stomach and before reaching the left lumbar region encircled the junction with the œsophagus. This abnormality was considered congenital. The grip of the colon alone would not cause obstruction, but when the spleen became so large, its weight on the gastro-splenic ligament pressed the cardia against the encircling colon, as shown at the post-mortem by traction on the ligament. Finally extra distention twisted the cardia and pylorus and produced strangulation. The splenic vein may have been compressed from the first, and to that cause Dr. Dalton was inclined to attribute the enlargement of the spleen, while the anæmia and accompanying fever might be due to the condition of the stomach, for other splenic affections were excluded. He admitted that the case resembled those called splenic anæmia or splenomegaly, but he was not satisfied that these constituted a pathological entity, as they could generally be explained without calling a new disease into existence.

Can you suggest a suitable punishment for grown-up men who compound such words as splenomegaly? They seem to have escaped the discipline of the last generation of school-masters. This particular word, whether originated by Banti or some one else, is perhaps no worse than many which have been introduced in spite of protests. But it is time medical writers ceased to provoke the taunt that they use a jargon as vile as Volapük.

The new departure made by the Pathological Society seems to be a success. The first of the laboratory meetings was held on the 7th inst. at the Jenner Institute. There, as elsewhere, bacteriology was in the ascendant. So much is this the case that it looks as if we should have to hand over this branch of study to experts and give up the attempt to keep pace with their advances. The communication at this meeting which will perhaps excite the most interest among practitioners was made by Drs. MacFadyen and Hewlett. They have found an organism in pigeons which closely resembles the Klebs-Loeffler bacillus in its morphological, cultural, and staining peculiarities—in everything, in short, save in its pathogenic and toxic properties. The story of this find is amusing. They received a swab in the usual way and reported that the diphtheria bacillus was present. Then the sender told them it had been taken from the throat of a pigeon suffering from "canker." This disease is common in these birds, both on the scalp and in the throat. It looks like a warty growth and is quite a local disease. On this information they procured a number of diseased pigeons and found the bacillus in all. The next step was naturally to examine healthy pigeons. This was done, and again the bacillus was found in the throat of every bird. There are two strains of the organism with very slight differences. The one most like the Klebs-Loeffler was the one found in the healthy birds. Further investigation is promised. If the organism should be found in all healthy pigeons, it is so widely diffused as to deserve the most earnest attention of experts. If it can be distinguished only by not producing diphtheria, there seems a need for further study of the etiology and pathology of that disease.

The other communications at the meeting were, as I have said, chiefly bacteriological, and included one by Dr. Klein on "The Bacillus of Pseudo-Tuberculosis," one by Dr. Dean on "Diphtheria Immunity," and others by Drs. Salter, Eyre, Washbourn, and Shattock, relating to tetanus toxin, antipneumococcic serum, and chromocyte clumping, illustrated by lantern slides, etc.

The death is announced of Dr. Reginald Southey, formerly physician to St. Bartholomew's Hospital and afterward a commissioner in lunacy. Dr. Southey took his M.D. at Oxford in 1866, and the same year was elected F.R.C.P. The next year he delivered the Gulstonian lectures and in 1881 the Lumleian lectures. He contributed to St. Bartholomew's Hospital reports on "The Normal and Pathological Anatomy of the Kidney," and translated the article on diseases of that organ in "Ziemssen's Cyclopædia." Never very strong, his health had failed lately, and he died on the 8th inst., aged sixty-four years.

## STATE SANATORIA FOR CONSUMPTIVES.

To the Editor of the Medical Record.

Sir: The energy and enthusiasm of certain physicians in behalf of a State sanatorium for the treatment of incipient tuberculosis are very remarkable in view of the fact that competent authorities assert that a majority of the incipient cases recover when properly treated at home. What is needed is not a State sanatorium for the treatment of this class of cases, but an early diagnosis and the institution of proper hygienic and dietetic treatment combined with such therapeutic measures as promote the general health. Susceptibility to tuberculous infection is largely due to a depreciated vitality caused by improper habits of living.

The power of the State should therefore be invoked in the direction of removing the primary causes of a depreciated vitality, but it should not be used to aid in treating a symptom.

The curriculum of our public schools should be revised; much which it now contains should be expunged, and a comprehensive-graded course in physiology, hygiene, and dietetics added in which each child should be thoroughly drilled. When knowledge of this kind becomes widely diffused, the first great step

toward eradicating tuberculosis will have been taken.

There is, however, a class of cases which require isolation, as a prophylactic measure, viz., those which have advanced beyond the possibility of a cure. These are the cases which no institution cares to receive: they become centres of infection and should properly receive the attention of the State.

But to saddle upon the taxpayers the expense of caring for incipient cases which do well when properly treated at home, while the causes which operate to render the individual liable to contract the disease are ignored, is a proposition which should be promptly voted down by the profession, by the taxpayers, and by our legislators.

JOSHUA L. BARTON, M.D.

57 EAST FIFTY-FIFTH STREET, NEW YORK,
November 25, 1899.

## DR. GEORGE M. EDEBOHLS AND THE NOMENCLATURE OF APPENDICITIS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your issue for November 25, 1899, Dr. Edebohls gives a review of the history and literature of appendicitis. In the paragraph "Nomenclature," he omits the term "perityphlitis," a term which is just as firmly established by long and universal usage in some countries as the word appendicitis in America. I do not wish to defend the one or condemn the other, but simply to establish a fact. I have been told that Dr. Morris was not the nomenclator of ecphyaditis, and I know positively that Dr. Gerster was not the first who named the disease scolecoiditis. Dr. Edebohls in saying, "We bow to the inevitable . . . and accept the term appendicitis," speaks in the pluralis majestaticus, because Dr. Edebohls is not the medical profession.

Our esteemed colleague, who has presented to us such an exhaustive bibliography, and has mentioned two supposed nomenclators, has omitted to inform us of the name of the man who invented the term appendicitis. Since "we" are so proud of this word, let us know the benefactor of mankind who has given it.

A. ROSE, M.D.

## VACCINATION VS. SEPSIS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Your recent issue contained a reference to the death of John Burns, of Geneva, N. Y., alleged to have died from the effect of vaccination. The facts of this case place those persons entirely in the wrong who have taken pains to give such widespread notoriety to the case in the newspapers, heralding it as another death from vaccination, and advising all right-minded persons to rise up against the barbarous practice. I take pleasure, therefore, in placing the matter in its true light.

The vaccination was performed by Dr. G. S. Means, of Bellona, with one of Mulford's points, which was scarcely a month old. The arm and instruments were made sterile, and after the operation a bandage was applied, the parents being directed to renew it with a clean one after the seventh day. Nine days after vaccination the boy was taken to Geneva, to church, on a cold, stormy day, and after that he was sick enough to be kept in bed; but the room was cold and damp, and he did not have sufficient clothing.

Nineteen days after vaccination the doctor was called to see him, and found the arm and corresponding side of the face inflamed, tense, and œdematous, with lymphatic involvement. The temperature was 102.5° F., pulse 100. The pock was covered with seven layers of cloth saturated with pus and foul-smelling. Inquiry revealed that the first cloth had been applied a week after vaccination and the others in successive layers as the under ones became saturated.

Upon removal of these cloths an ulcer was found containing half an ounce of foul pus; its edges were infiltrated, and it was lined with dead tissue. A condition of general septicæmia was recognized, with local involvement of the left arm and left side of the face and neck. Prompt and energetic measures were employed for the boy's relief, but he died the following day.

This is another of those cases in which culpable neglect of a small wound leads to serious results, and might have occurred had the wound been from the prick of a pin. The vaccination was performed skilfully with good lymph, but through disobedience of instructions the simple aseptic wound was changed into a foul septic sore, containing dammed-up secretions that were readily absorbed with fatal results.

EDWIN R. BISHOP,
*Health Officer, City of Geneva.*

## OPIUM TREATMENT IN APPENDICITIS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Dr. Rupp's defence of medical treatment in appendicitis, in the MEDICAL RECORD for November 25, 1899, is more hopeful in its tone than the response of some of my opponents, because he has been able to lay aside the matter of personal feeling, and to confine himself to the subject. His letter may well stand as an expression of opinion from a representative practitioner, and as such it illustrates the difference between medical and surgical standpoints, and the reason why surgery is a science and medicine an art to-day. The surgeon's practice in appendicitis is based upon accurate data; the physician's practice in these cases is based upon speculation as to the condition of any given appendix. Dr. Rupp says: "Some cases are so mild that they get better with bed-rest and dieting, others demand opium, and still others cannot get well unless the surgeon's knife and technique help them to do so." Granted! Dr. Rupp is now to tell us which case is to run which course, or he is to admit that the nature of each case is determined afterward.

I have recently lost two personal friends from appendicitis right here in New York, their deaths only forty-eight hours apart, and they died because their cases were believed to have been of the mild sort. If Dr. Rupp will step into the library and take down the last edition of "Lectures on Appendicitis," he will find the testimony of a series of consecutive unselected appendicitis patients who state that they had less suffering under surgical treatment than under any form of medical treatment. They speak from a personal experience with almost every phase of the disease, and with many sorts of medical treatment. There will be found also the reasons for the estimate that the deaths from appendicitis in the practice of physicians in the United States is more than fifty thousand annually. The physician's prognosis in cases of appendicitis is speculative, and the surgeon's prognosis may be made very accurately. Dr. Rupp says that "cases differ, and consequently they demand different methods or plans of treatment." My argument is that appendicitis cases are due to bacterial infection of the appendix, and are consequently alike. We are not speaking of cases of suspected appendicitis. I do not believe in operation in such cases. One physician has sent me four cases for operation for appendicitis, and not one of them was operated upon. In the

last case the patient, family, and physician were all incensed because of my refusal to operate, but none of these patients had infection of the appendix. I have examined three physicians in one morning, all of whom thought that they had appendicitis, but not one of them had an infected appendix. Dr. Rupp says that "when the general practitioner tries to defend his practice, he has one great disadvantage to contend against, and that is his inability to produce a great array of statistics." Why this inability? It is simply because there has not been enough scientific spirit and enough public spirit in any one to produce the statistics that we all want on medical treatment in appendicitis. I have been trying for years to persuade physicians to give us the histories of cases under observation for the definite period of two years, with a report on the number of deaths, the number of recurrences, the length of time wasted in bed, the condition of the patient's general health, and the condition of the appendix as determined by skilled palpation. Any one who can acquire the skill to palpate ovaries and oviducts can just as readily palpate the appendix. No statistics for the two-year period have been forthcoming, and the opportunity for some one to distinguish himself and to render a public service at the same time is at hand.

Argument is made that the physician does not like to frighten his patients by calling in the surgeon, and he does not like to ask the patient to pay a large fee in a case in which it may not be necessary. Why not tell the patient the difference between medical and surgical statistics that are available, and let the patient get frightened in his own way? As to the fee, it is true that we sometimes like to charge several thousand dollars for an operation that makes the death rate, the suffering rate, and the loss-of-time rate less than it would be under medical treatment, but there are a great many patients who prefer to make their own choice in this matter when they really understand about it, and there is perhaps no patient so poor that he must go uncared for. So far as I am aware, no physician has as yet been able to defend medical treatment of any sort in appendicitis when proper treatment is available.

If medical treatment is one's choice of procedure, then he is subjecting his patients to a practice which he is unable to defend. A lawyer said to me recently: "It is astonishing the way you physicians differ upon questions involving acutely the matter of life or death for an appendicitis patient." I said to him: "We do not need to differ. Our knowledge upon the subject is thoroughly classified and available for any one who has the time to master the subject."

ROBERT T. MORRIS, M.D.

49 WEST THIRTY-NINTH STREET, NEW YORK,
November 28, 1899.

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**Microbes in the Beard.**—Dr. Schoull, of Tunis, has discovered that the beard is simply a "happy hunting-ground" of bacilli. He has proved it upon the guinea-pig whom he has inoculated with the "material obtained from beards and mustaches," with results distressing to the guinea-pig, and alarming to those who had been in more or less contact with the beards and mustaches aforesaid. This is a very disagreeable discovery, and may seriously affect the popularity of a form of facial adornment which has hitherto been regarded as open to no other objection than that it is a nuisance to its wearer when in the act of taking soup. But what are a few shreds of vermicelli compared with a whole army of able-bodied bacilli lying in ambush for their victims, and, what is more, ready to make victims of anybody who happens to come within their range?—*Sanitarian.*

## Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending December 2, 1899:

| | Cases. | Deaths. |
|---|---|---|
| Tuberculosis | 199 | 134 |
| Typhoid fever | 53 | 19 |
| Scarlet fever | 149 | 7 |
| Smallpox | 2 | 0 |
| Measles | 275 | 11 |
| Diphtheria | 200 | 41 |
| Laryngeal diphtheria (croup) | 7 | 13 |
| Cerebro-spinal meningitis | 0 | 3 |
| Chicken-pox | 21 | 0 |

**Skulls and Brain Capacity.**—Professor Arthur Thompson, in the October number of *Knowledge*, deals with the form of skulls and brain capacity. The average weight of a man's brain is about fifty ounces, that of a woman about forty-five ounces. This difference between the sexes is less marked in savage than in civilized races, and is apparently explained by the fact that in the higher races more attention is paid to the education of the male than the female, and consequently the brain is stimulated to increased growth.

**Character Shown in Hats.**—Show me how a man wears his hat, and I will tell you what manner of man he is. Notice yourself how he wears his head-gear, and you can make a fair estimate of his character. Select the man whose hat seems to have been made for him, and which he has set squarely upon his head as if it were designed so to do, with never a tilt to the left or right, fore or aft. He is a methodical and a comfortable man with a rare endowment of common sense. He is not given to flights of fancy. He obeys the injunction of the homely philosopher, who advised all mankind to keep its feet on the ground. Men whose hats are always too large for them are of reflective habits. They are careless of externals, and given to introspection. They are philosophical and likely to fall into fits of preoccupation. They are apt to ignore mere details. Conspicuously of this class was Mr. Gladstone, whose hat brims always showed a disposition to reach his ears. Men whose hats are always too small are vain and finical. The man who wears his hat drawn over his eyes may not be a "crook," but he is undoubtedly a "schemer." He excels in strategy, whether he uses his gifts in an army campaign or in a coup on Wall Street. He is not cheerful, in fact is given to gloomy meditation. Much more does the man who habitually wears his hat pushed off his forehead enjoy the confidence of his fellow-men. The man who wears his hat off his forehead is essentially frank. He is admired by those who do not agree with any of his views, for his straightforwardness; if nature has not gifted him with a singing voice, he whistles. The man who places his hat on one side is independent, self-assertive: he is in danger of becoming vicious. He is a "sport" by nature if not by practice.—*Hatter's Gazette.*

**How to Cure Worry.**—Many persons would be only too glad to hear of a cure for worry. The *Piccadilly Magazine* has a contributor who professes to have solved the problem, and gives the remedy, which is as follows: "The psychological basis is what is known as the law of attention, the physiological basis is in the undoubted control of the body by the mind through the nervous system. This is the formula: When the

symptoms of worry begin to manifest themselves, when your mind gets to dwelling upon some one troubling matter with feverish insistence, when you find yourself depressed or irritable or overstrung, or full of foreboding, then go into your room and lock the door. For the first application of this prescription you must be absolutely alone and in silence. After a while you may be able to make these conditions for yourself anywhere, by the complete withdrawal of your mind even in the midst of a crowd; but at first you must be quite alone. Loosen your garments completely; lie down in the most restful position you can assume; avoid raising the head too high, thus cramping the neck and impeding circulation. Now close your eyes for a few minutes, and raising the arms let them fall and lie loosely and naturally above your head. Lie thus for a minute or two, and then begin to take deep, long breaths, as deeply as possible, exhaling quietly and naturally. Keep this up for five minutes, until you are sensible of a real relaxation and refreshment of the body. You will then be in the physical condition to take up the mental work which you need to do."

**The Russian Red Cross Society.**—The Russian Red Cross Society is one of the best organized of any of the societies devoted to the tending of the sick and wounded in time of war. Not only is it active at home, where during the past summer it has been busily occupied in relieving the famine-stricken peasants of east European Russia, but also in foreign countries in which Russian interests and sympathies are concerned. Its doctors and nurses gained a great and well-deserved reputation in Abyssinia at the time of the Italian campaign against the Negus, and also during the Greco-Turkish war. At the present time, in addition to the decision arrived at to dispatch a strong medical detachment to aid the Boers, a sanitary corps with doctors and Sisters of Mercy will be sent to Manchuria to fight the plague, which has broken out among the Chinese laborers on the Manchurian railway. In the Transvaal it is stated that it will offer help to both belligerents, although the Russian *Herold* somewhat qualifies this statement by adding: "We preserve appearances by this dual proposal, but we do not conceal our views."

**The Modern British Recruit.**—Recently at the United Service Institution, Lieutenant-Colonel C. M. Douglas, V.C., M.D., read a paper on "The Recruit from a Depot Medical Officer's Point of View," and said that "a comparatively small collection of highly trained soldiers formed the nucleus of the British army, round which were aggregated a heterogeneous mixture constituting the 'auxiliary forces.'" Speaking of the recruits who enlisted in the north of England and in Scotland, he said the great majority were sallow, downcast, nondescript youths, mostly artisans. Candidates were carefully examined in respect of weight, height, circumference of chest, lungs and heart, head, and teeth. A really good set of teeth was rare except among agricultural recruits. The minimum physical standard was low: weight, 115 pounds; height, 5 feet 3½ inches; minimum girth of chest, 33 inches; age, eighteen years. This was not a high type of British male. But the short, muscular, well-formed man often made a good soldier, and was more active than the big man. Professor Dudley Sargent, of Harvard University, took the measurements of several thousands of American students aged from sixteen to twenty-six years. This was the average result: age, 22¼ years; weight, 156 pounds; height, 5 feet 8½ inches; girth of chest, 34½ inches minimum, 36½ inches maximum; right upper arm, 11½ inches; right forearm, 10¼ inches. Of the British recruit the results were, on the average: age, 19⅛ years; height, 5 feet 5⅝ inches; weight, 126 pounds, girth of chest, 33½ inches minimum, 35 inches maximum; right upper arm, 10½ inches; right forearm, 9½ inches. The usual average of rejections was a little over a third, but sometimes they amounted to two-thirds, and in one case the army medical officer declined the whole batch of twenty-five or thirty. It was said the continental recruit was worse than the British, but the comparison was not fair. Compulsory service was a net enclosing all the fishes, big and little; in the British net the meshes were made as large as we dared in order to capture only the best fish and let the others go. Want and hunger were unfortunately the invisible recruiting sergeants of the British army, and the men were too often black sheep. But the effects of drill and discipline on the degenerates in the ranks was amazing, and on the whole the raw material of the British army was not quite so bad as many pessimists would have us believe. Unfortunately soldiering was a trade looked down upon in the working class, who disliked discipline and longed for better pay and shorter hours. The army of the past had in it many blackguards but fewer degenerates; the species was almost unknown then among the ranks. The inference was that there was more of the fighting spirit in the blackguards than in the degenerates, and it was the fighting spirit that was essential.

**Fund for Soldiers' Widows and Wounded Soldiers in Great Britain.**—The revenue account and balance sheet of the imperial war fund for December 1, 1898, which, says the London *Times*, has just been issued, shows that since the institution of the fund in 1882 a total of about £8,000 ($40,000) has been distributed up to date, and that there is still close upon £5,000 ($25,000) in hand. The battles of Atbara and Omdurman, and the Cretan troubles, however, caused claims which had not been discharged at the time the report was prepared. The fund is immediately available for the assistance of any widow of a soldier killed in action or dying of wounds or disease on active service. Owing to the war in South Africa the calls made upon this fund will be infinitely greater than at any time since its inception, but it is satisfactory to note that, doubtless to a certain extent by Rudyard Kipling's stirring poem, the purse-strings of the Britisher of every station have been widely opened, and there is no reason to fear that those near and dear to him, whom the soldier has been obliged to leave behind, will suffer the stings of poverty. Among the largest subscribers is Mr. William Waldorf Astor, who donated $25,000.

**Do Medical Men Receive Commissions?**—Ex-Justice Fry, when he accused the medical profession of Great Britain of receiving secret commissions, raised a hornet's nest about his ears. The correspondence in the English journals regarding the matter has been both voluminous and acrimonious, and left-handed compliments have been bandied on all sides. The verdict, though not entirely definite, was at any rate negative, and the case for Mr. Justice Fry may be regarded as not proven. Probably there have been instances in England in which medical practitioners have received commissions from druggists, but Mr. Fry's sweeping assertion that all the principal doctors in London were venial in this respect has been successfully rebutted. "It is said," says *Science*, "that in the United States physicians do not receive commissions from pharmacists to any considerable extent, but suit has just been brought by a San Francisco physician for $300, which he claimed as a commission on prescriptions sent to a druggist. Complaint is also made that some of the younger surgeons in New York ophthalmic hospitals receive commissions from opticians." We believe, however, that this charge has

been made only on hearsay and has not been substantiated; therefore until it is clearly shown to be the case it is only fair to give the accused the benefit of the doubt.

**Russian Institute for the Study of Malaria.**—An institute for the study of malaria has been established at Kiew as a department of the St. Petersburg Institute of experimental medicine.

**Kissing the Book** is held by English jurists not to be compulsory, and still a coroner has recently refused the request of a witness to be relieved on sanitary grounds. There has been some talk of celluloid-covered Bibles and antiseptic sponges to apply after each oath. If witnesses would watch policemen and other frequent oath takers, and follow their example of kissing the back of the hand that holds the book instead of the book itself, and would then keep their hands clean, they would be tolerably safe.

**To Suppress Quacks.**—The law upon the subject of quackery sorely needs strengthening in England, and the law, it has been not inaptly said, is made for the protection of fools, but that the man who is so incapable of using his own judgment as to fall a victim to the "confidence trick" should receive police protection, whereas another man who is foolish enough to become the prey of the "faith-healer" receives no protection at all, is an anomaly which can only be described as ridiculous.—*The Medical Times and Hospital Gazette*, September 16th.

**New Method of Massage.**—A German doctor has, according to the *Scientific American*, devised a plan for massaging rheumatic joints. He takes the patient's hand and puts it in a deep glass which is two-thirds full of quicksilver. The mercury exerts an equal pressure on every portion of the fingers, and the pressure increases rapidly as the fingers sink further into it. The hand is alternately plunged and raised about twenty or thirty times at each treatment, and after a second visit there is a marked diminution of the swelling.

**Marriage Rate in Australia.**—In 1897 the average marriage rate per thousand in the whole of Australia was 6.58. The average marriage rate of New South Wales was 6.72, that of Victoria 6.34, of Queensland 6.05, of South Australia 5.40, of Tasmania 6.22, of New Zealand 6.83. From this it will be seen that the New South Wales marriage rate, although slightly below that of New Zealand, is the highest in Australia, an unerring criterion of the prosperous condition of the colony.—*Public Opinion.*

**Acclimatization in Cuba.**—A correspondent writing to the *Boston Medical and Surgical Journal*, October 12th, says: "In my opinion, there is no such thing as acclimatization in Cuba for North American soldiers; a few months, or even a year or two, will give them no immunity whatever against tropical diseases, and may benefit them only by teaching the absolute necessity of temperate habits. Only one thing immunizes against yellow fever, and it is an attack of the disease. Malarial fever prevails all over the province, and no white or colored American soldier is safe against it; it decreases somewhat in the winter months, but much less than had been expected, while altitude, if more than three hundred or four hundred feet, has a distinct effect upon it. All American troops coming to Cuba, at any season, will suffer more or less from malarial fever and other tropical diseases, especially if camped under canvas, being then exposed to many great and sudden changes of temperature; thus, during the winter, the Fifth Immunes, in tents, had a rate of sickness at least twice as great as that of the Fifth Regulars, in barracks. It seems possible, by building comfortable barracks on high and salubrious sites, to reduce malarial fever to a minimum of three or four per cent. As to yellow fever, it may break out in any town in spite of all ordinary precautions, and soldiers can avoid it only by remaining in the country, either in barracks or in tents."

**A Sensible Suggestion.**—PHYSICIAN IN COUNTRY: "I don't know just what to advise for such a horrible-looking nose. You had better go to the city and consult a specialist." PATIENT WITH THE ROSACEA: "I am ashamed to travel with such a red nose. You cure me first, and then I will go."

**The Tsetse Fly.**—The much-dreaded tsetse fly which has interfered so seriously with the colonization of whole tracts of South Africa, is now known not to be the direct cause of the disease which follows its puncture, but to be the means by which the organism which causes the disease is introduced into the body. In this respect the tsetse fly resembles the malarial mosquito. It is not known whether the organism—hæmatozoon—passes through any of the stages of its life history within the body of the fly, or whether the proboscis of that insect acts merely as an inoculating needle.—*British Quarterly Review.*

**Treatment of Alcoholism by Inhibition of Alcohol and Massage.**—In *The Medical and Hospital Gazette* is an account of six cases of alcoholism treated successfully by inhibition of alcohol, by massage, and bromides. In the first place, it is instructive to note that this form had excellent results, and secondly, to remark upon the fact that out of the six cases treated half of that number were women. It is said that in the tropics both men and women have the tendency to become confirmed drunkards, the reason for this, it is explained, being want of exercise, ennui, and a general enervation of the system. Another reason probably is that Europeans generally, and the British in particular, will not adapt themselves to that mode of living most suitable to the climate.

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended December 1, 1899:

| | | Cases. | Deaths. |
|---|---|---|---|
| **SMALLPOX—UNITED STATES.** | | | |
| Illinois, Cairo | November 21st | 2 | |
| Louisiana, New Orleans | November 18th to 25th | 6 | |
| Massachusetts, Chelsea | November 18th to 25th | 1 | |
| Ohio, Cleveland | November 18th to 25th | 8 | |
| Tennessee, Nashville | November 18th to 25th | 3 | |
| Virginia, Portsmouth | November 18th to 25th | 5 | 2 |
| **SMALLPOX—FOREIGN.** | | | |
| Belgium, Antwerp | October 28th to November 4th. | 7 | 2 |
| Austria, Bohemia, Prague | October 28th to November 4th. | 7 | |
| Brazil, Rio de Janeiro | October 12th to 20th | 93 | 67 |
| Canada, Ontario | November 10th | 20 | |
| Quebec | August 21st to November 27th. | 138 * | |
| Mexico, City of Mexico | October 29th to November 5th. | 3 | 2 |
| Vera Cruz | November 8th to 24th | .. | 4 |
| Russia, Moscow | October 22d to 28th | 2 | 1 |
| Odessa | October 28th to November 4th. | 1 | |
| Warsaw | October 22d to November 4th. | .. | 7 |
| Turkey, Constantinople | October 25th to November 6th. | .. | 1 |
| * All in Kamouraska County. | | | |
| **YELLOW FEVER.** | | | |
| Brazil, Rio de Janeiro | October 12th to 20th | .. | 3 |
| Cuba, Havana | November 16th to 23d | 10 | 4 |
| Puerto Principe | November 18th | 1 * | |
| Mexico, Vera Cruz | November 8th to 24th | .. | 3 |
| * Soldier. | | | |
| **CHOLERA.** | | | |
| China, Hong Kong | October 1st to 7th | 2 | 1 |
| India, Kurrachee | October 15th to 21st | .. | 1 |
| Japan, Yokohama | October 7th to 14th | 1 | |
| **PLAGUE.** | | | |
| Egypt, Alexandria | November 6th | 1 | |
| India, Kurrachee | October 14th to 21st | 7 | 4 |
| Spain, Cadiz | November 27th | 1 * | |
| * Suspect case. | | | |

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 56, No. 25. Whole No. 1519. NEW YORK, DECEMBER 16, 1899. $5.00 Per Annum. Single Copies, 10c.

## Original Articles.

### DIABÈTE BRONZÉ AND THE PATHOGENESIS OF DIABETES MELLITUS; ILLUSTRATED BY A CASE OF BRONZE DIABETES PRECEDED BY BASEDOW'S DISEASE.[1]

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DIABETES MELLITUS is a disease, the importance of which is in direct proportion to its frequency. While we know much of its clinical history, less of its chemical physiology, and little of its pathology, even this meagre knowledge has been attained at the expense of the most persevering labor on the part of many competent investigators. That the data attained are so unsatisfactory is the result of the fact that the organs and functions, to the disturbance of which diabetes mellitus is due, are of so complex a nature that their investigation even under normal conditions is difficult. These difficulties are enormously increased in disease. This is true of the affection in its typical clinical manifestation. The case I am about to present, although of intrinsic interest on account of its complications, will repay study because, as I shall attempt to show, its complications serve to throw some light upon the nature of typical cases of sugar diabetes. The patient is one who suffers from diabetes mellitus, hypertrophic cirrhosis of the liver, bronzing of the skin, and exophthalmic goitre.

The history is as follows: Mrs. X——, forty-four years of age, German, married, admitted into Mt. Sinai Hospital May 16, 1899. Family history negative.

Previous history: Menopause one and one-half years ago; no children; no abortions. She was always very nervous. Nine years ago she had an attack of neurasthenia, with exophthalmic goitre, for which she was treated for a short time by Dr. Mandel, of Berlin. Electricity was used without relief; but she improved considerably under hydrotherapy (hot packs). She gained in weight, and was fairly well after this until the onset of the present disease six months ago. She has not been fond of starchy food or sugar in diet. She gives no history of any extraordinary fright or excitement.

Six months ago she began to suffer from severe thirst. She drank much water and passed a correspondingly increased quantity of urine. She began to lose flesh, and began again to suffer from cardiac palpitation. At present she has very severe thirst. Her appetite is ravenous, and she eats large amounts at all meals. She has no cough and no pain in the chest. She complains chiefly of emaciation, thirst, dryness of the mouth and throat, and great weakness. She says that there has been a gradually increasing blotching of the face for the past two years.

Examination: Her general physical condition is poor. There are signs of recent emaciation. Exophthalmic goitre—thyroid enlargement very slight, exophthalmos fairly marked, with tachycardia. Skin—brown pigmented patches, surrounded by white atrophic areas of skin interspersed with small pale brown spots on the left side of the face, the dorsum of both feet, and over the navel and left hip. There is no pigmentation on the lips or the mucous membrane of the mouth or palate. The tongue is dry and cracked. The liver is increased in size, and extends from the sixth intercostal space to two fingers' breadth below the free border of the ribs. Abdomen—all viscera easily palpable; spleen negative, not enlarged. Lungs negative. Heart—apex beat in the fifth space, nipple line, left border just within the nipple line; heart sounds negative. Urine cloudy, acid, specific gravity 1.020, and trace of albumin; five per cent. sugar; no acetone. Weight, sixty-three pounds. Eyes, examined by Dr. Gruening, negative. The patient does not perspire; she has not done so since sugar was noted in the urine, although formerly she perspired profusely. The patient was put upon an antidiabetic diet, and the administration of heroin, gr. $\frac{1}{12}$ every three hours, by Dr. M. Manges, into whose service she entered the hospital.

May 21st: No albumin; three per cent. of sugar; no diacetic acid; faint trace of acetone. In order to avoid what is for the purpose of this paper unnecessary detail in this portion of the history, I shall tabulate separately the result of examination of the urine from day to day.

NOTES TAKEN FROM THE EXAMINATION OF THE URINE OF MRS. X——, FROM MAY 18 TO OCTOBER 1, 1899.

| Date. | Color. | Quantity in 24 Hours, Ounces. | Reaction. | Specific Gravity. | Albumin. | Acetone. | Diacetic Acid. | Sugar, Per Cent. |
|---|---|---|---|---|---|---|---|---|
| May 18th | Clear. | .... | Acid. | 1.020 | Trace. | None | None | 5 |
| May 21st | .... | .... | Acid. | 1.020 | Absent. | Trace | None | 5 |
| May 22d | .... | .... | Acid. | 1.036 | ..... | Trace | None | 5 |
| May 24th | .... | 70–80 | .. | .... | ..... | Marked reaction. | | |
| June 1st | .... | ... | .... | 1.034 | ..... | Present | Marked reaction. | 5 |
| June 7th | . | .... | .... | .... | ..... | Present | None | |
| June 12th | .... | 149 | Acid. | 1.034 | Absent. | Slight | ..... | 4 |
| June 16th | .... | 180 | | | | | | |
| July 1st | .... | .... | .... | .... | ..... | Present. | | |
| July 5th | .... | .... | .... | .... | ..... | Present | Present. | |
| August 2d | .... | .... | .... | .... | ..... | Present | ..... | 5 |
| August 3d | .... | 108 | Acid. | 1.030 | ..... | ..... | ..... | 7 |
| August 7th | .... | 112 | .. . | 1.034 | ..... | Present | ..... | 6 |
| August 9th | .... | .... | .. . | .... | .. .. | Slight | None. | |
| September 5th | .... | .... | .... | .. | ..... | None | ..... | 3½ |
| September 15th | .... | . . | .... | | ..... | ..... | ..... | 3½ |
| September 16th | .... | .... | .... | .... | ..... | ..... | ..... | 2½ |
| September 18th | .... | .... | .... | | ..... | ..... | ..... | 3½ |
| September 22d | .... | .... | .... | 1.026 | ..... | ..... | .. .. | 4 |
| September 29th | .... | .... | .... | 1.030 | ... | ..... | ..... | 3½ |

She was treated at first with strict diet; later on, the patient having lost weight, and the sugar in the urine increasing in quantity, crackers and bread were given instead of gluten bread. The drugs used were the successively alkaline treatment, nitrate of silver, the salicylates, extract of thyroid gland, and opium, with no striking change either in the urine or the general condition of the patient.

June 7th: Pulse, 102; respiration, 26; temperature, 99.8° F.; weight, 61¼ pounds.

June 9th: She complains of severe pain in the

[1] Read before the Section on Practice of Medicine, New York Academy of Medicine, November 21, 1899.

course of the anterior tibial nerve (anterior surface of leg). The patellar reflex is absent; no ankle clonus. The pupils react to light and accommodation. There are no disturbances of sensation, no paralytic or paretic phenomena. For this pain galvanism was used, which gave some relief; similar pains in the arms were relieved by the faradic current.

July 14th: The patient has slight œdema of the ankles. This lasted until July 20th, when it disappeared in the ankles, but remained on the dorsum of the foot.

The patient came under my care July 24th. She was passing, at that time, large quantities of urine containing five to seven per cent. of sugar; acetone was present. She was extremely emaciated. She had several attacks of diarrhœa, which were checked by treatment. There was swelling of the dorsum of the

Fig. 1.

feet and lower part of the legs. The longitudinal branches of the superficial abdominal veins, the superficial epigastric and its branches were very prominent and enlarged, extending upward over the free border of the ribs, and downward over the anterior surface of the thighs, not forming a caput medusæ, however, around the navel. The eyeballs were prominent, and the pupils normal. The thyroid enlargement was slight. Liver—the left lobe comes down three inches below the xiphoid cartilage in the median line; the lower border is easily mapped out. The right lobe of the liver is two fingers' breadth below the free border of the ribs in the nipple line. The free border of the liver is painful when palpated. The bronzed discoloration of the skin extends over the whole of the left side of the face under the chin, and to the right side of the face. There is a small circle of pigment over the umbilicus. There is a large patch over the sacrum and both trochanters. There is bronzing over the labia, mons, and the internal surface of both thighs. There are bronze patches interspersed with normal skin over the dorsum of the left arm and left forearm. The bronzed areas are of a deep brownish-red color. Here and there over the arm are small leucodermatous spots. The epidermis over these areas does not scale. A scraping taken from the epidermis over these bronzed areas did not show on microscopic examination the microsporon furfur. A blood count made September 13th showed: red cells 4,832,000, white cells 5,200, hæmoglobin seventy-five per cent.

The patient was under my care about two months. She was treated with pancreatic extract, by high injections into the rectum, salicylates, and iron. During that time she increased in weight to sixty-nine pounds, which was her weight September 19th. Since that time she has been under the care of Dr. Rudisch. During the past few weeks the patient has developed extensive œdema of both lower extremities, general ascites, and anasarca, together with an attack of pulmonary œdema. Even the face was œdematous. She is at present in the service of Dr. Rudisch. Under his care these threatening complications have again subsided, and the patient, as I am told by the house physician, is *in statu quo*.

A review of the salient points of the history of this case shows:

1. A patient who some years ago suffered from exophthalmic goitre, from which she still suffers, the goitre, however, being markedly diminished.

2. A subjective history of diabetes mellitus, which, when the patient comes under our observation, is found to include all of the objective and subjective symptoms of sugar diabetes of a severe and progressive type.

3. A bronzed discoloration of the skin, chiefly marked on the face, chin, forearms, external genitals, and inner surface of the thighs.

4. A fairly well-marked hypertrophy of the liver, with enlargement of the superficial cutaneous veins of the abdomen and slight temporary œdema of the feet and legs while under my observation, but since then marked œdema and ascites, which I should ascribe partly at least to the hypertrophic cirrhosis of the liver.

Upon these data I have recognized this as a case of a condition first described clinically and pathologically by Hanot and Chauffard, and called by them "diabète bronzé"—a diabetes accompanied by more or less general bronzing of the skin and hypertrophic cirrhosis of the liver, complicated in our case by a coincident exophthalmic goitre. This combination of the two conditions in the same patient, namely diabète bronzé and exophthalmic goitre, partly from its rarity, but above all because of the clew which it gives to the pathogenesis of diabetes mellitus, renders a study of the case extremely instructive.

Diabète bronzé is still so rare, less than twenty cases (fourteen autopsies) having been recorded in literature, that a short résumé of what is known concerning this condition will not be out of place.

In 1882 Hanot and Chauffard[1] reported two cases, clinical histories and autopsies with microscopic sections of organs, illustrated, in which diabetes was combined with pigmentation of the skin, liver, and other organs. In this first paper Hanot gave a graphic and accurate description of the clinical history and pathology of these interesting conditions. In 1886 Hanot and Shachman[2] described two other cases and called the disease by the name of diabète bronzé. Since Hanot's first paper about fourteen cases have been reported by various observers and about eight or ten cases without autopsies. For all of these, Hanot's first description seems to have been wonderfully complete, although the views first expressed by him, and held up to 1896[3] concerning the pathology and the pathogenesis of the various phenomena which characterize the disease, have given rise to considerable discussion on the part of some of the best French authorities. In all of these cases the liver was enlarged; the enlarge-

[1] Rev. de méd. de Paris, 1882, p. 385.
[2] Archiv. de physiol. norm. et patholog., Paris, 1886, p. 90.
[3] Hanot: British Medical Journal, London, January 25, 1896.

ment was slight or considerable, the organ weighing in Hanot's cases from 1,800 to 3,500 gm. In his earlier cases the liver was very large; in the later cases, 1886, the enlargement was very slight. He found that there may or may not be the symptoms of disturbances in portal circulation; that when ascites is present it is usually slight; there may be œdema of the legs without ascites; and there may be also temporary diarrhœa as seen in my case. All of these symptoms are probably due to disturbances of the portal circulation caused by the hypertrophic cirrhosis of the liver. The bronzing of the skin is more or less general, chiefly located on the face and neck and arms, external genitals, and upper surface of the thighs. Naunyn and Hanot both report a case of diabetes in which the hypertrophy of the liver and the bronzing of the skin seemed to increase in like proportion. The spleen was sometimes found to be hypertrophied, but generally not enlarged.

At autopsy the hypertrophied liver is found to be smooth externally, rather dense on section, of an iron-rust color. The bilè ducts as a rule are unaffected. The spleen is reddish-brown in color, indurated, and sometimes enlarged. There is a similar pigment discoloration in the pancreas, lungs, muscle of the heart, and in the kidney, and in one important case reported by Mossé[1] and Mossé and Daunic[2] there were found histological changes in the suprarenal capsules, alalthough macroscopically one could observe no gross changes in these organs. I shall speak further of this case later on. The pigment is distributed in the liver, where it has been studied most thoroughly by all observers, especially by Hanot and Chauffard, between the connective-tissue fibres, in the fibres themselves, and in the hepatic cells. Some cells contain few granules and some are so filled with the pigment granules that their nuclei are lost, the whole cell being changed into a reddish mass. This description would apply to the distribution of the pigment in the other organs in which it is found. In the skin, the pigment is present in the deepest layers of the cells of the Malpighian bodies and in the vascular network of the integument.[3] M. Rendu, in a discussion upon a paper by E. Jeanselme,[4] reported a case in which he said he had found no pigment granules in the circulating blood, and a careful search revealed no emboli in any of the organs. These negative findings are important in connection with the pathogenesis of the bronzing. M. Jeanselme[5] found that when the patient was subjected to the *x*-ray, the pigmented areas did not permit the passage of the light, and the bones appeared far less distinctly than those behind the normal skin. This is corroborative proof of the ferric nature of the pigment.

Before discussing the pathogenetic significance of these pigmentations and pathological changes it is proper here to call attention to the fact that a similar pigmentation to that found in diabète bronzé has been reported in a considerable number of cases of Basedow's disease, and since our patient suffered from Basedow's disease ten years ago, and fully eight years before the occurrence of her diabetes, it might be considered that the pigmentation is a symptom of the exophthalmic goitre. Thus Dr. David Drummond, quoted by Bramwell,[6] noted pigmentation of the skin in a considerable proportion of the cases of Graves' disease. Dr. Bramwell found it in twenty-nine cases out of seventy-nine.[7] Other authorities could be quoted to the same effect. Diabète bronzé, however, does not consist clinically in diabetes and bronzing of the skin, but in these symptoms combined with hypertrophic cirrhosis of the liver, and the symptoms ascribable to the latter condition and this combination, forming the symptom complex of diabète bronzé, are present in our patient. A scraping from the skin showed the absence of the microsporon furfur, which excluded pityriasis versicolor. The differentiation from other forms of pigmentation I shall speak of presently.

Of the conditions present in diabète bronzé two deserve here special consideration: (1) The nature, source, and pathogenesis of the pigment which gives rise to the bronze discoloration of the skin and organs. (2) The connection between the hypertrophic cirrhosis, mostly in the liver and to a less extent in the other organs, and the diabetes.

As to the nature of this pigment material all authorities—including Hanot—agree that it is due to the deposit of an iron-containing pigment. This has been shown post mortem and clinically, as regards the pigment deposited both in the organs and the skin, by the ammonic-hydric sulphate and the ferrocyanide test. Most authorities found it to consist of a ferric hydrate. M. Rendu quotes Kelsch and Kiener to the effect that the discoloration of the skin in malarial cachexia is due also to a ferric pigment. Brault[1] has shown that in certain non-diabetic pigmentary cachexias the discoloration is due to a similar iron pigment. Gilbert and Grenet have reported a case of hypertrophic cirrhosis, "pigmentaire sans diabète," in which pigmentation was of the same chemical constitution.

It is interesting to note that a similar unanimity does not exist with regard to the pigmentation of Addison's disease. Thus while Perls[2] obtained the iron reaction in the pigmented areas in this disease, and v. Kahlden[3] considers the ferric nature of the pigment most probable, Brault[4] has not found the iron reaction in the pigment of Addison's disease.

Now the reservoir of iron in the body is the hæmoglobin of the blood. There it exists in combination with the stroma of the red blood globules, and this connection must be broken up and the corpuscles destroyed before the hæmoglobin is set free. The hæmoglobin consists of a proteid body and an amorphous coloring matter, hæmatin, which latter contains all of the iron of the hæmoglobin; so that the bronze pigmentation of diabète bronzé is an example of hæmosiderosis. Now it becomes a subject for inquiry as to why this coloring matter in the shape of pigment granules thus derived from the blood is deposited in the various organs and skin in which it is found in diabète bronzé. This portion of the subject is enveloped in the greatest confusion, and all the more is this to be regretted since its proper solution would throw much light upon the relation of the bronzing to the diabetes and the cirrhosis of the liver. The views held by various authorities are as follows:

Hanot at first thought that a so-called chromatogenic function which he ascribed to the liver cells was stimulated, as a result of the diabetic endarteritis and the obstructed circulation caused thereby; thus there was a hypergenesis of pigment in the liver, carried throughout the body by the blood-vessels in the shape of minute emboli. Apart from the facts that the liver has no such function, and that such emboli would result in numerous infarctions, which as a matter of fact are not found clinically or at autopsy in diabète bronzé,

[1] Congrès de méd. et d'hygiene, p. 777, 1894.
[2] Gazette hebdom. de médecine et de chirurgie, July, 1895, p. 326.
[3] Mossé: *Op. cit.*
[4] "Hæmatologie et pathogénie du diabète bronzé." Bull. et mém. soc. méd. des hôp. de Paris, 1897, 3 s., xiv., p. 179.
[5] *Op. cit.* [6] "Diseases of the Ductless Glands."
[7] Byrom Bramwell: "Diseases of the Blood-Forming Organs and Ductless Glands."

[1] Brault and Gaillard: Archiv. gén. de méd., Paris, January, 1888.
[2] Virchow's Archiv, v., xxxix., 1867.
[3] "Contribution to the Pathological Anatomy of Addison's Disease," 1888.
[4] *Op. cit.*

it is difficult to understand how pigment granules even finely divided could transude through the walls of the capillaries. Furthermore in the case cited above, reported by M. Rendu, no pigment granules were found in the blood-vessels and no emboli in any of the organs.

Brault and Gaillard[1] modified this view by supposing that the diseased (hypertrophic cirrhotic) liver was unable to utilize the degenerated blood pigment supplied to the hepatic cells in normal quantity, and that as a result the pigment accumulated in the circulation, and was thence distributed throughout the organs and skin. In other words, they thought that the pigmentation was secondary to the hypertrophic cirrhosis. This theory depends upon the known fact that the bile pigments are formed from the hæmoglobin or rather hæmatin of the blood. Were it true, however, we should expect to find that less bile than normal should be formed in diabetes. This I find von Noorden[2] and other authorities deny. M. Mossé,[3] who carefully studied very complete post-mortem findings in a case in which there were histological changes in the suprarenal capsules, considers the diabetes as primary, and that this causes the change in the blood and the production of the free pigment. This free pigment he conceived was deposited in the liver most extensively because the amount of blood circulating in this organ was correspondingly large. He thinks that the cirrhosis is the result of the perivascular changes which are caused by the sugar and free pigment circulating in the blood-vessels. Notwithstanding that in Mossé's case there were lesions of the suprarenals, he did not think that the bronzing was of the character of Addison's disease, chiefly for the reason that there was found no discoloration of the mucous membranes. These views of Mossé are similar to those of Massary and Potier.[4]

M. Rendu[5] very properly objects that if this pigment were set free in the blood under the influence of the diabetic cachexia and carried to the different organs where it is found post mortem, it would cause multiple emboli. He therefore believes that it is the result of "vicious elaboration" on the part of the protoplasm of the cells of the organs and tissues in which the pigmentation is found. He thinks the glandular cells in general, especially those of the liver and the cells of the cardiac muscle, are the most active in this respect. As soon as the pigmentary granules become very abundant they overcrowd and kill the cell. The pigment granules are then poured out in the adjoining tissues and taken up by the lymphatics, and carried throughout the body even to tissues where the pigment has not been previously formed. In other words, he considers the elaboration of this red pigment the manifestation on the part of the individual cells of the cachectic degeneration affecting the whole organism.

M. Letulle[6] thinks that the pigment found in the organs, heart, muscle, and skin is formed *in situ* from the hæmoglobin of the circulating blood or muscle. He thinks that all pigmentary cachexias are characterized by changes, similar to those found in diabète bronzé, in the liver, pancreas, heart, ganglia, etc.

M. Jeanselme[7] thinks that diabète bronzé is caused primarily by a destruction of the red blood globules taking place in the capillaries of the parenchyma. The iron-containing pigment thus set free is carried to the glandular organs. In the liver some of it is utilized for the bile. The excess of pigment remaining in the different cells gives rise by its irritation to the cirrhosis. If the cirrhosis affects the pancreas as well as the liver, diabetes results. The latter then he considers only an accidental epiphenomenon, the change in the blood cells the primary condition. He is led to think so because the red pigment is found deposited in the organs in other conditions well known to be accompanied by a destruction of red blood globules. It has been observed in the most diverse affections viz.: (1) diabète bronzé; (2) in paroxysmal hæmoglobinuria (case of Dieulafoy and Widal); (3) in the extreme anæmia of pseudo-leukæmia; (4) in hæmoglobinuria of bilious fever; (5) in chronic malaria. In all of these the pigmentation has been seen, and its distribution was similar to that seen in diabète bronzé. These views are concurred in by Albert Lenné.[1]

M. Hayem[2] agreed with the view that the pigment was formed *in situ* in diabète bronzé and not carried there by the blood current.

At present Hanot[3] agrees with Marie[4] that diabète bronzé is not a mere modification of diabetes or, in other words, diabetes with pigmentary cirrhosis of the liver, nor a cachexie bronzé, but a true pathological entity. They consider it, in fact, a new disease of which the pathology is not yet understood.

For a proper conception of the manner in which this bronzing is formed and deposited in the locations in which it is found after death the following data are instructive. In the first place, as has been seen, the pigment is undoubtedly derived from the hæmoglobin of the blood globules. Secondly, the blood of diabetes has two characteristics which are of interest to us in this connection: (*a*) It contains a much larger percentage of glucose than normal blood—normal blood containing 0.05 to 0.15 per cent. of sugar, while in diabetes mellitus the blood contains about 0.57 per cent.[5] The percentage naturally varies under conditions of fasting and varieties of foods, etc., but the figures given show the large increase of sugar in the blood of diabetics. (*b*) Grawitz[6] explains that, as Brasoe[7] has shown, when sugar is introduced into the circulation in animals it causes a passage of fluids from the tissues into the blood-vessels, producing primarily a dilution of the blood and a distention of the blood-vessels. It is this augmentation of the volume of blood which causes the polyuria, which in turn causes a secondary concentration of the blood. But for the present it is important for us to remember that there is primarily a large dilution of the blood and that it contains a very much increased percentage of sugar. Now even on the laboratory table it can be shown that adding water to blood dissolves out the hæmoglobin from the red blood globules; or, in other words, the connection between the stroma and the hæmoglobin in the red blood corpuscles is broken and the hæmoglobin set free.[8] It appears to us also that the increased specific gravity of the plasma due to the sugar has a similar effect. Hæmoglobin is very soluble in blood serum, and when thus set free in the living capillary under the influence of the presence of sugar and increased dilution of the blood, it remains dissolved in the serum. When thus in solution in serum hæmoglobin diffuses very readily. Under the influence of the increased tension of the capillaries due to the distention with blood abnormally diluted with a watery solution of sugar, the kidneys are stimulated to hyperactivity, and as a further aid toward the decrease of excessive volume of the blood, serum from

[1] Arch. gén. de méd., January, 1888.
[2] "Die Zuckerkrankheit," Berlin, 1898.
[3] *Op. cit.*
[4] Soc. Anat., April, 1895.
[5] *Op. cit.*
[6] Soc. méd. des hôpitaux, 1884, ix., 406.
[7] *Op. cit.*

[1] "Die Zuckerkrankheit," Berlin, 1898.
[2] Same reference as Jeanselme.
[3] British Medical Journal, London, January 25, 1896.
[4] Semaine méd., Paris, May 22, 1895.
[5] Pavy: Verhand. d. X. Internation. Cong., ii. Abtheil., S. 80, 1891.
[6] "Klinische Pathologie des Blutes," Berlin, 1896.
[7] Arch f. Anat. und Physiolog., Abth. f. Physiologie, 1884.
[8] M. Foster's "Physiology."

the vessels diffuses into the perivascular spaces. This serum, as we have already shown, contains hæmoglobin in solution, which remains deposited in the tissues and cells, and when decomposed forms the iron pigment granules which cause the hæmosiderosis. This process is frequently duplicated at the bedside, when the surgeon does a venous infusion with a decinormal salt solution, in cases of severe hemorrhage. Here the volume of the blood is increased by the injection of a decinormal salt solution instead of, as in diabetes, a sugar solution, and frequently as a result there is temporary hæmoglobinuria and pigmentation of various portions of the integument. In this therapeutic procedure, these symptoms, while more acute, as is shown by the hæmoglobinuria, are temporary, while in diabète bronzé, and probably in other "bronze" conditions, the cause is a lasting one and the bronze pigmentation of the skin becomes deep and permanent. The anæmia which should accompany this condition of the blood in diabetes is cloaked by the secondary increased concentration of the blood produced by the polyuria and transudation into the perivascular spaces. This explains why writers on diabetes differ as to the results of blood counts made of blood from diabetic patients. Some authorities report a very large diminution in the number of red blood globules, some report a normal number of these (Grawitz).

I have quoted the case of Mossé [1] in which a case of diabète bronzé showed post mortem a lesion of the adrenals when microscopically examined. This case and other considerations might suggest that the bronzing in these patients was due to the same causes as in Addison's disease. I have already stated, however, that the bronzing of Addison's disease affects the mucous membranes in every case, while in diabète bronzé the mucous membranes are never involved. In addition to this, the pigmentation of Addison's disease, while containing iron, contains also other pigment matters and their proteids. The pigment granules are not deposited in Addison's disease as granules in the internal organs and secreting cells, as is shown particularly in the liver, in diabète bronzé. Dr. McMunn[2] says: "The adrenals remove from the circulation useless and worn-out pigments and their proteids. If disease affects the adrenals these pigments are left circulating in the blood, producing pigmentation of the skin and mucous membranes as in Addison's disease." He does not support this theory of the function of the adrenals by any trustworthy data.

The cirrhosis of the liver appears to me to be secondary to and developed with the pigmentation. It is true that the liver in diabetes is the seat of a hypertrophy and induration in a very large proportion of all diabetics, but most authorities at the present time attach little importance to this as far as the pathology of diabetes is concerned. Glénard found hypertrophy of the liver in about thirty-five per cent. of his cases. In forty per cent. he found induration. Von Noorden found enlargement and induration of the liver in about twenty-two per cent. of his cases. Rauch found a normal liver in only about twenty-two to thirty-nine per cent. of all the autopsies upon diabetics. This hypertrophy and induration, however, are not at all comparable to the hypertrophic cirrhosis seen in cases of diabète bronzé. This condition is produced in these patients, it appears to me, as a result of the formation of pigment granules in the cells and connective tissue of a liver suffering from ordinary diabetic engorgement. The slowness of circulation which accompanies this latter condition encourages the transudation of serum containing free hæmoglobin in solution, of which we have just spoken, and adds a further causative factor why pigment is deposited in the liver in greater quantity than in the other organs. The hypertrophic cirrhosis of the liver thus produced helps, by obstructing the portal circulation, to retard the venous return from the pancreas and other abdominal organs and glands, and thus aids in the deposit and formation of pigment granules in these organs, glands, and even more distant tissues like the skin and heart. Similar, although much less marked cirrhotic changes occur in the tissues and cells thus the seat of these pigment deposits. I consider, then, the pigmentation of diabète bronzé as due to a deposit of iron pigment, derived from the hæmoglobin of the blood, which, derived from the blood globules under the conditions I have described, comes to be dissolved in the blood serum. In this form it transudes into the perivascular spaces and organic cells of the viscera, heart muscle, and skin, and remains deposited when the serum in which it is in solution is again taken up by the capillaries.

We now come to consider another condition present in our patient, the Basedow's disease, and inquire into the relation which it bears to the diabetes. For this purpose we must turn our attention to the pathogenesis of diabetes. The sugars and starches included in the group of carbohydrates of the food may, for the purposes of this paper, be represented as undergoing digestion in the alimentary canal, in which, under the influence of certain ferments derived chiefly from the salivary glands, pancreas, and intestinal glands, they are changed to glucose, an easily diffusible form of sugar. In this form they are taken up by the portal circulation and pass to the liver, in which they are stored up in the form of glycogen. So great is the storing capacity of the liver for this material that it sometimes represents as much as fourteen per cent. of the weight of the organ.[1]

From the glycogen thus stored up, the liver again converts to glucose a quantity sufficient to supply a fixed percentage of glucose to the venous blood passing from it. Thus glucose enters the circulation in what is practically a fixed percentage, varying from 0.05 to 0.15 per cent. in man. Some of this grape sugar in the blood is again converted into glycogen in the muscles and stored in them, for use in the production of energy. By far the larger proportion, however, is, according to Lepine,[2] destroyed by a glycolytic ferment formed in the pancreas. When this latter organ is extirpated, or at least removed to the extent of ninety per cent. of the organ, or so diseased that the ferment is not produced, the grape sugar in the blood is not destroyed, accumulates in excess, and is excreted by the kidneys. Thus glycosuria results.

Diabetes mellitus, then—I do not here include the temporary glycosuria which follows the eating of carbohydrates in excess—may be due to disease or interference with the saccharine functions of the liver, or disease or interference with the glycolytic action of the pancreas. Furthermore, the famous experiments of Claude Bernard showed that in animals puncture of the apex of the calamus scriptorius in the floor of the fourth ventricle caused glycosuria, lasting many hours. When the animal was killed, after the glycosuria had ceased, it was found that the liver was free from glycogen. In other words, the puncture of the medulla at the above-mentioned point had caused the liver to yield up all of its store of glycogen to the circulation in the shape of glucose, which had been excreted by the kidneys as grape sugar in the urine. Many other lesions of the nerves, ganglia, and nerve centres produce a similar effect, although not with anything like the constancy with which the lesion of the medulla

[1] Congrès de méd. et d'hyg., 1894, p. 777.
[2] British Medical Journal, February 4, 1888, p. 233.

[1] Von Noorden "Die Zuckerkrankheit."
[2] "Le ferment glycolytique et la pathogénie du diabète," Paris, 1891.

causes it. Thus this effect was found to follow destruction of the upper and lower sympathetic cervical ganglia, the first thoracic ganglion, and the abdominal ganglia of the sympathetic. Here then we have three possible varieties of glycosuria:

1. The glycosuria resulting from disturbance of the function of the liver.

2. The glycosuria resulting from disturbance of the function of the pancreas.

3. The glycosuria due to puncture of the medulla resulting in the yielding up by the liver of the store of glycogen, with a probable simultaneous stoppage in the secretion of, or at least no corresponding increase in, the secretion of the glycolytic ferment in the pancreas.

Clinically, however, cases of diabetes do not always show post-mortem lesions of the liver, or lesions of the pancreas, or lesions of the medulla, or any of these. What, then, is the connection between these different pathogenetic factors in the production of diabetes with each other and with the disease? A study

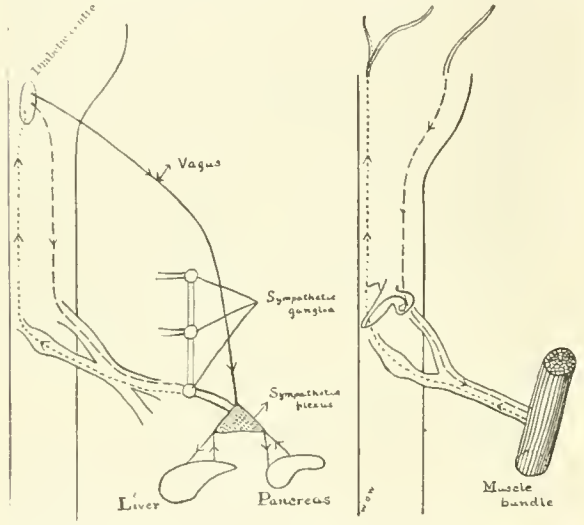


FIG. 2.—Schematic Representation of Probable Course and Distribution of Visceral Motor and Sensory Nerves. ..... Gray ramus communicans; - - - - - white ramus communicans.

of the nervous mechanism which governs the functions of the liver and pancreas will serve to throw some light upon this question.

As is known, all of the viscera, including the liver, the pancreas, and suprarenals, are supplied by nerves derived from the sympathetic system as well as from the cerebro-spinal system. In the case of the liver and pancreas, however, the nerves derived from the cerebro-spinal system reach these organs both through branches from the pneumogastric sent directly to the large sympathetic plexus in the abdomen, and indirectly, through the gray and white branches which pass from the sympathetic ganglia and their connecting sympathetic cords arranged along the front of the entire length of the vertebral column, to the anterior primary division of the spinal nerves. These communicating branches between the spinal nerves and the primary sympathetic nerves and ganglia are known as the gray and white rami communicantes. So that the large sympathetic plexus in the abdomen, such as the epigastric and splenic plexus, from which emanates the nerve supply of the liver and pancreas, contains, first, purely sympathetic nerves mostly non-medullated and taking their origin in the numerous sympathetic ganglia; second, the cerebro-spinal fibres derived from the anterior primary divisions of the spinal nerves; third, fibres coming directly from the pneumogastrics (left pneumogastric to hepatic plexus, right pneumogastric to splenic plexus).

It must not be forgotten here that the secreting cell, just as the muscle cell, is provided with sensory fibres, motor fibres, and trophic fibres, the special nerves of nutrition for the cell.

The sensory fibres, as in the muscular system, are afferent, passing from the visceral cell through the sympathetic nervous system to the spinal cord, and thence to the centres in the cord chiefly through the gray ramus communicans.[1] These afferent fibres carrying sensory impressions centripetally go with great directness from the viscus to the cerebro-spinal centres, passing through very few, if any, ganglionic stations, differing in this respect from the motor, secreting, or dynamic fibres of the visceral cell, which reach these cells after having passed through many sympathetic ganglia, in their course from the spinal cord to the sympathetic plexus, and after having formed the most extensive connections with other nerve fibres derived from the sympathetic and cerebro-spinal nervous systems. These sensory fibres of the visceral cell do not carry sensations of pain, heat, touch, etc., only, to the cerebro-spinal centres, but sensations of a more complex character peculiar to each viscus, which indicate the need on the part of the organism for the peculiar motor or rather secreting activity of the visceral cell. So that secretion is a function of a glandular cell, which is the reflex manifestation of a peculiar sensibility in these cells. As I have already indicated, secretion is the manifestation of a glandular cell just as motion is that of a muscle cell. These secreting or rather motor impulses are carried to the viscera from the cerebro-spinal centre through two paths: First, through the spinal cord, spinal nerves, white rami communicantes, sympathetic ganglia and trunks, to the sympathetic plexus, and thence distributed to the viscus; second, through a cerebro-spinal nerve (in the case of the liver and pancreas, the pneumogastric nerve) to the sympathetic plexus, and thence to the viscus. These two separate paths are intended for the transmission of two distinct kinds of motor (secreting) impulses, the one the complement of the other, some physiologists even think the antagonist of each other. I am led to adopt the view hinted at by Morison,[2] that the motor fibres passing from the centre through the cord to the white ramus communicans and sympathetic ganglia and nerves store up some of their motor activity in these ganglia, which are thus rendered capable of causing constant secreting activity on the part of the glandular cells connected with them, while the motor (secreting) fibres passing through the cerebro-spinal nerve (vagus in the case of the liver and pancreas) carry a reflex impulse to the cells, preventing this constant activity except when necessary. Upon this theory we could explain why puncture of the floor of the fourth ventricle at the lower portion of the motor nucleus of the vago-glosso-pharyngeal nerve and its spinal accessory branch produces mellituria, namely, by irritation of motor sympathetic fibres passing down the cord, while section of the vagus fibres removes the controlling influence of the vagus. This would also explain why the mellituria occurs even when both pneumogastric nerves have been divided. We need not, for our purpose, enter into the question of the further connection between this nucleus in the medulla and the higher cerebral and cerebellar centres. For our purpose the tracing of the connection between the nerve supply of liver cell and pancreatic cell on the one hand and the centre in the medulla on the other is sufficient. Indeed, I have ventured upon this brief résumé of these salient factors in the anatomy and physiology of the nervous mechanism of the liver and pancreas and incidentally of other abdominal viscera, not with any idea of giving a complete or even accurate account of the subject,

[1] Kölliker: "Gewebslehre," p. 862.

[2] "The Nervous System and Visceral Disease," London, 1899.

for even the most advanced knowledge and data obtained from the writings of the most competent anatomists and physiologists cannot be termed complete or accurate; for in this field knowledge is extremely limited, and much of what is known is vague—but I believe the known data are sufficient to enable me to draw a clinical parallelism between disturbances of functional activity in a muscle cell or fibre resulting in paralysis and disturbances in the functional activity of cells of the liver and pancreas which result in diabetes mellitus. And here I would call attention to the fact that, considered from their connection with the formation and destruction of glucose in the animal economy, the liver and pancreas are ductless glands. It is true that the liver has ducts for the discharge of the bile which it secretes, but the glycogen which it stores up is formed from the glucose supplied by the portal blood, and the glucose into which it is transformed by the liver is carried from that viscus by the circulation. So also, although the pancreas has a duct through which it discharges the pancreatic juice, the glycolytic ferment is formed in the pancreas from the blood and discharged into the circulation, where it meets with the glucose upon which it exerts its activity. The consideration of the pancreas and liver as ductless glands is interesting in this connection, from the fact that in many of the diseases of the ductless glands, such as diseases of the thyroid, Graves' disease and myxœdema, of the suprarenal capsules, Addison's disease, disease of the pituitary body (acromegaly), the sympathetic nerves and plexuses have been found involved, having been found the seat of degenerative changes in many autopsies. It will be remembered that when a muscle is paralyzed the paralysis may be due to: first, disease of the muscle cells forming the fibres with a corresponding loss of their essential motor irritability; second, it may be due to destructive changes of the motor nerve supplying it, such as a neuritis; third, it may be due to destructive changes in the motor-nerve tracts in the spinal cord; fourth, it may be due to destructive changes in the gray centres in the spinal cord; fifth, it may be due to destructive changes in the motor-nerve tracts between the spinal cord and cerebral centres; sixth, it may be due to destructive lesions of the cerebral centres or cortex. A lesion of the sensory nerve connecting the muscle cell with the centre in the spinal cord will give rise to disturbance in the reflex motor manifestations of the muscle cell. This is a schematic outline sufficient for our needs of the various lesions, all of them manifested by a loss of the motor activity of the muscle cell. I have spoken of destructive lesions because I have mentioned paralysis of muscles. Equally multifarious irritative lesions, all resulting in a similar spasm of the muscle fibre, could be recounted. The important fact to remember is that the peripheral manifestation of disturbed function in the muscle cell is the same irrespective of what portion of the nerve tract is the seat of the lesion, the disturbance being of a paralytic or spastic character depending upon whether the lesion is irritative or destructive. So also what I have already said of the general principles governing the anatomy and physiology of the nerves of the viscera has shown that disturbances of visceral function may be due, first, to destructive or irritative lesions of the visceral cells; for the secreting cells, like the muscle cells, possess their essential secreting irritability.[1] Second, such disturbance may be due to lesions of the visceral motor nerves (plexuses, sympathetic nerves, and ganglia, white ramus communicans, and spinal branches). Third, they may be due to lesions of the sympathetic motor paths in the spinal cord. Fourth, they may be due to lesions of the cerebro-spinal branches of the sympathetic plexus. Fifth, they may be due to lesions of the centres in the medulla and upper portion of the cord. Sixth, finally, a disturbance in the reflex visceral activity may be due to lesions of the sympathetic sensory or afferent branch of the viscus. I have purposely not traced the visceral nerve impulses higher than the medulla because for schematic purposes this knowledge is too vague to be considered. That there is a control exercised on the part of higher cerebral centres through nerve paths, which are undetermined, over the functional activity of the viscera is positive. One other point of similarity between disturbances of motor activity of muscles and functional activity of viscera is that in both cases a destructive lesion of any portion of the efferent or motor-nerve path results in degenerative changes extending from the lesion toward the periphery in those nerve fibres and trunks which have been separated from the trophic nerve centres, so that while muscles and viscera supplied by branches given off from a motor-nerve tract centrally to the lesion retain their functional activity, those supplied from the degenerated portion of the nerve trunk, peripheral to the lesion, lose their power of functional activity. While the course of viscero-motor impressions in the viscero-motor tracts passing from the centre to the periphery is much more indirect than that of musculo-motor impressions, the viscero-motor nerves being interrupted in frequent ganglia and plexuses, the trophic influence of which upon nerves passing through them is not sufficiently understood, these general considerations will serve to show that similar principles of localizing the lesions—which are the cause of disturbances in visceral function—obtain as those which we are accustomed to use in the localization of lesions causing paralysis or spasm of muscles.

Applying this dictum to diabetes mellitus, the visceral disease to which this study is devoted, the disease may be due to, first, disease, irritative or destructive, of the pancreas and liver as viscera; second, to destructive or irritative lesions of the sympathetic motor nerves supplying the pancreas and liver, the ganglia with which they are connected, and plexuses from which they are derived; third, it may be due to irritative lesions of the sympathetic motor paths in the spinal cord connecting with the large plexuses in the abdomen through the lumbar rami communicantes; fourth, diabetes mellitus may be due to a destructive lesion of the cerebro-spinal nerve, the vagus, supplying the liver and pancreas; fifth, diabetes mellitus may be due to lesions of the lower portion of the vagal centre in the medulla; sixth, finally, it may be the reflex manifestation of a lesion of the sensory sympathetic extending from the liver and pancreas through the gray rami communicantes to the cord, and thence to the medullary centre. One or more of these factors may be present in a given case of diabetes mellitus, depending upon the character and extent of the disease producing the lesions. Many cases of diabetes mellitus have been examined post mortem, which have shown lesions in several of these locations.

Thus, for example, I have already spoken of the frequency with which the liver is found enlarged in patients suffering from diabetes mellitus. Von Noorden reports 3.8 per cent. of his cases as suffering from cirrhosis (atrophic) of the liver. One of these cases was a syphilitic cirrhosis. Rauch[1] found at autopsy normal liver in only sixty to seventy-five per cent. of all cases. The diseases found were hypertrophy, congestion, and fatty degeneration. It is to be noted that large tumors, abscesses, and cysts of the liver are only seldom accompanied by diabetes; the reason probably being that in these cases sufficient of the viscus retains its integrity to perform the necessary function of converting sugars; while hypertrophy, congestion, and

[1] Morison: *Op. cit.*, p. 36.

[1] "Lipaemia bei Diabetes Mellitus," Leipsic, 1895.

fatty degeneration, involving as they do the whole organ, are more apt to cause diabetes. The pancreas is frequently found diseased in diabetes. Most frequently are found sclerosis, atrophy, fatty degeneration, and necrosis of the cells; occasionally are found cysts, stone in the duct, carcinoma, and echinococcus. Experimentally it has been shown that if ten per cent. of the pancreas remains glycosuria will not appear, which also explains why extensive disease of the pancreas may be present without diabetes. Syphilis and tuberculosis of the liver and pancreas have been found in diabetics, while frequently these conditions have been present without sugar in the urine. It is evident that the occurrence of diabetes as a sequence of all of these conditions of the liver or pancreas depends upon the fact whether sufficient of the viscus in question has been destroyed to interfere with the proper performance of the sugar function—if I may so call it.

Taking up now the possible lesions on the part of the nerves and nerve centres which might cause diabetes, in pursuance of the scheme outlined above, it is, first of all, of interest that as far back as the first experiments by Claude Bernard on the medulla in the production of diabetes, it was found that glycosuria did not follow the puncture of the medulla if this operation was preceded by section of both splanchnic nerve trunks. Furthermore, experimentally, glycosuria followed extirpation of the first and second cervical ganglion, or the first dorsal ganglion of the sympathetic[1] caused glycosuria by exsection of the cœliac ganglion and plexus. Pathologically, lesions of the sympathetic have been frequently found post mortem in diabetes; thus Ponikle[2] reports three cases of disease of the abdominal sympathetic accompanying diabetes. Hale White reports four cases of sclerosis of the semilunar ganglia and plexus. Kulz and Koch (Naunyn) report two cases of unilateral perspiration with contracted pupils on the affected side in which there was diabetes accompanied by a probable lesion of the sympathetic. The vagus has also been found involved with diabetes; thus Newman has three cases of tumor of the vagus nerves accompanied by diabetes. The lesions of these nerves, plexus, and ganglions are not necessarily gross lesions, such as tumors, but may consist of the various forms of neuritis, syphilitic, tuberculous, toxic, alcoholic—indeed all inflammatory and degenerative forms of neuritis. The spinal cord has been found diseased, especially in its posterior columns, in cases of diabetes with rather more frequency than other portions of the cord. This is interesting in connection with the frequent absence of the patellar reflex in diabetics. Souques and Marinesco,[3] in a paper entitled "Lésions de la moëlle épinière dans un cas de diabète sucré," report a case in which they found a symmetrical pale zone of degeneration in each posterior column of the cord. This patient had suffered from diabetes with Basedow's disease. Nonne[4] reports a case of poliomyelitis anterior chronica, with the characteristic lesions in the gray horns, accompanied by diabetes. Kalmus,[5] Leichtentritt, Lepine, and many others report cases of spinal-cord lesions with diabetes. Equally numerous are observations of lesions in the medulla and cerebrum, accompanying diabetes. My object here is not to give the symptoms which will enable us to localize the lesion in a case of diabetes mellitus, for the pathological material is not yet sufficiently extensive to justify systematic differentiation in this direction, but rather to indicate my belief that diabetes mellitus is the result of a disturbance in the function of the liver or pancreas, or both, dependent upon either disease of these viscera or disease of the nerves, sympathetic or vagus, which supply them, or disease of the sympathetic ganglia, or disease of nerve paths in the spinal cord which connect these sympathetic nerves with the centres in the medulla, or disease of the medullary centre, or the nerve paths and higher cerebral centres with which the medullary centre is connected. The lesions may be of any character, inflammatory, syphilitic, tuberculous, toxic, with which we are familiar in pathology, and the success in the treatment and prognosis of diabetes mellitus will depend upon our knowledge of the pathological nature of this lesion and its location in any given case.

It is evident that in an individual case of diabetes the localization of the lesion causing the diabetes, in the abdominal sympathetic, would be aided by the demonstration of the simultaneous presence of other clinical phenomena which are generally ascribed to lesions of the sympathetic. The case of diabète bronzé reported by Mossé[1] was a case in point, for in this case there were found lesions of the sympathetic and microscopic lesions of the adrenals; although I have already explained that I do not believe that the lesion in the suprarenals had a causative relation to the pigmentation. So also the presence, as in our case, of Basedow's disease is an interesting feature pointing to the sympathetic nervous system as the pathogenetic factor in the case.

Glycosuria is frequently an accompaniment of exophthalmic goitre.

Basedow's disease has a very vague pathology. This is hardly the occasion to discuss it; but I may be permitted to express my belief in the neural origin of the disease. Changes have been frequently found in the cervical sympathetic nerves and ganglia, and the medulla oblongata, and such lesions could so well account for the symptoms that I believe they stand in a causal relation to the hyperactivity of the thyroid gland. The theory of Möbius has recently obtained the most general sanction. It consists in its several steps of a lesion causing irritation of the sympathetic or paralysis of the cerebro-spinal nerve supply of the thyroid, and, as a result, increased activity on the part of the thyroid gland. As a sequence of this, an increased amount of the thyroid secretion is poured into the blood. The effects of this are the tachycardia, the prominent eyeballs, the nervousness, and all the other symptoms of exophthalmic goitre. I cannot refrain here from referring to an admirable clinical study by Dr. William H. Thomson of a series of cases having all of the cardiac nervous symptoms of Graves' disease, without the exophthalmos and goitre. He ascribes the pathology to an over-stimulation of the thyroid by a toxæmia of gastro-intestinal origin.[2]

The presence of Basedow's disease in our case, as I have already said, would point to the cervical sympathetic as the lesion which has involved the abdominal sympathetic either by direct extension through the ganglionic connection or indirectly by an affection of the medullary centre presiding over glycosuria, with descending degeneration of the sympathetic and cerebro-spinal tracts which supply the liver and pancreas. The literature upon the combination of diabetes and Basedow's disease is so prolific that we are to be pardoned if we consider the simultaneous occurrence of the two affections as more than an accident. Some of the most recent cases reported are those of Bettman,[3] Grube,[4] Hannemann,[5] and many others. Lepine[6] col-

[1] Eckhard: "Beiträge zur Anatomie und Physiologie," quoted by Naunyn. Nothnagel. "Pathologie und Therapie," vii., 6. Klebs and Munck: "Handbuch der pathologischen Anatomie."
[2] Lancet, 1878, i., p. 208.
[3] Bulletin médical, June 16, 1897, p. 435.
[4] Berl. klin. Woch., 1896, p. 207.
[5] "Rückenmarkserkrankungen bei Diab. mel.," Berlin, 1895.

[1] *Op. cit.* [2] MEDICAL RECORD, August 14, 1897.
[3] "Diabetes Mellitus und Basedow." Münch. med. Wochenschr., 1896, p. 1201. [4] Zeit. für klin. Med., 1895.
[5] "Basedow and Diabetes," Berlin, 1895.
[6] "Diabète et son traitement," Paris, 1899.

lates a number of cases of the two affections in the same family. In many of these cases, as in ours, the Basedow preceded the diabetes by several years.

All of such occurrences are aids in the localization of the lesion causing the diabetes in the nerve tracts connecting the liver and pancreas with the nerve centres. Further investigations and autopsies will give additional points for localization; a knowledge of the pathological character of the lesions will yield indications for treatment on a rational basis. Syphilitic disease of the viscera or sympathetic causing diabetes, for instance, requires specific treatment, and a successful cure in such a case does not indicate that specific treatment is applicable to all diabetics, and so on. Again, I repeat, localization of the lesion in diabetes and recognition of its pathological character is the plea which I advocate, and I have presented this case partly from its intrinsic interest as an example of a rare clinical condition, and partly because it represents a good illustration of the methods to be adopted in determining the pathogenetic cause of a given case of diabetes.

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## THE EARLY DIAGNOSIS OF TUBERCULOUS JOINT DISEASE.

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The diagnosis of advanced tuberculous disease of joints is a simple matter. The discharging sinus, the distorted and shrunken limb, the ankylosis, and perhaps the visceral complications present a picture easily understood by the least skilful. The early diagnosis, when the disease is still curable and the return to function still possible, is somewhat more difficult, but really of more importance. In the early stages the disease is seen by the general practitioner or by the general surgeon, and he should be able to make the diagnosis correctly.

Perhaps in no class of disease does the axiom of the old English surgeon so well apply, that the eye should be used first and most and the hands last and least. The hands ordinarily should be used only to help the eye to bring out, as it were, the symptoms for the eye to interpret. Here the general surgeon errs more often than the general practitioner. He has been taught to educate his hands, to cultivate the "tactus eruditus," as he is wont to call it, and his first motion is to put his hand on the offending part. Of course he covers up what he should leave uncovered, and blocks his own way.

In the first place, for the diagnosis a history is needed, and a good one will often point clearly at the result later obtained with certainty. In a large percentage of cases, especially in young children (and with these our subject in the great majority of cases deals), an infectious disease will have shortly preceded the symptoms, and of these the principal ones will be measles, whooping-cough, and scarlet fever, and somewhat in the order named. Often a family history of tuberculosis will be obtained,[1] but whether more often than in any other disease is a question. Next will come the history of the present disease. A few cases come to the physician with deformity and without subjective symptoms, as far as he can ascertain. When deformity sufficient for recognition by the parents attracts attention, the diagnosis by the physician should be a simple matter. These cases will not be discussed here; their proper place will be in the discussion of the various deformities of special regions.

The first characteristic of the symptoms which strikes one forcibly is their gradual development. Often the time of first occurrence cannot be fixed. Next, they are essentially chronic. Next, though sometimes with slight ameliorations, they gradually grow more severe. If some indifferent mode of treatment is adopted, and the patient is seen again at the end of a week or so, he will at least be no better, and at the end of two or three weeks he will be worse than when first seen.

Usually a history of trauma will be given. It is of little use, except for the purpose of excluding fracture or dislocation, for closer questioning brings out that the injury was sustained at a time from a year previous up to the time when the symptoms actually began. When the child limps or is stiff in its movements, the parental mind does not rest until it has remembered a fall or a blow, perhaps not even known to affect the region under consideration. In other words, the symptoms are separated by a distinct interval of time from the trauma, herein differing from contusions, fractures, and dislocations.

Pain and stiffness are two important symptoms. The pain is not exactly located; the patient does not press a finger down on a certain spot, but usually passes it over a region. It is worse on motion and is apt to come in paroxysms at night, when the muscles holding the joint quiet are relaxed. The "night cries" are notorious. The child cries out, and may be asleep by the time the parent reaches him. The stiffness in the morning is also well known.

The general condition of the patient is now to be noted, and then he is to be stripped. This rule knows no exception in children or in men. In women it should be modified but slightly. Next the attitude should be observed, and then the presence or absence of deformity or of change in contour. Here the first difficulty may be encountered by the unpractised eye in recognizing the departure from the normal; but this difficulty exists only in the trunk. In the limbs a guide is present in the limb of the opposite side.

Next, muscular spasm is to be looked for, and this will manifest itself, besides the visible spasm, by limitation of motion in the joint. Here again the same difficulty mentioned above is met, but here again it disappears in the limbs and remains only in the trunk. The joint of the well side is first put through all of its motions—flexion, extension, abduction, adduction, rotation—and the motions of the affected side are compared with these. Any attempt to force the range of motion in a diseased joint will cause pain. In order to elicit this pain the practice of striking the child on the top of the head or soles of the feet, of making him jump from a chair, is quite unnecessary. Sensitiveness to pressure need not be expected; hence the inutility of prodding the part with the fingers. It is no symptom of early tuberculous disease; nor is increase of temperature, except sometimes in joints which are near the surface, *e.g.*, the ankle.

The joints most liable to tuberculous disease in their order of frequency of attack are: 1st, spine; 2d, hip; 3d, knee; 4th, ankle; 5th, elbow; 6th and 7th, wrist and shoulder.[1] Affections of other joints are rare—so rare that they may be omitted from this discussion.[2]

[1] The statements in this paper are based upon four hundred and fifty-three cases of tuberculous joint disease observed at the Vanderbilt Clinic between January 1, 1895, and January 1, 1899. Of these cases a positive family history of tuberculosis was obtained in sixty-eight, a negative in three hundred and nine, and in seventy-six the disease is not mentioned. For convenience, when two or more joints are affected each joint has been counted as a case.

[1] The 453 cases quoted above showed the following distribution: spine 210, hip 155, knee 51, ankle 24, elbow 6, wrist 3, shoulder 4

[2] Sacro-iliac disease, for instance, of which we hear so often, is really very rare. But one case appears on the records of the Vanderbilt Clinic for four years.

A convenient classification will be: joints of the (1) lower extremity, (2) spine, (3) upper extremity.

1. **Joints of the Lower Extremity.**—The first and usually the most prominent symptom is the limp—a limp, in accordance with what has been said above, persisting and gradually growing worse. Next comes pain. In hip-joint disease this pain is felt in the groin, thigh, hip, or knee; in disease of the knee it is felt about the knee; and in disease of the ankle, about the ankle. A feeling of stiffness is often present and is hard exactly to locate. It exhibits usually the morning aggravation.

The examination should be begun by observing the patient's gait, and he should then be placed upon his back on a table, the two limbs compared, and any difference in contour or in attitude noted.

In hip-joint disease the attitude of the affected limb will almost invariably be changed. Flexion will be present, and usually abduction or adduction. External or internal rotation is also frequent. The examiner must bear in mind that no one attitude is characteristic of this disease, as it is, for instance, of dislocation. The length of the limb will not be materially affected, measuring from anterior superior spine to internal malleolus, but the tape will show a diminution in girth of thigh and calf; in other words, slight muscular atrophy. This diminution will amount ordinarily to a half-inch or an inch. Spasm will be present in the muscles moving the joint, and also limitation of motion in all directions. Flexion may be measured in the usual method, flexing the knee at the same time (to relax hamstrings) and holding the other knee down on the table, or more nicely by gently flexing the thigh and watching the anterior superior spine. With a normal hip the anterior superior spine remains stationary until the thigh is in contact with the trunk, while, with a diseased joint, hardly does the thigh leave the table before the anterior superior spine begins to move, showing that the pelvis is moving, and that therefore there is a limitation of motion between it and the femur.

The range of abduction and adduction is observed best with the thigh and knee flexed at a right angle.

The amount of extension possible may be ascertained by bringing the child to the edge of the table, with the lower extremities hanging over, and noting which hangs lower. Or the child may be turned on his face and one hand placed on his buttocks to hold the pelvis on the table. Let the operator then grasp the ankle with his other hand and, having flexed the knee, attempt to super-extend the thigh. This will be found impossible if the hip joint is diseased.

There should be but two sources of doubt in a diagnosis, namely, contusion and bending of the neck of the femur. The symptoms of a contusion follow immediately an injury and disappear in a few days upon the application of an indifferent mode of treatment, such as a liniment or a spica bandage. Bending of the neck of the femur is essentially a disease of adolescence, is rare, is marked by shortening of an inch or so, and is accompanied by limitation of abduction only. The trochanter may be felt above Nélaton's line.

The knee. The attitude in tuberculosis of this joint is semi-flexion. Usually slight swelling is present and should always be sought for with a tape measure. Both flexion and extension are limited. The well-known backward dislocation is distinctly a symptom of the later stages, and will not be found early in the course of the disease. Atrophy of the thigh and leg is an early symptom, and this with the limitation of motion and the chronic course renders a diagnosis from ordinary synovitis easy. Besides, in tuberculosis the swelling is apt to be doughy.

In disease of the ankle or tarsus the foot will be abducted. When the ankle is affected, the foot will usually be in equinus; when the tarsus is diseased, in calcaneus. The temperature will usually be raised, and atrophy of the calf and limitation of motion will be present.

2. **The Spine.**—An early diagnosis is here often difficult, sometimes impossible until deformity has taken place, but really more important than in any other region, because the deformity, when once present, can never be removed. The guide possessed in joint disease in a limb, namely, the sound joint of the other side, is here of course absent.

It is necessary, in the first place, to bear in mind that, with the exception of a feeling of stiffness, the subjective symptoms will usually not be referred to the spine. They are caused by irritation of the anterior branches of the spinal nerves, and are referred to the regions of distribution of those nerves; hence pain in the chest, belly, or thighs, stiff neck, grunting respiration, etc., are apt to be the first causes of complaint.

The patient should first be viewed in the erect posture and his attitude carefully noted; whether flexion of the trunk is present, or super-extension, whether he supports himself by his hands on the table or on his knees, or whether his shoulders look abnormally square, whether his head is thrown forward or backward, and whether deformity in the spine itself is present—all these should be observed closely. In some cases this last will be the first thing to draw the attention of the parents to the child's ailment. The synonym of the disease, "angular curvature," furnishes a good description of the deformity, and when present in marked degree it can hardly be mistaken. It is a "knuckle," a "bone sticking out," as the parents describe it. In its earlier stages it is not so well marked nor so characteristic; it is then not an angular projection, but an irregularity in outline, a change of contour.

Muscular spasm will cause stiff neck, rigid, square shoulders, difficulty in stooping, super-extension of the trunk, etc., according to the region affected. To demonstrate it in disease of the middle and lower spine, the patient should be laid flat on his face with his arms by his side. His feet should be then lifted in the air. With a diseased spine the back muscles will be seen to spring into prominence in tight contraction, and the spine in the region of the disease to be rigid. In cervical disease the spasm may be elicited by movement of the head.

No results can be obtained by poking the spinous processes to find tender or painful spots. Cutaneous sensitiveness does not exist in tuberculosis of the spine.

A change of contour is present in rotary lateral curvature, but here the curve is from side to side, while in tuberculosis any lateral curve is slight and comes on at a late stage. Spasm of the back muscles is absent in rotary lateral curvature, and any pain will be more in the nature of a tired feeling. Again, in the latter affection the apex of the curve appears to be along the ribs, not on the spine itself.

Round shoulders or round back possesses the antero-posterior curvature, but the deformity is a curve, not an angle, whereas in tuberculosis of this region (the upper dorsal) the deformity is always angular from the start. In round shoulders muscular spasm is absent also.

Rachitic curvature will be accompanied by the other signs of rachitis and not by muscular spasm, and will affect the entire spine with a long, gradual convexity.

Ordinary wry neck can be recognized by its acute onset, its rheumatic or tonsillar history, and by its tendency to affect a single muscle, especially the sterno-mastoid. Caries affects all the muscles in the vicinity of the disease. In a few cases the subsequent course alone will make a positive diagnosis possible.

3. **The Upper Extremity.**—The elbow. The diagnosis here is usually simple. Muscular spasm and limitation of motion are early symptoms, and atrophy of the arm and forearm is present. The joint is swollen and is held in semi-flexion and semi-pronation. Rheumatism is differentiated by its acute onset and its tendency to affect several joints.

What has been said of the elbow applies to the wrist, except that in disease of the wrist the hand has no characteristic posture, and the atrophy of the arm would be slight.

In disease of the shoulder joint the usual symptoms of tuberculous disease are present. One disease resembles it, the so-called rheumatoid arthritis, but this is essentially a disease of later life, and is apt to be accompanied by a grating in the joint.

In conclusion, let it be said that, after thorough examination of the case, if any doubt remains rest and a liniment should be prescribed, a positive diagnosis should be withheld, and the case kept under observation for two or three weeks. A diagnosis of "growing pains" may be disastrous, and nothing is lost by a short delay if the child is kept quiet.

## THE EFFECT OF CERTAIN OCCUPATIONS ON THE PHARYNX.

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THE deleterious effect supposedly exerted on the mucous membrane of the upper respiratory tract by the occupation of the individual is well exemplified by the granular pharyngitis and congested larynx of public speakers. Not only do these suffer from catarrhal affections of the mucous membrane, but, as we shall see later on, the various forms of acute and chronic inflammation of the pharynx can be directly traced to the occupation in many instances. As certain trades cause or predispose to catarrhal inflammations of the mucosa of the entire respiratory tract, we must study not only the pharynx, but also the nasal tissues; but it is here desired to lay special stress on the changes observed in the pharynx in the series of fifty cases forming the basis of this paper. The following case will illustrate the so-called occupation pharyngitis:

Mrs. G. K——, aged thirty-two years, at present a laundress by occupation. She had always been in good health and had no trouble with her nose or throat, until four years ago, when, on account of reduced circumstances, she sought employment as a "bleacher" in a laundry. Within three or four months her general health began to fail and she was troubled with frequent attacks of sore throat. During the periods in which her throat was not actually inflamed there were constant expectoration and post-nasal dropping. Examination of the pharynx showed the mucosa to be relaxed and congested, with superadded inflammation, while the nasal tissues were markedly congested and there was considerable stenosis from the turbinal swelling. The usual treatment proved of little value until she changed her occupation, when the affection no longer caused any annoyance.

Considerable variance exists among physicians as to the effect of heat, cold, and humidity upon the pharyngeal mucosa, and further scientific experimentation is needed before a definite answer to this question can be elucidated. Gradual changes of temperature, extending over the thermometric scale from freezing-point to 96° F., have practically no deleterious influence on the pharynx, provided respiration be nasal in character. The cavernous tissue of the nares adjusting itself to the altered thermometric conditions and from the increased blood supply to this region, additional heat is provided to warm the low temperature air, so that when it reaches the pharynx no chilling or irritating effects are appreciable; the contrary taking place when the temperature reaches the higher portion of the scale. Excessive heat, however, apparently produces morbid changes in the lymphoid tissues of the pharynx, but this, as shown by the dry throat of those remaining for prolonged periods in overheated rooms, depends not entirely on the degree of temperature, but to a great extent on the presence of dust, irritating particles, and the dryness of the atmosphere. Excessive cold, by chilling the surface of the body, may produce increased activity of the pharyngeal mucous membrane, even going on to acute inflammation, and if the individual be exposed for variable periods of time, chronic changes ultimately take place from repeated acute attacks of angina.

Of far more importance than continued heat or cold to the welfare of the mucous membrane is sudden change in temperature; on a large scale this is well shown in countries where temperature extremes are prevalent, especially in the eastern portion of this country. As a general rule it may be said that where temperature changes are marked, catarrhal conditions are prevalent; this applies also to certain occupations; the worker in cold-storage warehouses, coming from a room of very low temperature out into the hot air of midsummer, is a frequent sufferer from pharyngeal affections. The degree of humidity is also a factor of vast importance, and sudden changes in the amount of atmospheric moisture are productive of a greater proportion of cases of pharyngitis than is either heat or cold. In this connection must also be taken into consideration the presence of fine dust or irritating particles in the respired air. These deleterious substances may be either chemical, as in dyeing yarns, etc., or bacterial, as in the air of the overcrowded and poorly ventilated sweat-shop.

The constant inhalation of smoke is a frequent cause of "industrial" pharyngitis, as is also the breathing of acid fumes, as exemplified in the following case:

J. R——, male, aged thirty-nine years, tinsmith by trade. He had no previous trouble with his throat until about one year ago, when he commenced to work at soldering sheets of metal. A mixture of several acids was used in this process, and the fumes arising when heat was applied were a source of constant irritation. On examination, the pharynx was seen to be moderately sclerosed, with the presence of superadded inflammation. The patient stated that his throat had been constantly sore since he assumed this occupation and was getting worse; it was also more painful at night, after he had been at work all day, than in the morning. As in the preceding case little result was obtained from the treatment until he ceased work for two weeks, when the acute inflammation disappeared and he had no trouble until he again returned to work, when the throat symptoms speedily returned.

The question at this point naturally arises as to why certain occupations cause or predispose to pharyngeal affections. The solution of the query is most complex, and to obtain a fairly accurate answer would require extended study of series of cases occurring in persons engaged in various pursuits. In the case just cited the etiological factor is readily appreciable, and so it is in many similar instances, but in the weaver and allied trades numerous factors in the etiological complex must be taken into consideration in addition to those already mentioned, the principal factors that influence the individual case being the age, both as related to the appearance of the pharyngeal trouble

and the period at which the individual first entered his occupation; environment, both at home and in the factory; while the existence of nasal or general affections detrimental to the well-being of the worker must also be considered.

Of the fifty cases studied, twenty-nine were male and twenty-one female. The sexes therefore were about equally involved and apparently bore no relation to the subject. The cases were not selected, but tabulated as they were seen in consecutive order, and the following points were obtained by subjective and objective examination from each: sex, age, occupation, effect of occupation on the pharynx, presence of noticeable throat "catarrh" before assuming present occupation, and the variety of pharyngitis present. The youngest patient was thirteen years old, while the oldest was seventy; there were nineteen under twenty years of age and thirty-one who had passed this period. It was found that the age of the patient in itself bore no relation to the development of catarrhal affections of the pharyngeal mucosa, but of considerable interest was the fact strongly made evident, that the large majority of the patients stated that the daily labor at the loom or similar trade was vastly more detrimental to those under twenty years of age than to those who assumed such occupations for the first time when older in years. In other words, all things being equal, the younger the mill worker the more rapidly would pharyngeal disorders appear; or, provided the individual already had pharyngitis, it would become worse in the youth at a much earlier period than it would in the adult.

As the cases were not selected, there were of necessity members of various trades, which at first appearance, from the limited number of cases, would apparently vitiate any conclusions that might be made; but this was found not to be the case, as the elementary etiological factors were so marked that the distinct occupations could readily be placed under separate groupings and would indicate that but a few definite factors are instrumental in the production of morbid changes of this portion of the respiratory mucosa, as we shall see later on. Of the separate occupations there were weavers or assistants 29, tinsmith 1, hat manufacturers 11, tailor 1, baker 1, dyers 3, fireman 1, carpenter 1, dressmaker 1, and laundress 1, making a total of 50 cases. As the hygienic surroundings and atmospheric conditions of a number of these occupations were practically identical, they can readily be grouped under two headings: first, occupations characterized principally by temperature elevation and the presence of an excessive amount of fibres and dust in the atmosphere, as in the weavers, a portion of the hat manufacturers, tailor, baker, fireman, carpenter, and dressmaker, or thirty-nine of the total number of cases; secondly, those in which the occupation was characterized by the presence of an excessive amount of deleterious chemical agents (acid fumes) in the respired air; this class was composed of eleven patients as follows: hatters, tinsmith, laundress, and dyers.

The relation borne by the distinctive occupation as a causative factor in the production of the morbid changes of the pharynx could be solved only by the history of the patient, and especially by obtaining relief from the throat symptoms by leaving the trade supposedly acting as a cause. This latter, however, is practically impossible, and we must depend upon the statements of the patient in answer to this question. In every case the individual claimed that the throat trouble resulted from the occupation, and in the majority this can be assumed to be true, as this class rarely change their occupation; and further evidence of considerable weight on this point is, that when the mills are shut down for several weeks at a time, and the worker leads more or less outdoor life during this non-working period, the pharyngeal symptoms respond much more rapidly to treatment, and often when no medication is used whatsoever the attention of the individual is attracted to the improved condition of the throat. This, however, rapidly returns to its former condition within a few weeks after resumption of work.

Dependent also upon the history as related by the patient is the answer made to the question as to the presence of noticeable throat symptoms indicative of the various forms of catarrhal affections before the individual assumed the occupation directly relating to the present study, in all the cases under twenty years of age; and this arbitrary age period was selected for the reason that no previous throat symptoms had been experienced except those resulting from occasional attacks of coryza, such as is common to all individuals irrespective of occupation. The answers obtained from the patients over this age, and they were in the majority, showed that the greater part had no pharyngeal disorders previously, while a small number were troubled with previous pharyngitis, but it became markedly aggravated while at their occupation. Examination of the pharynx revealed three so-called forms of pharyngitis to be present: in thirteen there was inflammation, without other pathological changes; in fourteen the mucous membrane was sclerosed, while in the remaining twenty-three there was atrophy of both the mucosa proper and the glandular structures.

Without burdening this paper with further details, it was ascertained from the nature of the occupation, and especially the duration of time the individual had worked at the same trade, that the pathological alterations were, with but few exceptions, directly dependent upon the nature and amount of foreign material in the respired air of the workroom. In the thirteen cases of what we may speak of paradoxically as acute inflammation of long duration the patients breathed an atmosphere more or less constantly surcharged with chemical vapors, during a considerable portion of the day. This class comprised a laundress, whose occupation consisted in bleaching soiled clothing, with a chemical compound of unknown formula; in six cases (hat manufacturers) the workers were constantly associated with various chemicals and especially mercury, used in preparing furs for felt hats; two mill hands were engaged in bleaching, three in dyeing yarns, and one tinsmith, whose case has been given above as an illustration *in extenso*.

Chronic follicular pharyngitis, granular sore throat, or, as it is more frequently called, sclerotic pharyngitis, was represented by one dressmaker, ten weavers, one fireman, and two felt-hat finishers, a total of fourteen cases; all of whose occupations were similar, inasmuch as the pharynx was subjected to constant irritation by minute particles of cloth, ashes, etc., in the respired atmosphere. The presence of atrophic changes of the pharyngeal tissues resulted from long-continued occupation in an atmosphere containing practically the same deleterious substances as that breathed in the sclerotic cases. Of these there were three hatters, seventeen weavers, one carpenter, one baker, and one tailor.

The symptoms of the various morbid changes in the pharynx were the same as those commonly observed irrespective of occupation, and need no further mention here. All cases under the respective groups of sclerosis and atrophy were, of course, not pure cases of these pathological changes. Frequently sclerosis and atrophy were present at the same time, but, depending upon the duration of the throat affection, one was more marked than the other, and was accordingly classified from a point of the greatest pathological alteration predominating. It was also evident that sclerosis and atrophy of the pharyngeal and adjacent portions of the upper respiratory tract were simply

changes in the same chain of events, the smooth, glazed surface, to which dry mucus adhered in small amounts, being the last stage of the morbid process, while subacute congestion and the various grades of sclerosis represented earlier stages of the same affection.

Two factors not as yet considered must here be mentioned, the first being the influence exerted on chronic processes by repeated attacks of acute pharyngeal inflammation, and the second being the intimate relationship existing between the nasal chambers and pharynx, both in health and disease. As is well known, repeated attacks of congestion, at frequent intervals, ultimately lead to chronic changes in the tissues so subjected. This is essentially so of the parts under discussion, and must be given a place, although secondary, when balancing the etiological factors in the class of cases with which we are here concerned. Intimately connected with this factor is the relation existing between the nasal cavities and the pharynx. It is unnecessary to enter fully into the physiology of the turbinal tissue; suffice it to say that, unless the nasal chambers are approximately normal in function, the other portions of the respiratory tract, and especially the pharynx, must invariably participate in the morbid process, and as a result, in the majority of occupations here named and the environment of the people so employed, both nasal and pharyngeal tissues must suffer. In the worker at the loom or allied trades, turbinal swelling and nasal obstruction are of most frequent occurrence, both as a result of the irritating particles in the respired air and from temperature changes, so that mouth-breathing with all its disastrous pharyngeal and other consequences follows as a matter of course. This is well shown even in the ordinary furnace-heated dwelling-house, the extreme dryness of the air causing irritation and swelling of the erectile tissues with occlusion of the nares. Mouth breathing, as before remarked, then ensues, and, as a result of the mucus drying and closely adhering to the pharyngeal walls, normal secretion is perverted or markedly diminished, and atrophic changes supervene. At first the nasal obstruction is but temporary, but as a result of the uncomfortable sensation caused by the adhering pharyngeal mucus, mouth breathing is still further indulged in, even when the nares are free.

As the ultimate object of all such studies is the prophylaxis and treatment of these morbid conditions, a few words on this aspect will not be out of place. Treatment may be dismissed from any further consideration, as it bears no relation to the occupation as a factor, and the therapeutic means used will depend upon the choice of the laryngologist.

Prophylactic measures here, as elsewhere, are very important, and much has already been done toward elevating the hygienic standard of the mill worker, by improving his daily surroundings in the way of better ventilation, the elimination or reduction of the excessive dust in the respired air, and increasing the age limit at which the youth is permitted to enter these occupations. As regards the prevention of catarrhal affections of the upper respiratory tract, daily washing with an inexpensive alkaline antiseptic solution will be of much value; this should be done morning and evening, and during the working hours a few drops of any of the refined petrolatum oils should be placed in each nostril. This procedure has been followed out in a number of cases among weavers, etc., and most gratifying results have been obtained.

From the small number of cases here presented, no specific conclusions as applied to occupation can be drawn, but the following suggestions are equally true in a larger sense, as indicating broader lines than the number of cases here studied warrants. We may suggest then that—

1. The pharyngeal mucosa of the mill hand under twenty years of age is more susceptible to unfavorable influences than is that of the individual over this age.

2. The inhalation of dust, fibres, and chemical agents are the factors of most importance.

3. The majority of industrial workers are affected with pharyngeal disorders, dependent to a certain extent upon their occupation.

4. In those already affected with pharyngitis before assuming these occupations, the morbid changes are augmented by the work.

5. The primary pharyngeal changes are those of acute congestion and inflammation. Chronic changes are the ultimate result.

6. The pharyngitis produced in part or whole by the occupation does not differ in any respect from the ordinary forms.

7. Provided the nasal chambers be in approximately normal condition, pharyngeal affections are much less liable to occur than otherwise.

8. Hygienic measures applied to the environment of the worker are of vast benefit as regards the improvement of his general condition and therefore of the upper respiratory tract.

9. That local care, as has been outlined, will be productive of much good.

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## Progress of Medical Science.

**Diphtheria Poison as It Affects the Heart.**—After a series of experiments on animals Dr. Rolly (*Arch. fur Path. und Pharmak.*, Bd. xlii., 1899) finds that the fall in blood pressure is due to paralysis of the vasomotor centre, and to paralysis of the heart. The action on the heart is direct and independent of the nervous system in warm-blooded animals. There is a more or less distinct period of latency before paralysis occurs. Thus when the poison is injected directly, or when lethal blood is transfused, the action upon the isolated normal heart of a rabbit takes place only after a latent period. If the heart is washed out with normal blood before the symptoms appear, or at the onset of toxic effect, the poisonous action asserts itself just the same. This leads to the opinion that the poison attacks the heart, and appears to be stored up in the heart muscle until its complete action is manifest.

**General Paralysis and Syphilis.**—While it has long been considered that syphilis was responsible for most instances of general paralysis of the insane, few have believed that it was invariably so. In two recent discussions at the British Medical Association and in the Medico-Psychological Association, Dr. Campbell and Dr. Mott arrived at practically the same conclusions, viz., that syphilis is not an indispensable factor. The arguments for relationship as given in the *Medical Times and Hospital Gazette*, October 7th, are: (*a*) that a history of syphilis is obtainable in a large number of the cases—varying from twenty-four per cent. to eighty-six per cent. with different observers; (*b*) that general paralysis is most common in towns where immorality and syphilis are most rife; (*c*) that general paralysis is practically unknown in those parts of the world where syphilis is practically unknown.; (*d*) that most cases of juvenile general paralysis possess syphilitic stigmata (Hutchinsonian teeth, etc.); (*e*) that no case is on record of a general paralytic developing syphilis; (*f*) that a large proportion of general paralytics have spots (revealed post mortem) of syphilitic endarteritis in their cerebral arteries; (*g*) that inactivity of the pupil to light—a symptom which occurs

in about seventy-five per cent. of general paralytics—is now regarded by most neurologists as a sign of past syphilis. The arguments against the relationship are: (*a*) that general paralysis does not respond to mercury and potassium iodide; (*b*) that thorough antisyphilitic treatment at the time of syphilitic infection does not avert general paralysis; (*c*) that general paralysis is an unknown disease among certain well-syphilized races.

**A Case of Severe Crushing of the Abdomen.**—Bardenheuer recalls, in the *Wiener medizinische Blätter* of October 5, 1899, the case of a young man who had been run over. The patient showed all signs of severe shock, and, as his condition was becoming worse, the abdomen was opened and much fluid blood removed. At the same time it was discovered that the posterior parietal layer of the peritoneum on the right side was distended by a collection of pus till it appeared like a cyst. No bleeding point in the abdomen being found, the blood could have entered the abdominal cavity only from a lesion in the peritoneum. Bardenheuer exposed the kidney and discovered a large tear in its upper pole. The kidney was removed as well as the retroperitoneal blood mass. During this procedure, he discovered a tear in the posterior parietal layer of the peritoneum and a star-shaped lesion in the posterior lobe of the liver. The hemorrhage still continuing, Bardenheuer drew out the liver, the organ being deeply lacerated. He applied pressure, and used the Paquelin. The wound was packed with iodoform gauze, and the patient made a good recovery.

**A Case of Gun-shot Wound of the Heart.**—In the *Wiener medizinische Blätter* for October 5, 1899, Bardenheuer reports a case in which the patient was shot through the heart. On account of the acute traumatic anæmia following, Bardenheuer resected the fifth and sixth ribs, from the apex of the heart to the breast bone, and laid bare the pericardium, by which he exposed the opening in the anterior wall of the sac. By means of a clamp which closed the wound, he thought he had stopped the bleeding, thinking he had to deal with one of the rare cases of isolated lesion of the pericardium with profuse hemorrhage. He removed at least two litres of blood from the left pleural cavity. Since the pericardium was closely attached to the heart, and as no more blood collected in the pleural cavity, Bardenheuer believed that the hemorrhage had ceased. He therefore packed the wound. The patient died half an hour later. The necropsy revealed an unsuspected opening in the posterior wall of the pericardium, as well as in the wall of the left ventricle, although the cavity itself had not been entered.

**Treatment of Congenital Stenosis of the Pylorus.**—Dr. Rudolf Neurath, in discussing in the *Centralblatt für Schweizer Aerzte* of October 1, 1899, the treatment of congenital stenosis of the pylorus, says that its prognosis is fairly good. Although the quality of food is not of great importance, nor even a change in diet, nevertheless a methodical diminution of the quantity is often attended by good results, as has been seen in the cases of Hirschsprung, Finkelstein, and Senator. As to medicinal measures, different physicians have made use of Carlsbad salts, belladonna, calomel, and resorcin. Bendix advises clysmata, suppositories, high injections, and massage, for the alleviation of constipation. For vomiting, he washes out the stomach, while for the painful contractions of the stomach he uses poultices and small doses of opium. He also recommends that nourishment shall be given at short intervals. Schwyzer first suggested operative treatment and considered it the only possible method, advising either Loreta's operation or a simple gastro-enterostomy. Meltzer first attempted the surgical treatment, performing a gastro-enterostomy, which was followed by death in thirty hours. Stern in one case performed gastro-enterostomy, which was interrupted by two unfortunate accidents—collapse during narcosis, and almost complete eventration while the operation was continued without narcosis. Six hours after the operation a spontaneous movement of the bowels occurred, but death followed soon after. In spite of this, Stern advises operation for all cases of absolute stenosis of the pylorus which present the symptom complex of absolute obstruction of the bowels. Pfaundeler is much opposed to the surgical treatment of stenosis of the pylorus, and believes in the local application of narcotics, anodynes, warm poultices, protracted baths, and systematic stomach-washings—the last on account of their soothing influence on the stomach wall. The diagnosis of stenosis of the pylorus in later life is far more difficult than in early years. Indeed, a differential diagnosis is scarcely possible, nor is it of great value. The work of Carle and Fantino (*Centralblatt*, i., p. 239) should be recalled. The authors give proof for the hypothesis which holds hyperacidity responsible for spasm of the pylorus, namely, in the closure of the pylorus during the production of hydrochloric acid. Although in the greatest number of cases the spasm is primary, it is undoubtedly increased by hyperacidity. In these cases, of course, operative treatment is not to be considered.

**The Use of Boric Acid and Formalin as Preservatives of Milk.**—As the result of an investigation undertaken for the purpose of determining the harmfulness of boric aid and formalin when used as preservatives of milk, Annett (*Lancet*, November 11, 1899, p. 1282) has found that these chemicals, when so used, are injurious to the health of the consumer, and particularly so to that of young infants. Further, it is easy to conceive that the great mortality rate among infants from diarrhœa in many large towns may be closely connected with the practice, especially during the summer months, of systematically "doctoring" milk by means of the preservatives used by milk purveyors, dairymen, and milkmen.

**Dieting in Pregnancy.**—In contracted pelvis and other conditions in which it is desired to keep down the size of the fœtus, Dr. Bedford Fenwick (*Medical Times and Hospital Gazette*, September 16th) advocates rigid dieting with restriction of starches, sugars, and fluids. The following is an example of the dietary followed: For breakfast, a small cup of tea or coffee, an egg, and two slices of toast. For lunch, any kind of meat, game, or fish, green vegetables, one slice of toast or a dry biscuit, cheese, one wineglassful of wine, milk, or any other fluid, excepting malt liquors. At afternoon tea, a small cupful of tea or coffee, with one slice of bread and butter, or cake. For dinner, the same as for luncheon.

**Anterior Transplantation of the Round Ligaments for Displacements of the Uterus.**—Ferguson (*Journal of the American Medical Association*, November 18, 1899, p. 1275) describes as follows the successive steps in an operation for the correction of uterine displacement: A skin incision, three inches long, is made in the median line, beginning one and a half inches from the symphysis pubis. The linea alba and the anterior sheath of the recti muscles are exposed, and an incision is made on either side through the anterior sheath of the recti. The rectus muscle is retracted outward, and an incision is made into the peritoneal cavity directly behind it through the transversalis fascia and the peritoneum. The round ligament

and a portion of the broad ligament are seized with forceps one inch from their origin, the round ligament and the broad ligament external to the forceps being tied and divided between. The tied distal end of the round ligament is dropped into the peritoneal cavity, and the proximal end is lifted well out of the wound into the peritoneum. The round ligament and its accompanying portion of the broad ligament are attached to the wound in the transversalis fascia and peritoneum. The fibres of the rectus muscle are replaced and the wound is closed in its anterior sheath, with a continuous catgut suture which grasps the cut end of the round ligament. The opposite side is then treated in the same manner. Then the skin incision is closed.

**An Experimental Study of Aspirin.**—This new salicylic-acid preparation, or rather product of a combination of acetic acid with salicylic acid, has been experimentally studied by Floeckinger (*The Medical News*, November 18th). The lethal dose of this acetylsalicylic acid was found to be in guinea-pigs 1.5 gm. per kilo weight. It is given in dose of gr. xv. in alcoholic solution.

**The Nature of Exophthalmic Goitre.**—Robinson, in his study upon the Graves-Basedow disease as a manifestation of hysteria and not purely a neurosis as taught by the followers of Charcot, concludes: Exophthalmic goitre should be ranked as a manifestation of hysteria. The neurosis originates over-active function of the thyroid gland, leading to histological changes. This is indicated by the establishment of thyroid intoxication. The hysteria followed by this intoxication explains all the symptoms, although in some cases the intoxication fails to appear. The treatment should not be surgical in nature, unless a determining cause, such as a fibroma uteri, salpingitis, or other similar pathological lesion, is present.

**Upward Dilatation of the Stomach.**—At a meeting of the Clinical Society of London, Ewart (*Lancet*, November 4, 1899, p. 1233) exhibited two patients presenting upward dilatation of the stomach. The symptoms complained of were an ill-defined feeling of malaise, together with embarrassment of the heart's action and of respiration. The first patient had suffered from so much discomfort for two and a half years that he was unable to earn his livelihood. The condition had begun suddenly after a prolonged bicycle ride with consequent exhaustion. The second patient also was unable to work, but in him much exertion brought on severe anginoid seizures. In this case the dilatation of the stomach was probably due to unmasticated food, for the teeth were bad. In both cases the precordial region was encroached upon by the gastric resonance, which, in the first case, rose as high as the left nipple. Both patients had improved under respiratory exercises—a line of treatment that was directed to strengthening the diaphragm and the abdominal muscles—and the wearing of an abdominal belt.

**Bacteriuria.**—Dr. August Predöhl (*Münchener medicinische Wochenschrift*, November 7th) says that this condition is more common than is generally supposed. Cases may be divided into acute, subacute, and chronic, or again into very severe, severe, and mild. This classification does not, however, comprise and cover all instances, even though the most severe of the cases was an acute one, the next severe case a subacute, while the cases becoming chronic were for the most part mild. All the patients were women, and it may be reiterated that this condition is frequently observed in the female sex. The onset of the disease is in some instances always about the same, in others quite varied. Common to all is the beginning with burning pain upon urination, which occurs only or mostly upon evacuation of the last few drops; this may reach a point of tenesmus, with dropping of urine and increased desire of urination even to incontinence. Varied were the bladder pains, pains in the region of one or both kidneys, which were designated as backache by the patients, but which upon close questioning and examination could be localized to the renal region. This condition suddenly attacks individuals whose previous health has been good and occurs without any definite etiological basis. Exposure to cold, long retention of urine, and habitual constipation play some part. The urine is always cloudy, does not clear up when heated, contains no albumin, is acid in reaction, and shows nothing definite with the ordinary chemical examinations. The urine looks like a weak soap water; indeed, it may be compared to a hazy bouillon culture. In some instances it has a very pronounced and disagreeable smell; most generally, however, there is no bad odor. In some cases the patients seek medical aid only on account of the bad-smelling urine. If this urine is centrifuged or left to sediment, the deposit is found to be made up of micro-organisms, which prove to be the bacterium coli in all instances. Pure cultures were also grown from the sediment. Microscopical examination of the urine shows only epithelia in addition to the above; in other words, the absence of any bladder or kidney disease. In some cases this condition is followed by disease of these organs or the abdominal viscera. Many instances are looked upon as a mild cystitis and intestinal colic. The patients are generally slender, pale, moderately nourished individuals who do not feel sick; in some cases, at the time of the attack, the patients feel very sick. The term bacteriuria is used only for such cases in which, in healthy individuals without any clinical evidence of inflammatory processes in the genito-urinary tract, and without definite cause, micro-organisms are found in the freshly evacuated urine and give rise to symptoms of disease. This, therefore, does not include those instances in which bacteriuria is secondary, that is, those in which an inflammatory or diseased area previously existed, thus enabling the bacilli coli to gain entrance into the urine. On the other hand, bacteriuria includes such cases in which, as the result of the condition, cystitis, pyelitis, nephritis, or disease of the genitals occurs. Bacteriuria pure and simple often disappears without any treatment; treatment is purely symptomatic. Salol has given the best results. Analgesics have no effect; iron is very useful. Warm baths are indicated; opiates are sometimes absolutely necessary. In some cases an ice-bag over the bladder region gives excellent results. The bowels must be freely evacuated. There is no specific drug for this condition. Letzerich recommends benzoate of sodium. The prognosis is always doubtful. While in some instances bacteriuria appears to be harmless, still it is always very difficult to get rid of and render the urine absolutely free from bacteria. The disease, therefore, is always to be looked upon as serious.

**Indication for Surgical Operations.**—Dr. R. Gersung (*Wiener medizinische Blätter*, October 26th) says that diagnosis is the most important basis of our therapy, which after all is the main aim of the physician. In surgical operations we must consider the prognosis with and without operation; furthermore, the prognosis of the operation itself. For the prognosis in purely expective treatment we can fall back on long years of experience, whereas the operative therapy has undergone numerous changes in a relatively short period of time. Thus, for example, the operation of ovariotomy was formerly considered fatal, and the only intervention permissible in ovarian cysts was puncture; later

ovarial operations became more frequent as soon as it was learned that many tumors which were benign at the beginning became malignant. The same condition is seen in carcinoma, which, whenever possible, is to-day radically operated upon. Often the operation must be undertaken without a previous positive diagnosis (exploratory incision and operation); in these instances symptoms compelling an operation arise, *e.g.*, intestinal obstruction. Formerly the intestinal puncture was performed as a palliative measure; nowadays enterostomy is performed upon the same basis, *e.g.*, in inoperable intestinal carcinoma or when a major operation cannot be withstood. In the indications for operative intervention in ileus the surgeons have gained much; while in former times they received only such cases as were beyond the control of medication, to-day operative therapy holds first place. In the indications for perityphlitis, three groups must be differentiated: the acute attack, the recurrent, and the chronic catarrhal form. In the first, operation is indicated; the difficulty, however, is to recognize these cases and to operate at the proper time. The indications for operation are: continuous fever for four or five days, the presence of an abscess, duration of the attack for more than twelve days. In recurrent perityphlitis the operation has for its object the prevention of future attacks. In the chronic catarrhal form the object of the operation is to render the patient capable of performing his labors and enjoying life. In prophylactic operations, the chances of the occurrence of a dangerous complication must be weighed against the danger of the operation, *e.g.*, in a non-incarcerated hernia for which relief is sought. Among contraindications a chronic cough may be mentioned. The term radical operation is at present not a very precise one. There are radical operations in which all of the diseased area is not removed, *e.g.*, in tuberculosis. Palliative operations are performed for inoperable intestinal carcinomata (enterostomy), ulcerated mammary carcinomata, furthermore for the patient's peace of mind and to give him the hope of a cure. Suggestive operations are of little value, their effects proving illusionary later on. As regards contraindication to operation, the times have changed. To-day we operate in diabetes and pregnancy, and even give anæsthesia in uncompensated cardiac lesions; in the latter cases the danger lies not in the valvular lesion, but in the degeneration of the heart muscle. In deciding whether to operate or not, the personnel of the surgeon plays an important rôle.

**Subclavian Arterial and Venous Murmurs.**—Dr. Albert Abrams (*Medical and Surgical Monitor*, October 15th) concludes as follows: (1) The subclavian arterial murmur is an independent (autochthonous) and rarely a transmitted murmur. (2) Its point of maximum intensity is the fossa of Mohrenheim, with feeble tendency to propagation. (3) It is heard most often on the left side, less frequently on both sides, and least frequently on the right side. In order of frequency it is heard at the height of inspiration, at the end of expiration, and after momentary suspension of respiration. (4) It is usually a succession of murmurs uniform in character and intensified by certain manœuvres, notably deep inspiration, forced expiration, suspension of respiration, and voluntary stretching of the neck. (5) One of its chief characteristics is its momentary duration, disappearing usually after a few deep inspirations. (6) Its dependence on the phases of respiration distinguishes it from all transmitted murmurs. (7) It may be present at one and absent at a subsequent examination, and neither its character nor its duration is ever uniform from one examination to another. (8) The position of the patient may influence its genesis, but this is never sufficiently uniform to be of practical value. (9) A phthisical lung is not specially propitious to its occurrence, as it is found nearly as often in healthy as in phthisical persons. (10) It was present in thirty-six per cent. of all healthy persons examined, advantage being taken in this enumeration of re-examinations and those propitious factors which determine its occurrence, viz., respiration and decubitus. (11) The venous subclavian murmur was heard only in six individuals with a preponderance of its occurrence on the right side. (12) The arterial subclavian murmur could be artificially induced on the left side in nearly eighty per cent. of all individuals examined, and on the right side in about sixty-five per cent. of the cases, by a simple manœuvre, viz., raising the arm gradually until it assumes a vertical position, while auscultating the Mohrenheim fossa during the time that the arm is brought to the latter position, the murmur suddenly appearing at some time during the execution of the movement. (13) By the foregoing manœuvre the subclavian venous murmur could be induced on the right side in forty-three per cent. of all persons examined.

**Pathology of Beri-Beri in Infants.**—Miura, of Tokio (*Virchow's Archiv*, 155, p. 316, 1899), although formerly opposing the view that infants could be affected with beri-beri, now adopts the positive side and reports some pathological finding from cases occurring in infants and nurslings. Autopsy findings of four cases showed marked changes in the walls of the heart, there being an hypertrophy of the right ventricle whereby the thickness of the walls became as pronounced as that of the left ventricle. This marked hypertrophy was associated with extreme dilatation. There was in addition an atrophy of the lower extremities associated with widespread anasarca. The clinical histories are not given in detail.

**The Phenylhydrazin Test for the Presence of Sugar in the Urine.**—As the result of an investigation into the utility of the phenylhydrazin test for detecting the presence of sugar in the urine, Coriat (*Boston Medical and Surgical Journal*, November 23, 1899, p. 518) concludes that phenylhydrazin forms with the reducing sugars crystalline chemical compounds, each having an individual and definite morphology. In performing the test albumin need not be removed. It is possible to recognize any of the sugars by their crystalline forms alone with recourse to their melting-points. Substances that interfere with Fehling's or Nylander's reagents do not interfere with this test or form anything that would in any way be misleading. The test is an extremely delicate one, and of undoubted accuracy.

**Mastoid Operation.**—Dr. S. G. Dabney (*Medical Age*, October 10th) concludes: 1. In all operations scrupulous attention must be paid to surgical cleanliness, as the unexpected may happen and some meningeal exposure be found. 2. In periosteal inflammations an incision should be made over the mastoid down to the bone and the bony surface carefully examined. 3. When the mastoid antrum is to be opened, the opening should be just behind the external meatus and just below its superior border. 4. Chisels and mallet are the best instruments for opening the mastoid, followed by curette, sharp spoon, and rongeur forceps. 5. It is best to establish drainage through the mastoid antrum into the tympanum. 6. It is of great importance to examine the process in the direction of its tip, and if need be to open it up thoroughly. 7. The upper part of the wound may be closed with a few stitches; iodoform gauze should be packed into the lower part and well into the bony cavity. The subsequent dressings and irrigation may be determined by the absence of fever and other septic symptoms.

# MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

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PUBLISHERS

WM. WOOD & CO., 51 Fifth Avenue.

New York, December 16, 1899.


## RACIAL DETERIORATION.

PERHAPS on this subject more ink has been spilt than on any other of the burning sociological questions which our modern civilization has brought into prominence. The exodus of the population from the country to the towns is continuous and increasing yearly. This being so, it follows as a matter of course that the human race will to some extent lose those physical characteristics which distinguish the dwellers in the pure atmosphere of the country, and who still further harden their constitutions by manual labor in the outside air. In fact, the question as to what effectual means can be taken to render the life of the inhabitant of a large city more healthy, and to propagate a race better fitted to cope with the strain of modern existence, is one the importance of which looms up with growing significance day by day. That town life, and especially as spent by the working and poorer classes, is incompatible with good health is too notorious to need emphasis. But several facts that have been brought to the notice of the public recently have again engaged the attention of social reformers and further clinched the argument that the matter should be squarely faced and immediate steps taken to ameliorate the condition of that portion of the population which Mr. Stead has aptly termed "the submerged tenth."

It will doubtless be recollected by our readers that at the time of the outbreak of our war with Spain, and when patriotic citizens were rushing to enlist, a large proportion of these were disqualified by the examining physicians as physically unfit. The same thing is now occurring in Great Britain, and within recent years in that country the standard of would-be army recruits has had to be considerably lowered.

The measures suggested to counteract this evident evil have been various. Among other Utopian and impossible remedies advanced by sociologists is that a large part of the poverty-stricken population of cities should be induced to revert to country life. This plan, however plausible it may look in print, will be found to present insurmountable difficulties and may be dismissed as illusory. What is really required is that the large centres of population should be placed in a satisfactory sanitary condition, and that the homes of the toilers should be made commodious and hygienic. The ill-ventilated rookeries that disgrace towns in all parts of the world should be swept away, and in their stead houses in which human beings can live and breathe, not merely exist, should be erected.

There is unfortunately, however, another and more hopeless class than the workers who must be considered. These are the so-called degenerates. This species may be said to swarm in all large towns. Mr. Arnold White contributed an article to the October number of the *National Review*, entitled the "Cult of Infirmity," in which he inveighed against the lax and ineffective methods of dealing with this description of individual. He said: "Of the London and New York unemployed, at least two out of every five are not only unemployable, but unworthy of help," and further suggested the following drastic means of ridding the community of these pests: "Extirpate them by immuring them for life, not because they are wicked, but because their stock is corrupt." Mr. White declares that the majority of these degenerates are brought to the pass in which they find themselves by their own vicious faults, and quotes the late Sir Andrew Clark as stating that seventy per cent. of the patients under treatment in the London Hospital, Whitechapel, owed their ill health to preventable causes. The article in the *National Review* reviews the situation in these outspoken words: "In our great cities no social stigma attaches to preventable ill health. Parental neglect, premature and reckless marriage, leading to the multiplication of tainted brains and rickety frames, are matters of no importance to practical politicians. Christian charity is invoked to canonize weakness, while preventable weakness is honored under the sacred principle of individual freedom. No law prevents the union of a consumptive swain with his strumous sweetheart; no restriction interferes with the colonization of our towns by diseased aliens; neither Church nor State debars penniless and undersized striplings from undertaking parental responsibilities."

Every word of this statement is true, but, looking at the matter from the standpoint of sound common sense, an absolute cure for the existing state of affairs does not seem to come within the sphere of practical social reform. The evil may be scotched, but not altogether killed, and we shall doubtless have our degenerates and diseased with us so long as the world lasts. In the first place, we take it, something should be done for the deserving poor, and after that scheme has been brought to a more or less successful issue, we might turn our attention to the degenerates. However, this much may be said, that to the person who succeeds in even a slight degree in bettering the condition of our working classes and pauper population is due a greater triumph than is accorded to a victorious general or admiral. Probably the only true and effectual remedy lies in the education of the masses.

**Importing a German Custom.**—Dr. William H. Welch of Baltimore has been teaching in medical schools for twenty-five years, and his former pupils are going to write a book in his honor.

## SURGICAL TREATMENT OF DUODENAL PERFORATION.

Ulceration of the duodenum is dependent upon much the same causes as the similar lesion of the stomach, including vascular, hæmic, circulatory, and secretory alterations, and neurotic states, although burns of the surface of the body are believed to be especially provocative of duodenal ulcer. The lesion may be present in both or in several situations simultaneously, although usually single and far more common in the stomach than in the duodenum. All ages are susceptible, although males appear to be attacked with greater frequency than females, in contradistinction from gastric ulcer. The diagnosis is easy if melæna occurs, with or without hæmatemesis, if the characteristic pain is situated far to the right and, with the vomiting, occurs later. The treatment is based upon the same lines as that of gastric ulcer, including surgical intervention if hemorrhage is frequently repeated or severe, or perforation threatens or occurs. An illustration of the practical application of this principle is afforded by a case recently reported by Johnson (*Annals of Surgery*, November, 1899, p. 634) at a recent meeting of the New York Surgical Society. The patient was a man twenty-seven years old, who was admitted to the hospital at three o'clock in the morning with a history of having been seized four days previously with colicky pain referred to a point above the umbilicus and to the right of the median line. There were no vomiting and no chill. The pain was not severe, but continued during the following two days, and was always referred to the same region. The bowels moved daily, and the man continued at his work. A short time before admission the patient was awakened from sleep by severe abdominal pain, most intense three inches above the umbilicus and a little to the right of the median line, which was followed by a chill lasting half an hour. There was no nausea, but the patient took some mustard and water, which induced free vomiting, the vomited matter consisting of partly digested food and the mustard and water that had just been taken.

On admission the abdomen was not distended, but was moderately tender, with well-marked muscular rigidity throughout. The tenderness was most marked over an area about two inches in diameter, located three inches above the umbilicus, and with its centre one and one-half inches to the right. A small dose of morphine was given hypodermically for the relief of the pain. This was somewhat less severe by morning, but the tenderness was more marked and localized. There was general rigidity of the abdominal wall. The temperature had risen to 101.5° F. A diagnosis was made of acute intra-abdominal inflammation, probably of a suppurative character, upon the right side of the abdomen. The abdomen was opened by an incision two and one-half inches long in the right semilunar line, with its centre at the level of the umbilicus. A considerable quantity of cloudy, bile-stained fluid containing flakes of coagulated lymph escaped. A probable diagnosis of perforated ulcer of the duodenum was now made, but as a matter of precaution the vermiform appendix was sought for and found to be normal. The large and small intestine, the gall bladder, the under surface of the liver, and the anterior wall of the stomach exhibited evidences of acute irritation, and were coated here and there with patches of grayish lymph. Upon the anterior surface of the descending portion of the duodenum, a little to the right and about midway between the junction of the first and second portions at the point where the second passes behind the transverse mesocolon, was a round or oval perforation, large enough to admit a No. 26 French sound, or thereabouts, through which was escaping bile mixed with other intestinal contents. The border of the ulcer was clean cut, not ragged. A pad of gauze was held over the ulcer, and the neighboring portion of the abdomen was thoroughly washed with saline solution. The opening in the duodenum was encircled with a purse-string suture of catgut; the edges of the ulcer were inverted into the intestine, and the suture was tied. The closure was further strengthened, and the tension upon the purse-string relieved, by four Lembert stitches of catgut introduced along a line parallel with the axis of the gut. A considerable quantity of bile-stained, cloudy fluid was found at the bottom of the pelvis, and the intestines were everywhere moderately reddened and coated with disseminated patches of lymph. The edges of the wound were held wide apart, and the entire abdomen was repeatedly flushed with hot saline solution, without evisceration, the fluid being gently stirred about with the hand in the abdomen. The entire cavity was wiped dry with large pads of sterile gauze. A strand of gauze packing was then introduced down to the site of the ulcer, and brought out at the upper angle of the wound. The remainder of the wound was then closed with sutures. The patient did not suffer from shock. He was fed per rectum for forty-eight hours. The superficial wound was dressed on the third day, and appeared to be slightly infected, whereupon the skin-sutures were removed. The deep packing was removed on the fourth day, and was found to be clean. The patient remained in bed four weeks after the operation, and two weeks later appeared to be in perfect health.

Dr. Johnson cited the following statistics: Of 39 cases of duodenal ulcer on record, recovery had occurred in 8; in 20 the ulcer was not recognized; in 2 general peritonitis was thought to exist, in 13 appendicitis, and in 3 intestinal obstruction. Of 19 cases in which the ulcer was found, though not diagnosticated beforehand, recovery occurred in 6. The case reported is the second of recovery in this country, an earlier having been reported by Dr. Taylor, of Richmond, Va.

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## EOSINOPHILE BRONCHITIS.

The irritation of the bronchial mucous membrane that results in the symptom complex of bronchitis may arise through agencies either introduced from without or generated within the body. Thus the inhalation of noxious gases or of fine particles may be the exciting cause, while the bronchitis that so commonly attends the onset of typhoid fever, and occurs during the course of other infectious diseases, may be considered as of

intrinsic origin. It is not unlikely that under many conditions bacteria may take part in the morbid process, sometimes primarily, at other times secondarily, consequent upon the slight lesions induced by mechanical influences, and at still other times through the agency of toxic substances generated within the body. In addition, it is possible that the metabolic products of abnormal bodily activity may be the responsible factor. Bronchitis must thus be looked upon as a disease of diverse etiology, and the symptoms will vary in detail accordingly. A special variety of the disease has been described by Hoffmann under the name of eosinophile bronchitis, and the conclusions reached from a three years' study of the disorder at the University Poliklinik at Leipsic are detailed by Teichmüller in the *Deutsches Archiv für klinische Medicin*, B. 63, H. 5 u. 6.

Eosinophile catarrh is the name employed to designate a variety of bronchitis in which the sputum is distinguished from that of other varieties of bronchitis by the presence of eosinophile cells in large number. The affection has certain relations with bronchial asthma, of which some of the cases may be considered beginning stages or rudimentary forms. The disease is a catarrhal affection of the bronchi, of rather chronic course, though at times alternating with periods of a completely normal condition. It is characterized especially by the presence of a large number of eosinophile cells in the sputum. Normally, only isolated eosinophile cells are present in the mucous membrane of the bronchi and the trachea. The fundamental origin of the disease is unknown. Among predisposing and determining factors may be mentioned hereditary influences, viz., tuberculosis, alcoholism, syphilis, and neurasthenia, and acquired influences, viz., scrofula, severe rachitis, congenital or hereditary syphilis, pneumonia, traumatic pleurisy, and bronchiectasis. The disorder is more common in males than in females. It is insidious in onset, and gradually progressive in course. It is of rather protracted duration, but its course may be interrupted by long intervals of good health. Under treatment improvement or cure results. Recurrences are, however, readily induced. Respiration is but little changed, and there is but slight difficulty in breathing. In the worst cases the margins of the lungs become emphysematous. In addition to moist râles, principally dry, snoring and wheezing râles may be heard. Cough is rarely absent, and also expectoration. The sputum is transparent, viscid, and loose. Eosinophile cells are present in large number. Spirals and crystals are as a rule absent. Chest pain is usually present. There are besides headache, anorexia, vomiting, constipation, disturbed sleep, and sweating. Elevation of temperature is uncommon. Disturbances of metabolism are usual. The diagnosis depends essentially on the detection of large numbers of eosinophile cells in the sputum. Asthmatic attacks are attended with dyspnœa, the expectoration of a peculiar sputum, and emphysema of the lungs. The prognosis is favorable in uncomplicated cases, less so when deformity of the thorax exists, or previous pneumonia and pleural thickening have been etiological factors. The treatment is essentially hygienic and dietetic, and includes gymnastic exercises, hydriatic measures, potassium iodide in syphilitic cases, cod-liver oil, malt, leguminosæ, and iron and manganese peptonate.

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## News of the Week.

**An Increase in the Army Medical Staff.**—A bill which has been prepared by Surgeon-General Sternberg will be presented to Congress during its present session. The bill provides for the addition to the corps of four assistant surgeon-generals, with the rank of colonel; ten deputy surgeon-generals, with the rank of lieutenant-colonel; thirty surgeons, with the rank of major, and eighty assistant surgeons, with the rank of first lieutenant, who shall have the rank of captain at the expiration of five years of service. Acting assistant surgeons to the number authorized are to be appointed, subject to the usual examination, for a probationary period of six months, during which they will attend the Army Medical School in Washington, at the end of which time, if their standing is good, they are to be commissioned to fill existing vacancies. This probationary service is waived in the case of candidates who have rendered satisfactory service as acting assistant surgeons or as commissioned medical officers in the volunteer army for a period of six months or more. The vacancies occurring in the grades of major, lieutenant-colonel, and colonel will be filled by seniority promotion.

**The Health Board and the Elevated Road.**—It is reported that the investigation into the alleged unsanitary condition of the cars on the Manhattan Elevated Railroad, which has been begun several times by the board of health, has again been abandoned. Yet to the casual observer there has been no change in the sanitary condition of the cars since the time, a few weeks ago, when officials of the board declared them a menace to the public health.

**The Nicholas Senn Prize.**—Announcement is made of the conditions of competition for the Senn prize medal, a gold medal of suitable design, to be awarded to the writer of the best essay on some surgical subject. The committee of award for this year are Drs. W. L. Rodman, of Philadelphia, A. J. Ochsner, of Chicago, and H. Horace Grant, of Louisville. The following are the conditions: 1. The name of the author of each competing essay shall be enclosed in a sealed envelope bearing a suitable motto or device, the essay itself bearing the same motto or device. The title of the successful essay and the motto or device accompanying it will be read at the meeting at which the award is made, and the corresponding envelope will be then and there opened and the name of the successful author announced. 2. All successful essays become the property of the association. 3. The medal shall be conferred, and honorable mention made of the two other essays considered worthy of this distinction, at a general meeting of the association. 4. The competition is to be confined to those who at the time of entering the competition, as well as at the time of

conferring the medal, shall be members of the American Medical Association. 5. The competition for the medal will be closed three months before the next annual meeting of the American Medical Association, and no essays will be received after March 1, 1898. All communications should be addressed to Dr. W. L. Rodman, chairman, 1626 Spruce Street, Philadelphia.

**The Health of the Army.**—In his annual report, Secretary of War Root compliments the medical and commissary departments of the army for efficient service rendered during and since the war. "The health of the army from the beginning of the Spanish war has," he says, "been remarkably good. The deaths from all causes (including casualties in action) in the whole army, regulars and volunteers, for the fourteen months from May, 1898, to June, 1899, inclusive, were 6,619. This is equivalent to an annual rate of 33.03 per 1,000 of strength. The deaths from disease during the whole period were at an annual rate of but 25.68 per 1,000. . . . For an army largely drawn from a cold climate and transported suddenly to the tropics, mainly composed of new recruits not trained to care for themselves in camp or on the march, and a great part of which was stationed in a malarial country or quartered in and about cities infected with yellow fever, and especially adapted to the production of typhoid, this is an extraordinary result and reflects credit upon all the branches of the service engaged in clothing, feeding, and caring for the men. The significance of the annual rate of death from disease in the Philippines (17.20 per 1,000) may be better appreciated by comparison with the rates in some of our well-known American cities. The annual death rate per 1,000 is in Washington 20.74, in Boston 20.09, in San Francisco 19.41, in New York 19.28, and in Baltimore 19.10."

**St. Catharine's Alumni Society.**—About twenty-five physicians, who in years gone by were attached to the house staff of St. Catharine's Hospital of Brooklyn, N. Y., have organized the Society of the Alumni of St. Catharine's Hospital, in order to keep up the pleasant memories associated with their connection with that institution. The officers elected at the first meeting were: *President*, Dr. Maurice Enright; *Vice President*, Dr. George Wieseckel; *Secretary*, Dr. James S. Slavin; *Financial Secretary*, Dr. William F. Linder; *Treasurer*, Dr. Michael J. Neville.

**Work of the Craig Colony.**—According to the annual report of the Craig Colony, recently submitted to the State board of charities, 95 new patients, 40 men and 55 women, were admitted during the past year, and 35 were discharged. The death rate for the year was the lowest in the history of the colony. Since its opening, February 1, 1896, 504 epileptics have been received at the colony, of which 378 remain. When the new buildings now in the course of construction are completed the capacity of the colony will be increased to a total of 720 beds.

**A Cuban Medical Congress.**—It is proposed to hold a medical congress in Cuba under the auspices of the Sociedad de Estudios Clínicos of Havana. The committee appointed by this society has consulted with members of other medical societies on the island, and representatives of those will soon meet to appoint an executive committee. The date and place of meeting will be decided by this committee. The first and only Cuban medical congress was held about ten years ago.

**Expectoration Cheaper in Hoboken.**—Some time ago an ordinance was adopted by the health board of Hoboken, N. J., imposing a fine varying from $10 to $25 upon any person who expectorated upon the floor of a street-car, ferryboat, or any other public conveyance or public building. The law was frequently violated, but no one was ever punished, and it was thought that the police refrained from making arrests because the public considered the penalty too severe for the offence. The health board has therefore reduced the fine to $3.

**Medical Matters in the South African War.**—The American committee to aid Red Cross work in the South African war has arranged to make use of the facilities offered by the Netherlands Red Cross, a responsible organization already in the field, insuring the prompt and effective use of every dollar contributed. According to a statement recently issued by the committee in this country, the Boers are badly in need of hospitals and hospital supplies, and it is to help make up that deficiency that the committee in the United States has been organized. The British army is well equipped with Red Cross facilities, but the Boers are almost wholly dependent upon volunteer physicians and surgeons, and on this account both the British and Boer wounded within the Boer lines must necessarily suffer. A party of medical students left Edinburgh recently to go out to South Africa under the leadership of Dr. Neethling, of Bradford, to act as an ambulance party in aid of the Boers. The scheme is said to have originated in the South African Union in Edinburgh, and is said to be financed by Sir James Sivewright. The men are all Cape Colony born and bred, and British subjects, though almost all of Dutch extraction. A Russian medical journal comments approvingly on the latter circumstance, and remarks that it would be hard to find such an instance of liberty of action in any other country than the now much-abused England.—The lepers who are confined on Robben Island have opened a fund for the sick and wounded soldiers. They have forwarded their first donation to Governor Milner.—The Queen has given a union jack to the hospital ship *Maine* as a sign of her gratification at the work of the American women who raised the funds for fitting out that vessel. The Duke of Connaught will present the flag on behalf of her majesty.—There have been many complaints that the Boers have persisted in shelling the town hall at Ladysmith which was used as a hospital and flew the Red Cross flag. The correspondent of the London *Morning Post* says that Commandant Schalk-Burger was notified of this, but the notification produced only further fire. Altogether twelve hospital attendants have been wounded and one killed, the correspondent

says. *The Daily News'* Ladysmith correspondent also reports that the Boers fired on the hospital, and he adds that the fire was intentional, since the town hall is not in line with any important camp or defensive work. The Boers, he says, assert that they are entitled to restrict the British to one hospital. In one case in which the Boers had shelled a hospital, it was found that the gunners did not know it was a hospital, it being impossible for them to see the Red Cross flag, and it is probable that a similar error occurred in this instance.

**The Army Transport Service.**—In his annual report the Secretary of War pays a high compliment to the management of the transport service of the army. The entire movement, he says, has been accomplished practically without loss of life, disease, or injury to health. The report of the quartermaster-general shows that during the fiscal year ending June 30, 1899, that branch of the service transported between Cuba, Porto Rico, Honolulu, the Philippines, and the United States, 202,587 passengers, 27,353 animals, and 86,150 tons of freight, and that transportation was furnished during the same period, by rail and water, exclusive of the army transport service, for 1,064,383 persons, 72,711 animals, and 544,644 tons of material. The efficiency and safety of this service, and the freedom from disease and accident which have characterized it, are very gratifying. The transport service on the Atlantic is conducted entirely by vessels owned by the government, which now make regular trips between New York, Havana, Santiago, and Porto Rico. They carried during the six months from January 1 to June 30, 1899, 45,507 passengers, 29,133 tons of freight, 2,449 parcels and pieces of baggage, and 6,558 animals.

**Still Another Tuberculin.**—The telegraph announces that "a Chicago physician has discovered a tuberculin that will cure (*sic*) consumption. It is a serum which, he says, will reveal the presence of tuberculosis before it can possibly be detected by the use of the ordinary means used by physicians."

**Bequests to Hospitals.**—The following charitable institutions in Paterson, N. J., received legacies of $5,000 each by the will of the late Vice-President Hobart: St. Joseph's Hospital, General Hospital, St. Joseph's Orphan Asylum, and the Paterson Orphan Asylum. The original bequest to each of these institutions was $3,000, but in each case the amount was raised to $5,000 by a codicil.

**A National Jewish Home for Consumptives** was opened and formally dedicated at Denver, Col., on Sunday, December 10th. The idea of establishing it was first publicly suggested by *The American Israelite* of Cincinnati, Ohio, and that paper has been efficient in furthering the plans for obtaining the needed support for the institution.

**Pennsylvania Hospital.**—The medical staff has been increased in number from four to six, and Drs. Frederick A. Packard and J. Alison Scott have been appointed to the new positions.

**Not Dr. Samuel Treat Armstrong.**—Dr. John Winters Brannan writes: "In the obituary notes in the MEDICAL RECORD of December 9th appears the name of Major Samuel T. Armstrong, who died at Manila on December 4th of leukæmia, according to General Otis' telegram. From the sketch given of the life of Major Armstrong it would seem that his name has been confounded with that of Dr. Samuel Treat Armstrong, who practised for some ten years in this city, and was appointed to the volunteer service of the army early in the late war with Spain. I have recently received a letter from Dr. Armstrong, dated November 5th, at Puerto Principe, Cuba. He was at that time in excellent health, to use his own words, and was chief surgeon of the troops in that department. He had no expectation of being assigned to other duty, and could hardly have made the journey from Cuba to Manila during the twenty-nine days' interval between November 5th and December 4th. By publishing this statement you will, I have no doubt, relieve the minds of Dr. Armstrong's many friends in this city and elsewhere."

**Further Gifts to the Lying-in Hospital.**—Mr. J. Pierpont Morgan, who some time ago gave $1,000,000 to the Society of the Lying-in Hospital for the erection of a new hospital building, has added to his donation the sum of $350,000 and two large lots which will give an increased area for building purposes of about four thousand square feet. The new building will be ready for occupancy in about a year, it is understood.

**Stoppage of Pay of a Transport Surgeon.**—The pay of the chief surgeon of the transport *Tartar* has been withheld pending an investigation to determine the responsibility for the wretched condition of the sick soldiers brought in the ship from Manila. In his protest filed at the War Department in Washington, the accused surgeon asserts that he was in no way responsible for the conditions prevailing on the *Tartar*, and that he was powerless to remedy the abuses which existed.

**Alumni Association of the German Hospital.**—The third annual dinner of the above society took place on Wednesday, December 6th, under the presidency of Dr. Franz Torek. After an address of welcome by the president, in which he commented upon the progress of the association and of its individual members during the past year, Dr. Abraham Jacobi addressed the society, his subject being "The Hospital Interne." He was followed by Dr. Herman G. Klotz, who related "Reminiscences from the Early Period of the German Hospital." Dr. Henry J. Wolf spoke on "A Few Early Troubles and Errors."

**Medical Practice in Italy.**—It is reported that the Italian prime minister has promised a deputation of native physicians that he will introduce in the session of parliament, which has just begun, a bill to prohibit practice, even among their own countrymen, by medical men who do not hold Italian degrees, unless the country of their qualification concedes reciprocal rights of practice to Italian graduates. This is, on the face of it, a perfectly fair proposal of reciprocity,

but it is one which it would hardly be to the interests of any Italians, barring the physicians, to carry into effect. One of the chief sources of Italy's income is the money spent by English and American visitors, and the number of these would be very materially reduced if they were unable to secure the services of an English-speaking physician in case of illness. The Italian parliament will not be likely to adopt such a penny-wise pound-foolish policy.

**Scarlet Fever** has appeared at Wellesley College, two of the students being ill. The college has been closed until after the Christmas holidays.

**The Phœnixville (Pa.) Medical Association,** at its meeting on December 6th, elected the following officers: *President*, Dr. F. D. Emac; *Vice President*, Dr. William B. Wynne; *Secretary*, Dr. E. J. Hadfield; *Treasurer*, Dr. Albert Wenks; *Censors*, Drs. Doran, Shoemaker, and McWhinney.

**The Medical Society of the State of New York.**—The president of this society has appointed the following business committee to which all communications concerning papers to be presented at the next annual meeting, January 30 to February 1, 1900, should be sent: Dr. Wendell C. Phillips, chairman, No. 350 Madison Avenue, New York City; Dr. Henry L. Elsner, Syracuse; Dr. Chauncey P. Briggs, Ithaca.

**The Army Ration.**—Colonel Charles Smart, deputy surgeon-general, has made a report on the army ration, in which some of the criticisms against it are answered. He says that it is the product of experience of several generations of army officers, and he thinks it the part of wisdom not to urge alterations until they have been proved to be improvements. He holds that the advantage of the ration lies in the fact that the soldier can take almost any kind of fresh meat within his reach in lieu of bacon, and can supply himself plentifully with fruit and vegetables, and even luxuries, by the commutation into cash of the considerable portion of the ration over and above that required for his dietary.

**Honors for General Wood.**—The President has promoted Gen. Leonard Wood to be major-general of volunteers, and he now outranks, it is said, all the United States officers in Cuba with the exception of General Brooke. Upon the latter's retirement next year General Wood will undoubtedly be appointed governor of the entire island. General Wood has definitely put aside a medical career, and has cast his lot with the line of the army, and while we cannot but regret the loss of such a man to the profession of medicine, it is evident that he has chosen wisely, and has adopted a career in which his administrative talents can best be exercised.

**College of Physicians of Philadelphia.**—At a stated meeting held December 6th, Dr. Louis F. Atlee, late surgeon on the U. S. S. *Olympia*, and Dr. Simon Flexner, of the Johns Hopkins Philippine Medical Commission, presented communications on "The Medical Conditions Existing in the Philippines." Dysentery is perhaps the most serious disease, and a bacillus thought to bear an etiological relation was isolated. Scabies is exceedingly common. The malarial fevers prevail in moderation. Typhoid fever also occurs, as do leprosy and beri-beri. Dr. John K. Mitchell presented to the college a copy of a picture of Sydenham, obtained by permission of the Royal College of Physicians and Surgeons of London.

**Philadelphia Hospital Physicians.**—The thirteenth annual dinner of the Association of Ex-Resident and Resident Physicians of the Philadelphia Hospital (Blockley) was held on December 5, 1899. Addresses were delivered by Drs. Raymond Spear, William H. King, McGlynn, E. W. Holmes, and J. Chalmers Da Costa.

**Navy Department,** Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending December 9, 1899. December 1st.—Medical Director D. Dickinson promoted to medical director. Medical Inspector G. E. H. Harmon promoted to medical inspector. Passed Assistant Surgeon A. W. Dunbar detached from the *Resolute*, when placed out of commission, and ordered home and to wait orders. December 5th.—Assistant Surgeon R. K. McClanahan ordered to the Washington navy yard. Assistant Surgeon W. M. Garton detached from the Washington navy yard, and ordered to the *New York*. Assistant Surgeon D. N. Carpenter ordered to the Boston navy yard.

**Professor Felix Victor Birch-Hirschfeld,** who has long filled the chair of general pathology and pathological anatomy at the University of Leipsic, died on November 20th, at the age of fifty-seven years.

**Obituary Notes.**—Dr. Stuart B. Carlisle, of Mount Vernon, N. Y., died in the Harlem Hospital in this city on December 8th. He had suffered for some time from cardiac trouble, and this was the cause of his death. He was born in this city in 1848, and was graduated from the Bellevue Hospital Medical College in 1881.

Dr. William A. Lockwood died in Brooklyn on December 8th, of poison which he had taken with suicidal intent. He was fifty-five years old, and was a graduate of the College of Physicians and Surgeons, New York, in the class of 1864. He was in practice for several years in Norwalk, Conn., later had an office in this city, and recently moved to Brooklyn.

Dr. William Pitt Brechin, of Boston, died on December 10th, of septicæmia, at the age of forty-eight years. He was a graduate of the Harvard Medical School in 1872. Dr. Brechin was also justice of the peace for Suffolk County.

Dr. Adeline Martin Rea, of York, Pa., wife of Dr. Charles Rea, died recently. She was a graduate of the Woman's Medical College of Pennsylvania in the class of 1893.

Dr. Frederick L. Johnson died at his home in the Borough of Queens on December 10th, at the age of thirty years. He was a graduate of the Medical Department of the University of Pennsylvania in the class of 1890.

## Therapeutic Hints.

**Slight Bronchitis** attended with nausea in influenza:

℞ Morph. sulph. ..... gr. ss.
Acidi hydrocyanici dil ..... ♏ viij.
Spt. chloroformi ..... ʒ iss.
Aquæ menth. vir ..... ad ʒ iss.
M. S. Teaspoonful every three or four hours.

—*Jour. A. M. A.*

**Blepharitis Ciliaris.**—

℞ Antimonii sulphat ..... 1 gm.
Saxolene ..... 4 "
Petrolati ..... 2 "
M. S. For external use.

—Carra.

**Neuralgia.**—

℞ Ext. hyoscyami ..... 0.12 cgm.
Ext. valeriani ..... 0.20 "
Morph. hydrochlor. ..... 0.01 "
Pulv. glycyrrh. ..... q.s
For one pill. One morning and night—not more than three in twenty-four hours.

—Bastié.

**Pertussis.**—In infants below the age of one year apply to the pharynx:

℞ Ac. phenic. crystal ..... 1.50 gm.
Glycerini puri ..... 10. "
Syr. tolutani ..... 5. "

For older children:

℞ Ac. phenic. crystal ..... 1 gm.
Glycerini ..... 15 "
Sol. cocain. hydrochlor. (two per cent.) ..... 5 "

—Guida.

**Saline Injections in Tuberculosis.**—Landouzy thinks saline injections exert their beneficial effects by reason of reflex action on the nervous system. Dr. Morard (*Jour. de Méd.*, November 12th) employs the following formula for small doses:

℞ Sod. phosphat. ..... 5 gm.
Potass. phosphat ..... 5 "
Sod. chloridi ..... 4 "
Sod. sulphat ..... 20 "
Aq. dest. ..... 200 c.c.

**Measles.**—

℞ Ichthyol ..... 30 parts.
Axungiæ ..... 90 "
M. S. Apply twice daily to remove the eruption promptly or by early application prevent its coming out.

—Stizover, *Memorabilia*, No. 1, 1899.

**Percutaneous Medication** by salicylic acid is recommended by the editor of *Treatment*, November 9th, in acute articular rheumatism. He employs:

℞ Acidi salicylici,
Ol. terebinth.,
Lanolini ..... āā 10
Adip. suill. ..... ad 100

This is not to be rubbed in, causing desquamation, but spread on "calico" and kept in position by means of flannel bandages. It is absolutely useless in blennorrhagic arthritis.

**Injection of Osmic Acid** is advocated by Dr. W. H. Bennett for the relief of certain forms of neuralgia (*The Lancet*, November 4th). The nerve, having been exposed at the spot indicated by as small an incision as possible, which in the case of the supra-orbital, infra-orbital, or mental branches need rarely exceed half an inch in length, is hooked up for purposes of fixation. The solution of osmic acid (1.5 per cent.), freshly prepared, is injected by means of a sterilized hypodermic syringe, the needle of which is passed along in the substance of the nerve as far as it can be made to go. The total amount injected should be from five to ten minims, and it should be introduced in two or three separate injections in order that the whole nerve may be as much as possible soaked in the solution. During the injections a pledget of sterilized gauze or wool should be firmly held around the needle at the orifice of the wound in order to prevent the escape of fluid externally.

**Convulsions** in a child should always lead to systematic exploration of the thorax.

**Gonorrhœa in the Female.**—The most effective antigonorrhœal remedies so far known are ichthyol and the silver preparations. Ichthyol has a beneficial action, especially in cases of acute gonorrhœa in the female, and in my clinics every case of acute vaginitis and vulvitis easily yields to a few applications of tampons dipped in a preparation of ichthyol and glycerin, equal parts.—Ravogli, *Medical News*, November 18th.

**Phosphorus.**—We should be none the poorer if phosphorus were to be banished from our pharmacopœias. It has disappointed everybody who has tried it, and it is too dangerous a drug to be put into the hands of lay persons, in poisonous quantities, as one is obliged to do in out-patient practice, where it is usual to dispense a week's or a fortnight's supply. If phosphorus is to be prescribed at all, the patient taking it should be admitted as an in-patient, or be seen frequently. This seems to be the only lesson which can be learnt from the unfortunate case of poisoning in a baby recently reported by Dr. Koplik in *Pediatrics*. —*Treatment*, November 9th.

**Toxic Cumulative Effects of Sulphonal and Trional** were observed in a case reported by Bampton (*The British Medical Journal*, November 4th). As to treatment the reporter says: "I have been informed by the Clinical Research workers that it is not generally known that the only treatment of any avail for sulphonal poisoning is the free exhibition of alkalies. Where there is vomiting the difficulty is to get the alkali taken in sufficient quantity. The intravenous or interstitial transfusion of an alkaline solution might be tried. It is lamentable that such powerful drugs as sulphonal and antipyrin in bottlesful are allowed to be sold to the public for secret self-drugging purposes."

**Headaches.**—The treatment of the paroxysmal uric-acid headache is the clearing of all available uric acid from the body and blood, and this is accomplished by: (1) Avoiding food or drinks which contain uric acid or xanthin; (2) not taking more nitrogenous food than physiology requires; (3) clearing out stores of uric acid already in the body from neglect of (1) and (2). (1) Means the avoidance of all animal foods except milk and cheese, and of certain vegetable substances rich in alkaloids (as tea, coffee, etc.); (2) means taking enough albumin to produce from 3 to 3.5 grains of urea for each pound of body weight per day, but not more; (3) is generally sufficiently provided for by the change of diet, but occasionally it is necessary to give a course or courses of salicylates to aid elimination.—Alex. Haig, *The British Medical Journal*, November 4th.

**Vaso-Dilators** in general, including nitroglycerin, produce distressing symptoms which include palpitation, headache, at times quite severe and persistent, dizziness, tinnitus aurium, dilatation of the pupils, hæmaturia, choreic movements, and, in large dose, weakness in the legs, nausea, and vomiting.—C. R. Marshall (*Medical Chronicle*, September).

[In recommmending nitroglycerin for xeroderma in a boy of nine years Dr. Baskett (*British Medical Journal*, November 4th) speaks of it as an innocuous drug.—Ed.]

# Clinical Department.

## TOTAL ANIRIDIA: TWO CASES, ONE TRAUMATIC, ONE (WITH ECTOPIA LENTIS) CONGENITAL.

By GEORGE H. COX, M.D.,

NEW GLASGOW, NOVA SCOTIA,

LATE INSTRUCTOR IN DISEASES OF THE EYE, NEW YORK POST-GRADUATE MEDICAL SCHOOL.

Case I.—Mrs. M——, aged thirty-six years, bending forward in a dark room, forcibly struck some object which smashed her left eye-glass and drove the pieces into her open eye. When seen two hours afterward there were found a number of radiating wounds of the cornea corresponding to the sections into which the glass had been broken. They were all superficial but one, which extended over into the sclera, and seemed to have perforated the cornea near its centre. This perforation was very small, less than a line in length. There was no prolapse of iris, and the eye was not collapsed. The anterior chamber was filled with blood, so that the view of the deeper structures was completely masked. Vision amounted to faint perception of light. Treatment consisted in cleansing the conjunctival sac, the instillation of two drops of a gr.-ii. solution of atropine sulphate, and a bandage. A superficial examination of the eye two days later showed that the wound was practically healed, though the anterior chamber was still filled with blood. The action of atropine was explained to the patient, and she was told to expect that the pupil would be found to be enlarged when it became visible, but would regain its usual size in the usual time. But ten days later she called to report that, although the eye was healed and clear, the pupil remained very large. Examination showed a pupil the size of the whole cornea; in fact not a single trace of iris tissue was to be found on the closest inspection. A slight stellate opacity of the anterior part of the lens capsule was discovered (which in time completely cleared up), but the lens itself was undisturbed in position. Its periphery was in full view, showing as a circular dark line. The fibres of the suspensory ligament could be made out by proper illumination, outside of which the tips of the ciliary processes showed plainly in a scalloped row. (Fig. 1.) Vision is somewhat impaired by irregular astigmatism, and the patient suffers considerable disturbance from the diffusion of light, but the retina seems to be becoming more tolerant. She wears a dark smoked lens over the eye in bright light. The eye is perfectly quiet, and no untoward results have appeared in the eight months since the accident.

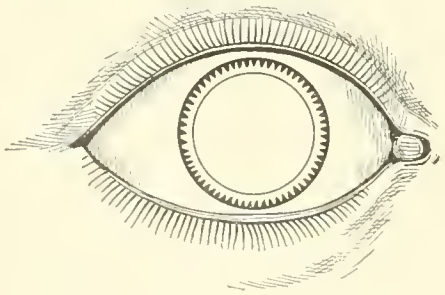

Fig. 1.

The fate of the avulsed iris in this case is uncertain. The family physician, who saw the case a few minutes after the injury took place, saw no trace of it in the wound or anywhere else. The corneal wound seemed too small to allow of its escape. Certainly, when I saw it twelve days afterward there was no trace of it inside the eye. The only explanation is that it was digested along with the blood by the aqueous humor and absorbed. The mechanism of the production of a total irido-dialysis involves the application of a sudden blow to the cornea. The force of this transmitted backward by the aqueous humor, while with the flattening of the cornea the ciliary circle is stretched and the periphery of the iris placed under great tension, causes the iris to yield at the latter point. Hemorrhage necessarily accompanies such an accident, and may be very severe, but in the case above described it was slight.

Case II.—Andrew McD——, aged fourteen years, although not complaining of poor vision, sees very poorly. The exact measurement of his vision could not be taken owing to his poor mental development, but it is very low even when his optical error is corrected. He is unable to read or write, does not know the letters or figures, but in many other ways is fairly intelligent. His dentition is extremely irregular, and the shape of his skull abnormal. Both eyes are symmetrically affected. He has a rapid lateral nystagmus. Not a vestige of iris is to be found in either eye. The lenses are displaced vertically upward to such an extent that their centres lie at the level of the upper corneal border. (Fig. 2.) They are both cataractous. All the other media are clear. The supporting zonule is absent from that part of the periphery of the lenses which is visible. The lenses swing forward and backward with the motions of the eyes, as if hinged above. The anterior half of the vitreous is fluid. In the left eye, under low ateral illumination with the ophthalmoscope, an appearance may be made out below as of faint, transparent, fringe-like fibres half a line in length, possibly remains of the lower part of an original zonule. Even this is absent in the right eye. No sign of the presence of a ciliary body can be made out in all that part of either eye which is visible to the ophthalmoscope.

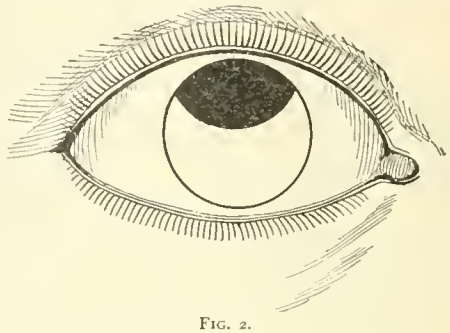

Fig. 2.

The conditions noted are represented schematically in the accompanying illustration.

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**Blood-Letting in Gynæcological Cases.**—Dr. Bedford Fenwick (*Medical Times and Hospital Gazette*, November 25th) writes as follows: "In general terms the methods which I have found most suitable and which give the greatest relief by local blood-letting are: (1) By scarification of the cervix when that part presents a deep-red, bluish, or purple appearance, evidencing much or long-continued congestion of the uterus, always remembering, of course, to make sure that the condition is not due to pregnancy; (2) by cupping or leeches over the ovaries, when throbbing, burning pain in these regions is the chief or only symptom; (3) by leeches around the anus in cases where the *fons et origo mali* evidently is the presence of inflamed hemorrhoids, prolapsus recti, inflamed carunculæ myrtiformes, and such-like congestive conditions."

# Society Reports.

## THE SOUTHERN SURGICAL AND GYNÆCOLOGICAL ASSOCIATION.

*Proceedings of the Twelfth Annual Meeting, Held at New Orleans, La., December 5, 6, and 7, 1899.*

*First Day, Tuesday, December 5th—Morning Session.*

THE association met at the St. Charles Hotel, and was called to order by the president, Dr. Joseph Taber Johnson, of Washington, D. C.

An address of welcome was delivered by Dr. Henry Dickson Bruns on behalf of the local profession, which was responded to by President Johnson.

Dr. Ernest S. Lewis, chairman of the local committee of arrangements, made a brief report as to the work of the association, entertainments, etc.

**Myomatous Tumor of the External Iliac Vein, with Report of a Case.**—DR. A. M. CARTLEDGE, of Louisville, Ky., presented a paper with the above title. Myomatous tumors arising from the muscular coat of the veins constituted one of the rarest of pathological curiosities, as a faithful search of the literature by the essayist discovered but two cases reported. A brief report of these was given. His own case occurred in a woman, aged fifty-three years. Five years ago the patient suffered from swelling of the left leg, extending from foot to hip; it came on gradually, and the limb attained a considerable size; the swelling subsided in eight or ten months. She had pain at this time in the left iliac region low down. No enlargement was noticed. Two years ago the patient noticed a small lump just above Poupart's ligament on the left side, from which she suffered some pain. Within the last year the pain had been much greater in the left iliac region, and the enlargement more distinct and very hard; latterly she had been losing much flesh. She had slept poorly on account of pain, and also suffered from accumulations of gas in the bowels. A diagnosis of carcinoma of the deep inguinal glands above Poupart's ligament was made, probably due to some primary, yet undiscoverable carcinomatous lesion in the bowel or uterus. Exploration of the iliac tumor was advised for a more positive diagnosis, and removal, if found expedient. This was accepted, and the operation was performed on March 9, 1899. The operation consisted of an incision five inches in length, beginning near the external abdominal ring, and running one inch above and parallel with Poupart's ligament, which came in contact with the tumor after opening the fascia of the external oblique muscle. The anterior part of the tumor occupied the inguinal canal; the round ligament was easily identified in front of the tumor, occupying the most fantastic relation to it, wound as it was in and out around several lobules of the tumor; it was separated easily and pushed to the inner side. It was now seen that the tumor was not of glandular origin. By blunt dissection it was gradually freed from its upper and lower and external bed. The outer and deeper attachments were approached with great concern, as they were evidently in the closest relation with the external iliac vessels. Up to this time no vessels of importance had been encountered. It had been expected to meet with the deep epigastric, but it nowhere appeared. Gentle and careful blunt dissection carried the pelvic peritoneum upward, no buttonholing of the same occurring. After reaching the base and upper and outer part of the growth the external iliac artery could be plainly felt entering the tumor. Search to the inner and posterior aspect of the artery failed to demonstrate definitely the vein; nothing more than a fibrous thickening could be made out, which was lost in the tumor substance. The point at which the external iliac artery entered the growth was about two inches above its lower termination. The apparent obliteration of the vein, and its elimination as a factor in any surgical procedure affecting the circulation of the limb, determined the operator to ligate the artery one-half an inch above where it entered the growth. The fibrous remains representing the vein were similarly treated. The tumor was now separated from above downward, the deepest projection being disembedded from the obturator foramen; it now remained only attached to the vein and artery beneath Poupart's ligament. These were freed from the surrounding structures by blunt dissection, and were ligated separately and the tumor was removed. In cutting the vein below where it entered the growth it was manifest that its lumen was almost obliterated, barely admitting a good-sized needle. The tumor was removed entire, with not a lobule broken, and passing through it and removed with it were one and three-quarters inches of the external iliac artery, and the same length of the nearly obliterated vein. The only hemorrhage of any account was from the obturator vein, where it passed through the foramen; this was easily secured by ligation. The vessel was much enlarged, as a result of participating in a long-established collateral venous circulation. The upper portion of the incision was closed by tier sutures, the lower portion being left open and being occupied by a gauze drain, which was placed down to the obturator foramen. The patient was progressing toward recovery.

DR. WILLIAM E. PARKER, of New Orleans, referred to the difficulty of diagnosticating tumors below the groin.

**Ureterectomy.**—DR. J. WESLEY BOVÉE, of Washington, D. C., read this paper. He said that surgery of the kidney was practically of recent date; and surgery of the ureter was the logical sequence to renal surgery. The paper considered essentially the subject of ureterectomy, an operation less than nine years old, one seldom indicated, but offering brilliant results. Dr. Bovée reported the following case:

Mr. J. J. T——, forty-eight years of age, was first seen with Dr. E. Reisinger, of Washington, in August, 1898. Three years previously his left kidney had been removed for a renal abscess, and subsequently another operation had been done by the same surgeon for the remaining pus tracts and severe localized pain. He told the essayist that he had been an invalid constantly, before and since the first operation, and begged for relief. He had never been without pain, and was frequently obliged to resort to the use of morphine. He was found to be in a very much enfeebled condition, his pulse ranging from 110 to 130, and his temperature from 99° to 101.6° F. On the left anterior and lateral aspects of the abdomen, slightly below the level of the umbilicus, were two scars of the previous operations. One of them was so near the median line that he was inclined to think the nephrectomy had been made transperitoneally. A large hernia had occurred at this site. There were three sinus tracts in the left lumbar region discharging a thin, watery pus. In spite of the general weakness of the patient an exploration was decided to be advisable, and accordingly on August 17, 1898, after free stimulation, he was anæsthetized. With the assistance of Dr. Reisinger a careful exploration was made through an extra-peritoneal incision, reaching from just above the level of the upper fistulous opening and in front of the left quadratus lumborum muscle to an inch inside the anterior superior iliac spine. By careful dissection and holding probes in the fistulæ the former location of the kidney was reached. Instead of the kidney a large amount of adipose tissue, containing many pus tracts and cal-

culi and much cicatricial tissue, was found, and a little below it was the upper end of the ureter surrounded by calculi and thickened pus. The ureter was about one inch in diameter and filled with cheesy pus and calculi. It was resolved to remove the duct, and immediately the incision was extended along to the inguinal canal, keeping about one inch from Poupart's ligament. With considerable difficulty, but with very light loss of blood, the ureter, in pieces, was removed to the bladder wall. The distended lumen ended abruptly about half an inch from the bladder wall, this portion being a solid cord. The wound was closed with through-and-through silkworm-gut sutures, a strip of iodoform gauze being passed to the lowest point of the pelvis wound and brought out at the lower end of the external incision, and another strip in the space formerly occupied by the kidney. The unusual atmospheric high temperature and humidity probably assisted in producing the fatal issue seventeen hours later.

Dr. Samuel E. Milliken, of Dallas, Tex., called attention to a point in technique adopted by Kelly—namely, instead of making one incision, he left a bridge of abdominal wall, making the first incision from the twelfth rib down to the crest of the ilium in front of the lumbar muscles, with a second incision along the inguinal region. This enabled the operator to expose the kidney, to make a thorough examination, and also to trace the ureter.

Dr. Bovée, in reply to Dr. Milliken, said there might be the advantage in two short incisions over one large one, of having a less amount of tissue to cut across, as muscles, fascia, etc., but he thought there was a drawback in having to dissect through a smaller space to loosen the ureter between the two incisions. Such an operation would require more time, which, in many instances, is a precious element. However, he was not disposed to criticise Dr. Kelly's method, because he had never tried it.

**Serious Complications Following Passage of the Urethral Sound.**—Dr. William E. Parker, of New Orleans, read a paper with this title. He reported the case of a man with stricture of the urethra who passed urine with difficulty. The first time a sound was passed he had a chill, with a temperature of 105° F. After a week the sound was passed again, no fever having occurred between the days of passage of the sound. In the mean time he had the man's urine examined, with a report showing the specific gravity to be 1.020, one-half per cent. of albumin, no casts, pus, and reaction acid. After the passage of the sound the second time, the man had a urethral chill, suppression of urine, and died with uræmic convulsions the following day, *i.e.*, the second day after the passage of the sound, although the usual precautions had been taken to prevent urethral chill. The autopsy showed that there was intense congestion of both kidneys, with pus in the pelvis and in the calyces of the left kidney.

Dr. William P. Nicholson, of Atlanta, Ga., had seen a number of cases of severe chill following the introduction of sounds, in which all the necessary precautions had been taken. He had observed six cases of swelled testicle following the introduction of the sound, but had not seen a fatal case. In a book on the "Calamities of Surgery," Sir James Paget mentioned a case in which the introduction of the catheter caused suppression of urine and death of the patient. The experience of genito-urinary surgeons would show that no matter how careful they were in sterilizing instruments, etc., in many cases the apparent nervous connection between the organs would produce a severe chill and, in some cases, suppression of urine.

Dr. W. F. Parham, of New Orleans, believed that post-mortem examinations would show, in cases in which death had occurred after the passage of the urethral sound or catheter, some form of nephritic trouble, usually the interstitial. He recalled the case of a man upon whom he had operated for strangulated hernia, who had given no history of any renal trouble, yet the patient died of interstitial nephritis, as verified by an autopsy.

Dr. Manning Simons, of Charleston, S. C., said he had met with a number of cases in which the passage of the sound was followed by trouble. It was his routine practice, when a man presented himself for the first time, in whom he had to pass the sound, to administer a grain of opium, and ten grains of quinine immediately after its passage as a prophylactic measure against urethral chill and fever. He thought the cases should be divided into three classes: first, those in which the trouble was reflex from the nervous system; second, those in which urethritis was set up by unclean sounds; third, those in which there was serious disease of the kidney, but which was not discovered preceding the use of sounds.

Dr. J. D. Bloom, of New Orleans, narrated two fatal cases from the passage of the sound, in New Orleans, and these showed kidney lesions post mortem.

Dr. F. W. McRae, of Atlanta, reported a fatal case which occurred in the practice of the elder Westmoreland while the speaker was a medical student. He had seen complications follow the introduction of the sound. During the last five or six years he had not introduced a sound, except in the direst emergency, without having the patient under observation for several days thereafter. His results had been better since paying particular attention to careful preparation of the patient and the instruments, repeated examinations of the urine, etc.

**Gunshot Wounds of the Abdomen.**—Dr. H. H. Grant, of Louisville, Ky., read this paper. He stated that the surgery of gunshot wounds of the abdomen, which had been for some years pretty well settled to the satisfaction of the profession, received something of a shock by the report of the surgeons who served in the late war with Spain (*Journal of the American Medical Association*, July 11, 1898). Though these reports, which were made by men of experience and high reputation on the subject, were modified to bear especially on the wounds received in battle, yet the inferences, and indeed the conclusions, affected to a considerable degree surgical judgment. The results of the investigation of Klemm showed, in an analysis of one hundred and fifty-two cases, that even those patients in whom penetrating wounds of the abdomen were established, who did not die of immediate effects, eventually nearly all succumbed to exhaustion from sepsis and later suppuration. The meaning of this was that, practically speaking, all cases of penetrating gunshot wounds of the abdomen, untreated by surgical repair of the lesion, resulted fatally, from hemorrhage, peritonitis, or sepsis. The mortality after operations done in the first seven hours after injury was fifty-two per cent., as against sixty-four per cent. for operations at all periods. But a study of the tables of Parker showed such variations in the mortality succeeding complicated and uncomplicated wounds of the various viscera, all of a fatal character without operation, as to indicate that in uncomplicated wounds in some situations the early operator would save from seventy-five to eighty per cent. of what would otherwise be fatal cases. His tables also showed that of sixteen operations done in which no intraperitoneal injury was found, but three patients died, one from an overlooked perforation and two from peritonitis, due to infected blood clot, a fatal complication upon which Klemm laid much stress. Dr. Grant sent out a circular letter to one hundred prominent surgeons, and an analysis of the reports developed a number of most important and interesting facts. The mortality of the whole number

of operations was about fifty-two per cent., an indication that the prognosis was improving with the more energetic measures of treatment. The practical management of suspected penetrating wounds was as plain a duty as the tying of a bleeding artery, in his opinion. As soon as possible after the injury the patient should be transported to a suitable place, and, under aseptic precautions, after all preparations have been made for a laparotomy and repair of lesions, the experienced hand should carefully trace the course of the bullet into the cavity, if it went there. This was easy enough when the penetration was direct from the abdominal wall, but was often difficult or impossible when it was from behind or from the thoracic or pelvic cavity. Under these latter circumstances the history of the direction of the projectile, and the general symptoms, must be the only guide, giving to the side of operation the benefit of the doubt.

Dr. Hugh M. Taylor, of Richmond, Va., said he had operated on three cases of gunshot wounds of the abdomen within the last two or three years. He laid stress on the utter hopelessness of cases until an operation was done. Of course, he was aware that arguments had been advanced by good men against surgical interference in many cases. It was not always easy to satisfy the attending physician, in the absence of serious symptoms, that an exploratory incision was imperative. Of the three cases narrated by him, one was saved.

Dr. William E. Parker was glad to note that the percentage of recoveries from operative interference in gunshot wounds of the abdomen was improving. Cases occurring in civil life should be operated on as soon as possible. In military life he had taken the stand that, with the modern small-calibred bullet, as many cases would result in recovery without operation in the field as with it. He mentioned a case operated on by the late Dr. Miles in which there were fourteen intestinal perforations, which were closed, and the patient recovered.

Dr. Manning Simons had operated on twenty cases of gunshot wounds of the abdomen by laparotomy, and of this number he saved three. One was a gunshot wound of the stomach, the operation having been done within a few hours after the occurrence. There were two perforations, one of entrance and one of exit, the bullet having lodged in the muscles of the back. This patient, a boy, recovered and was well to-day. In one of the cases there were fifteen perforations of the bowel. In some he had resected as much as two feet of the small intestine.

Dr. Samuel E. Milliken had encountered one case of gunshot of the abdomen in a child, seven years of age, who had received the contents of a shotgun. He did a laparotomy, and the child recovered.

Dr. J. D. Bloom said the diagnosis of penetrating wounds of the abdominal viscera was very essential in deciding upon an operation. He mentioned the case of a man who was brought into the Charity Hospital, in which it was thought the peritoneal cavity had been penetrated, but laparotomy disclosed that there was no penetration. He recalled a number of cases in which the patients recovered when the operation was done within twenty-four to thirty-six hours after being shot.

Dr. W. F. Parham said it was difficult in many instances to determine the exact location of the wound in the abdomen; therefore the surgeon should study the character of the wound itself, its direction, the circumstances connected with the shooting, the distance between the combatants, etc.

Dr. W. E. B. Davis, of Birmingham, Ala., said the question to be settled was whether every case of penetrating wound of the abdomen should be operated upon. He believed every such case should be so treated. The surgeon should examine carefully the wound of entrance so as to determine, if possible, if penetration had taken place. He condemned the Senn gas test, and said that the teachings of this eminent surgeon in regard to gunshot wounds of the abdomen were harmful, in that they had created a sentiment which made it exceedingly difficult in certain communities to operate on cases of penetrating wounds of the abdomen, because, if the patient should die, the surgeon would be censured, and discredit would be cast upon surgery. He and his brother (Dr. John D. S.) had operated on a number of cases of penetrating wounds of the abdomen from time to time.

Dr. F. W. McRae had seen and operated on five cases of gunshot wounds of the abdomen at the Grady Hospital. The point of entrance of the bullet was above the umbilicus, the injury having been received when the patient was standing, and in every one of them there were numerous perforations of the hollow viscera. In military practice, he said, wounds were received by soldiers who had been fasting for a number of hours, and the intestines were empty; extravasation was not so likely to occur. On the other hand, in civil practice wounds were almost always received under conditions of more or less debauchery, when the stomach was loaded with whiskey, beer, food, Limburger, etc.; consequently extravasation of the contents took place rapidly, and death was much more apt to take place. He considered the Senn gas test worse than useless, it being merely corroborative, not conclusive as to penetration of the viscera.

Dr. Grant, in closing, said he had enunciated a few surgical principles, and he hoped the members would conclude that it was as much the duty of the surgeon to operate on a penetrating wound of the abdomen as it was in cases of strangulated hernia.

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*First Day—Afternoon Session.*

Dr. Rudolph Matas, of New Orleans, presented a paper in which he gave the history of pulmonary insufflation and artificial respiration in intrathoracic surgery by intubation of the larynx. He exhibited an apparatus, and demonstrated its application. In summing up the peculiarities of the apparatus he had shown he called attention to the following points: the original O'Dwyer cannula, while retaining its intralaryngeal portion unchanged, is modified so that it may be utilized, first, as a respirator; second, as a tampon cannula; third, as an anæsthetizer; fourth, as a tractor on the tongue; fifth, as an insufflator; sixth, as an aspirator.

**Recto-Vaginal Fistula.**—Dr. Lewis S. McMurtry, of Louisville, Ky., read a paper on this subject. He said that, excluding cancer extending from the cervix uteri, recto-vaginal fistula was due to traumatism, not to the compression of the tissue as in vesico-vaginal fistula, but to extensive rupture of the perineum involving the recto-vaginal septum, cicatrizing inferiorly, but leaving a perforation above where the septum was thin and permitted contact of the vaginal and rectal mucous membranes, thus uniting these membranes and making a permanent opening. Wounds made in instrumentation through the vagina, and the pressure of foreign bodies retained in the vagina sufficiently long to produce ulceration and necrosis, were among the rare causes of this lesion. The most common site was in the lower portion of the vagina, just above the sphincter muscles, and at the point already indicated where the septum was thin and the mucous surfaces were in close proximity one to the other. The opening was usually very small, and the mucous membrane was reflected around like a fringe, making its detection more amenable to touch than to sight. The method usually employed in the repair of vesico-

vaginal fistulæ, whereby the edges are freshened in a funnel-shaped denudation, would rarely succeed in repairing a recto-vaginal fistula. The action of the anal sphincter, the penetration of fecal matter, and the sparse layer of tissue, prevented repair by this method. The divulsion of the sphincter muscle would not suffice, in the larger proportion of cases, to overcome this obstacle to success. Extensive cicatricial deposit was another obstacle to repair by this simple procedure. The operation in consequence was resolved into a modified perineorrhaphy, by which the fistula was transformed into a complete tear of the perineum. The method of flap-splitting popularized by the late Mr. Lawson Tait was pre-eminently applicable to this procedure. By this method broad surfaces were supplied without loss of tissue, permitting gliding of the vaginal and rectal orifices of the fistula so as to interpose firm and healthy tissues. In exceptional cases, in which the fistula was so low down as to be within the grasp of the sphincter, it would be best to divide the septum vertically, freshening liberally the margins of the fistula, and suturing the surfaces as in complete laceration of the perineum. In a very limited class of cases, in which the fistula was small and the cicatricial deposit was not extensive, a simple denudation and suturing after divulsion of the sphincter ani muscle might succeed. The flap-splitting method already mentioned would be found most applicable and should be preferred for general application. Vertical division of the septum should be the first step of the operation in low fistulæ with extensive cicatricial deposit, and the operation was then resolved, after paring the edges of the fistula, into the operation for complete tear of the perineum. It would rarely be necessary to use buried sutures; when used, these should be of catgut and should be introduced after the Lembert plan. As already stated, the flap-splitting operation of Tait had the greatest field of usefulness in this procedure. The following case was of special interest, both on account of the unique cause of the fistula, and the consequent deduction that a very simple and common gynæcological appliance was not without danger under certain circumstances:

Miss C. W——, aged thirty-one years, never married, a teacher, was subject to a backward displacement of the uterus. In August, 1899, she applied to a physician for treatment, and a metallic pessary of the Hodge pattern was inserted. The pessary was placed in position on a Thursday by the physician who had referred the case to Dr. McMurtry, and the patient returned to her home, some thirty miles distant from the physician. On the second day the patient began to suffer pain, which increased day by day, and when she was examined by the physician on the Monday following, the pessary was found protruding into the rectum and was removed per anum. When the patient was referred to him on October 6th, there was an opening in the recto-vaginal septum just above the anal sphincter, of oval form, that would readily admit the end of the little finger. The operation consisted of divulsion of the sphincter, separation of the vaginal mucous membrane, freshening the edges of the fistula, and suturing with Lembert sutures of catgut the rectal portion of the fistula, gliding and suturing the vaginal mucous membrane. Union was prompt and perfect, and the patient was now quite well.

In the discussion cases of recto-vaginal fistula were reported by Drs. T. J. Crofford, of Memphis; George Ben Johnston, of Richmond; George H. Noble, of Atlanta; W. D. Haggard, Jr., of Nashville, and J. Wesley Bovée, of Washington, D. C.

Dr. C. Jeff Miller, of New Orleans, read the report of an interesting case of what he and others considered an ossified uterus. He presented the specimen.

*Second Day—Wednesday, December 6th—Morning Session.*

**The Surgery of Biliary Calculi.**—Dr. W. D. Haggard, of Nashville, Tenn., contributed this paper. He spoke of the frequent findings of gall stones (ten per cent.) in the abdominal cavity, but said their unsuspected existence was not a valid contraindication to operation in cases which, owing to certain complications, menaced well-being and perhaps life itself. After enumerating the usually assigned causes of gall stones, he emphasized the undetermined probability of infection. The continuous pain in inflammatory and suppurative conditions of the biliary passages was contrasted with the intermittent and paroxysmal pain from biliary concretions. In connection with the diagnosis, the fact that jaundice was not essentially a sign of gall stones was emphasized, and waiting for icterus as an evidence of their existence was hurtful. The relatively small number of operations, compared with the frequency of the disease, indicated that the gall stones were either overlooked, or failed to give rise to serious trouble, or that the symptoms were taken for other diseases. The speaker quoted from Robson the indications for operation. The various incisions were described, and the operations of cholecystotomy, cholecystendesis, modified cholecystotomy (without suture), and cholecystectomy were discussed. He said that the surgery of the gall bladder was almost perfected, but the management of calculi in the ducts by various methods was yet unsettled. The various operations on the ducts were discussed. He reported the following case of cholocholecystostomy for chronic catarrhal cholangitis with gall stones:

B. J. G——, white, male, aged twenty-seven years. He had his first severe attack of biliary colic attended with tenderness and jaundice in February, 1897. He had had a severe and a light attack of hepatic colic some weeks before. He was operated on the day after he was taken with the severe attack, by Dr. J. F. W. Ross, of Toronto. A number of stones were removed; a fistula was made, and a drainage tube kept in for two weeks. The fistula remained open until June, 1897, when Dr. Ross closed it by suture, and the man, who had been in bed the whole of four months, was up in a week. In November, 1897, he again had a number of attacks of colic and jaundice, which kept up intermittently until March, 1898, when Dr. L. McLane Tiffany, of Baltimore, opened the gall bladder, but finding no stones he closed it by immediate suture, fixing it to the abdominal wall, and closing the incision throughout. In June of the same year, while still in the hospital, he was again seized with attacks of colic and transient jaundice, which, in the absence of Dr. Tiffany in Europe, induced his assistant, Dr. I. R. Trimble, again to open the gall bladder for exploration. Dr. Trimble found no stones, and thought he had succeeded in passing a rubber catheter through the cystic duct, and thence into the duodenum. The gall bladder was sutured and attached to the abdominal incision, which was closed by buried and superficial silkworm-gut sutures. On July 3d, the man had received a blow on the head with a piece of wood in the hands of a drunken assailant, which resulted in a fracture of the skull, which was elevated by Dr. Robert Pillow, of Columbia, Tenn. In August, 1899, fourteen months after the third gall-bladder operation, the pain and colic returned, and were rather frequent and more severe than ever before. On October 1st he had a spell that lasted four days, and could obtain no relief from anything. He came to see Dr. Haggard in Nashville, and while there had one of the worst attacks of biliary colic the doctor had ever seen. He gave the patient two and three-quarter grains of mor-

phine hypodermically in less than three hours, without any appreciable effect on the agonizing pain. The patient was not accustomed to taking morphine, and one-eighth grain after the operation had a very happy and full effect. On November 12, 1899, in the presence of jaundice, which had existed for two months, Dr. Haggard made an exploratory operation through the old scar, parallel with the ribs. As the gall bladder was attached to the parietes it was opened, and a black, tarry fluid was found therein, and one single, large gall stone, soft and perfectly black and somewhat larger than a cherry-stone, together with some smaller crystal-like stones. An effort was made to catheterize the ducts, as had been reported to have been done before without success. The gall bladder was irrigated and packed with gauze temporarily. It was then dissected from the parietes below, and a careful palpation of the ducts was made, but no other stones could be detected. The adhesions were considerable, as the result of so many previous operations and such long-continued inflammatory trouble, and the gall bladder was much contracted. Kelly, Senn, and Murphy had all advised a cholecystectomy, but after no calculus obstruction had been found to account for the recent colic and existing jaundice, he concluded it must be a chronic catarrhal cholangitis with inflammatory obstruction that came and went. He therefore deemed it unwise to do a cholecystectomy and decided to do a cholecysenterostomy. The duodenum, however, was so matted with adhesions, and the gall bladder was contracted to such an extent, that he did not think he could make the anastomosis with safety. He therefore utilized the hepatic flexure, and made a Murphy-button anastomosis with gauze drainage. There was no untoward symptom; a little bile came out after the gauze, when it was removed on the third day, but none thereafter; the drainage tract closed quickly. The jaundice faded, the urine cleared up, and the patient had two normal bowel actions a day, whereas he had previously been taking purgatives daily. He went home at the end of two weeks with a clear complexion, and a gain in weight, and had had no trouble since, but the button had not passed. McGuire reports a button retained over a year in cholecystenterostomy, but Treves had never had one to remain in the gall bladder.

In the discussion, Dr. F. W. McRae, of Atlanta, narrated a case operated upon a few months ago in which a diagnosis of cholecystitis was made. At the operation an unusual condition of affairs was found. Instead of a distended gall bladder, he found enlargement of the liver, with great distention of a cavity in this organ, hard and nodular to the feel, and occupying this cavity and some small pockets in various directions in the liver were fifty-eight stones, which he exhibited. The adhesions were extensive, but no pus was found.

Dr. J. G. Earnest, of Atlanta, directed attention to the symptom jaundice, saying that it did not appear unless there was obstruction of the common duct. Simple obstruction of the cystic duct did not necessarily produce jaundice. In two or three cases in which he had found the gall bladder filled with inspissated mucus and complete obstruction of the cystic duct, but no obstruction of the common duct, there was no jaundice, while in other instances of common-duct obstruction jaundice was present.

Dr. Hugh M. Taylor, of Richmond, Va., recalled a case which was diagnosticated at first as cholecystitis. The patient had been jaundiced for six weeks. The abdomen was opened, and on incising the gall bladder and removing a stone from it he found no obstruction of either the cystic or common duct. He did a cholecystostomy, and drained the gall bladder, but the patient did not recover. Two months later he reopened the abdomen, and, after a very careful examination, found malignant disease of the head of the pancreas sufficient to press upon the common duct and produce jaundice.

Dr. Manning Simons, of Charleston, S. C., reported a case in which he removed the whole gall bladder, and said that after a careful search of the literature at his command he could find only twenty cases. The tumor in his case presented just below the ninth rib as large as a goose egg. An exploratory operation was made, and the tumor was found to be the gall bladder. The gall bladder was removed because its walls were greatly thickened and pus had disseminated itself throughout its walls. He believed that if the gall bladder had not been removed at that time, and promptly, there would have been extravasation of pus into the abdominal cavity. Three gall stones were found. There was very little jaundice present.

Dr. A. M. Cartledge, of Louisville, spoke of the cholæmic cases, and said that in the use of the decinormal saline solution, employed either subcutaneously or per rectum, for ten days, two weeks, or in bad cases three weeks, before operative interference, surgeons had one of the most valuable means of overcoming cholæmia in patients with gall stones.

The paper was further discussed by Drs. Lewis S. McMurtry, J. Wesley Bovée, and George S. Brown.

**Inflammation of Meckel's Diverticulum with Resulting Gangrene of the Intestine Simulating Appendicitis.**—Dr. William P. Nicholson, of Atlanta, read this paper. He said that the pathological conditions arising from the diverticulum have been in most cases due to portions of the intestine being entrapped within the encircling cord when the diverticulum had existed in this form; while in some instances there had been an acute inflammation of the pervious tube that had caused adhesions and resulting obstruction. Again, the inflammation seemed to have extended to the intestinal tube, causing paresis of the bowel, especially simulating the later stages of appendicitis. In a few cases the symptoms and signs had been so much like inflammation of the appendix that a diagnosis had not been possible. The author reported an interesting and instructive case, and mentioned briefly other cases he had found in consulting the literature. He also reported a case of successful implantation of an artificial testicle.

**Two Cases of Intraligamentous Cysts.**—Dr. T. J. Crofford, of Memphis, reported the following:

Case I.—Miss T——, aged fifty years, presented herself with an abdominal tumor July 1, 1899. A few days later the abdomen was opened. The tumor was found to be an intraligamentous cyst. Both ovarian arteries were ligated; the uterine artery was ligated upon the healthy side at as low a level as the internal os. The uterus was cut across; the uterine artery was secured upon the tumor side, and the enucleation of the tumor proceeded with. The loss of blood was considerable, although the enucleation was done rapidly. Several arteries in the broad ligament required ligation, and one or two deep down in the pelvis needed to be secured before hemorrhage was under control. The cavity was obliterated as much as possible by suturing together the two layers of the ligament. The woman recovered.

Case II.—Mrs. S——, aged forty-two years, presented herself with an abdominal tumor October 31, 1899. During the month of June last she experienced an attack of acute peritonitis which came near terminating her life. The acuteness of the attack subsided, but a chronic peritonitis had existed ever since. Abdominal section was made November 6th. There were found two tumors, one on each side, developed between the layers of the broad ligaments. The ovarian arteries were secured near the brim of the pelvis.

The tumors, which were not of very large size, were separated from the uterus as far down as the operator dared, and the uterine arteries were secured as low as possible after the cysts were emptied. The hemorrhage was alarming at every attempt at enucleation upon all sides. The larger vessels in the broad ligaments and walls of the cysts, several in number, were therefore ligated. The upper portion of the sacs was trimmed off and covered with peritoneum. After the oozing had stopped the abdomen was closed without drainage. The patient had had an uninterrupted convalescence and had returned to her home.

The essayist said that Dr. Rufus B. Hall, of Cincinnati, had proposed the method of ligating both ovarian arteries and the uterine artery on the healthy side. The uterus was next amputated on a level with the internal os; the uterine artery on the tumor side was not secured, when he could peel out the cyst from between the layers of the broad ligament with a bloodless result. He said that while he did not wish to detract from the merits of this achievement, yet the method was not to be implicitly relied upon, as it would not control hemorrhage in all cases to a safe degree; in some instances there would be found other vessels requiring ligation before the hemorrhage could be controlled within the bounds of safety. Some tumors of the broad ligament could be peeled out without hemorrhage; others would be attended with considerable loss of blood.

**President's Address.**—This was delivered by Dr. Joseph Taber Johnson, of Washington, D. C. He touched on general subjects pertaining to the work and growth of the association. He said the southern part of our country had furnished many noted surgeons and gynæcologists to the medical profession; hence the name of the association derived greater appropriateness and significance from this fact. He referred to Drs. McDowell, Eve, Dudley, Sims, Thomas, Battey, and Emmet. The best gynæcologists were now the best surgeons as far as they went. In abdominal, pelvic, and genital surgery, few general surgeons equalled and none surpassed them. Their field of work was more narrow, but none the less perfect and important on that account. While many gynæcologists might take exception to such an absorption of their specialty, the gradual expansion of their work to the female pelvis gave the important argument for such an occurrence in the not distant future. It is not difficult to remember when gynæcology was limited altogether to vaginal and pelvic work. Now, there were very few gynæcologists who were not operating upon any tumor between the diaphragm and the vulva. The gynæcologists attacked ulcers and abscesses of the stomach, and anastomosed that organ with the intestine. They did all the surgery of the ureter and kidney, the liver and gall bladder, of the intestines, the spleen, and the pancreas. They operated for appendicitis and for all the varieties of hernia, and did the surgery of the bladder, the rectum, and the mammary gland.

There was no afternoon session on the second day. The members and guests took the steamer *Warren* and rode to the sugar plantation Stanton, owned by Milliken and Ruttledge, and inspected it.

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*Second Day—Evening Session.*

**Experience in Operations for Typhoid Perforation.**—Dr. Hugh M. Taylor, of Richmond, Va., read this paper. He said it was claimed that one-third of the deaths from typhoid fever were due to perforation. Typhoid perforation was credited with a mortality of 16,660 each year in the United States. The specialist in surgery appreciated what surgery could do and had done in the treatment of typhoid perforations. The general practitioner, into whose hands these cases usually first fell, was not so well informed, and he believed the association should express itself in no uncertain sound. It was claimed, too, that one-fifth of the deaths from typhoid fever were due to hemorrhage. This being so, it would seem just as unsurgical to let a typhoid patient die without an effort to save his life as it would be in the case of profuse hemorrhage from a gastric or duodenal ulcer, or even a ruptured tubal gestation. The author reported five cases, with one recovery from operation. He said less than two hundred cases had now been operated upon. When one recalled the thousands of cases annually occurring, the need for co-operative study was apparent. Nothing short of a moribund condition of the patient should warrant surgeons in abandoning a case as hopeless. The key to success was early operation. More than one-fourth of the cases operated on had been saved by early surgical intervention. He believed that surgeons should be able to save more than $33\frac{1}{3}$ per cent. by a timely operation.

Dr. F. W. McRae, of Atlanta, reported some interesting cases of abdominal surgery. The first case was one in which he operated for a pancreatic cyst; the second for hepatic calculi; the third for fecal fistulæ; and in the fourth case he did a combined appendectomy and nephrorrhaphy.

**Litholapaxy.**—Dr. George S. Brown, of Birmingham, Ala., read a paper with this title. A very limited experience with the operation of litholapaxy had led him to believe that it was being unwisely, although not altogether unreasonably, neglected. The most important cause, perhaps, for this neglect was that cutting operations, particularly the suprapubic, were very easy to do, and the results were very satisfactory. The author quoted the statistics of the different methods of operating for stone in the bladder, and reported cases in which he had resorted to litholapaxy with good results. He believed that the majority of stones met with in practice in this country could be removed with the lithotrite in the hands of an ordinarily careful surgeon, and that, while it was not an operation to be undertaken by the general practitioner, no operating-room should be without the instrument; that the suffering and time spent in bed were almost entirely eliminated, and that the mortality was very much lower than that for either of the cutting operations.

*Third Day—Thursday, December 7th—Morning Session.*

Dr. E. D. Fenner, of New Orleans, reported fifteen cases of spinal injuries, treated at the Louisiana Charity Hospital.

Dr. George H. Noble, of Atlanta, described the modification of an operation for cystocele. He also reported a case of seventeen years' congenital nocturnal incontinence of urine, and one of pregnancy in a uterus bicornus.

Dr. I. L. Watkins, of Montgomery, Ala., presented a paper on "The Treatment of Retro-Displacements of the Uterus."

The following officers were elected: *President*, Dr. A. M. Cartledge, Louisville, Ky.; *Vice-Presidents*, Dr. Manning Simons, of Charleston, S. C., and Dr. W. P. Nicholson, of Atlanta, Ga.; *Secretary*, Dr. W. E. B. Davis, of Birmingham, Ala.; *Treasurer*, Dr. W. D. Haggard, Jr., of Nashville, Tenn.

Atlanta, Ga., was selected as the place for holding the next meeting in 1900. Time, the second Tuesday in November.

## NEW YORK ACADEMY OF MEDICINE.

### SECTION ON MEDICINE.

*Stated Meeting, November 21, 1899.*

JOHN H. HUDDLESTON, M.D., CHAIRMAN PRO TEM.

**Diabète Bronzé and the Pathogenesis of Diabetes Mellitus.**—DR. HENRY W. BERG read a paper with this title, and presented a photograph of a patient with bronzed diabetes and exophthalmic goitre, the patient herself being too weak to be present (see page 881).

**The Pathology of Diabetes Still a Mystery.**—DR. WILLIAM H. THOMSON said that in pernicious anæmia there was an abundant deposit of iron in the liver, but it was deposited only in the portal capillaries, showing that there was something peculiar about the portal blood. In that disease the urine contained from one hundred and fifty to two hundred per cent. more iron than in any other disease. He was disposed to accept the theory that this deposition of iron was brought about by a form of toxæmia having its origin in the intestinal tract. He believed the cirrhosis of diabète bronzé was the result of the action of an irritant in the portal circulation, and that this also accounted for the deposit of iron in the liver, and explained also the bronzing of the skin. He agreed with the reader of the paper that this bronzing was quite distinct from that observed in Addison's disease. The pathology of diabetes had always been most elusive, as was well shown by the fact that now Pavy renounced the theory of the glycogenic function of the liver and claimed that the muscles possessed the glycogenic function just as much as the liver. Temporary glycosuria might be explained by a nervous irritation, but diabetes being a persistent glycosuria could not be regarded as the result of any nervous irritation.

DR. MARY PUTNAM JACOBI said that there must be many causes of diabetes for the reason that there were many conditions affecting the production and excretion of sugar. However, there were three fundamental types, viz., (1) Diabetes of nervous origin; (2) the ordinary hepatic diabetes associated with increased production of sugar in the liver; (3) the pancreatic diabetes. There seemed to be a difference of opinion among the French themselves as to whether bronzed diabetes was a distinct entity or whether the hypertrophic cirrhosis and the pigmentation were merely complications grafted upon ordinary diabetes. It was rather singular that in the descriptions of this comparatively new and extraordinary disease very little had been said about the pancreas. She did not think there was any connection between the exophthalmic goitre and the bronzed diabetes; they were merely coexistent disorders.

**No Previous Case in Woman.**—DR. S. J. MELTZER said that the report of the first case of bronzed diabetes in this country had been published in the *Journal of Experimental Medicine* last June or July, and Dr. Osler had such a case under observation. He had been rather surprised that the author of the paper had looked upon his case as presenting two disorders—an exophthalmic goitre and bronzed diabetes—when it was well known that exophthalmic goitre was associated with pigmentation in about twelve per cent. of the cases, and was not uncommonly followed by ordinary diabetes. He personally preferred to call this disorder general hæmochromatosis. He was disposed to look upon the case under discussion as one of exophthalmic goitre and not of bronzed diabetes, and he would say, in this connection, that if this was a true case of bronzed diabetes it was the first one that had been observed in a woman. That the diagnosis of general hæmochromatosis was most difficult to make had been clearly shown at a recent discussion of this subject by the Association of American Physicians and Surgeons.

**Graves' Disease Seldom Associated with Diabetes.**—DR. ALFRED HEVER said that any effort to analyze the many facts regarding the etiology of diabetes and bring order out of the mass of evidence that had accumulated in this mysterious field was deserving of praise. It was the first time that he had seen this combination of hypertrophic cirrhosis of the liver, exophthalmic goitre, and diabetes, and the case certainly simulated bronzed diabetes very closely. His own opinion was that Graves' disease and diabetes seldom occurred together, and additional weight had been given to this notion by the few cases which the author of this paper had been able to collect.

**The Diabetes a Secondary Feature.**—DR. N. E. BRILL agreed with the last speaker in the view of the case. The latest writers on this subject, he said, had taken the view that this was a general dissolution of the hæmoglobin primarily, and not a diabetes at first. The deposition of the pigment was apt to cause degeneration and death of the liver cells, with the result that an interstitial inflammation was set up. This inflammation, in turn, set up the hypertrophic cirrhosis. Of the twenty-four cases cited in literature, in seventeen the pancreas had been examined. In all of these cases there had been a chronic interstitial pancreatitis. In all the glycosuria had been a late occurrence, and in the case reported by Opie glycosuria had not appeared up to the time of the death of the patient from an intercurrent disease—typhoid fever. In all of the cases of bronzed diabetes it had been stated that the deposition of pigment was general and diffused, whereas in the case of Dr. Berg there were large areas entirely free from pigment. He had had an opportunity of seeing this patient, but had been unable to detect enlargement of the liver, and there had certainly been no enlargement of the spleen, although splenic enlargement had been noted in the majority of the cases reported. At the time of his examination ascites had not been present. He was, therefore, of the opinion that this was a case of diabetes associated with Basedow's disease, and that the pigmentation of the skin was of the nature of chloasma.

**The Diagnosis Disputed.**—DR. M. MANGES said that shortly before this woman had entered his hospital service he had had a case in which there had been diabetes, pigmentation, and hypertrophic cirrhosis, and yet at the autopsy the case had been proved to be one of Addison's disease with glycosuria. There had also been a carcinoma primary in the pancreas, with secondary involvement of the adrenals and liver. He had, therefore, looked with great suspicion upon the present case, and had called in the consulting dermatologist, Dr. Lustgarten. The photograph exhibited this evening did not show well the nature of the pigmentation, which was really best described as a diffused chloasma. There was only one part of this patient that showed a true bronzing, *i.e.*, one buttock. He had watched the case for about two months, and had come to the conclusion that it was not one of bronzed diabetes. The woman had then passed over to the service of Dr. Rudisch, who had coincided with him in the opinion that it was not a case of bronzed diabetes. The autopsy alone could positively settle the diagnosis. While the case had been under his care there had been no ascites and no enlargement of the spleen, and no turgescence of the veins of the abdominal wall. There had been some enlargement of the liver, the organ extending from the sixth rib down to two fingers' breadth below the border of the ribs. Moreover, this enlargement of the liver had not been uniform, and had been more marked in the left lobe.

In his hospital service pigmentation was very commonly observed, and this case certainly seemed to come under the head of chloasma cachecticorum, as had been stated by Dr. Lustgarten. Another interesting fact in connection with this case was that emaciation had not been noted in the other reported cases of bronzed diabetes.

**Deductions from Experiments on Animals.**—Dr. A. Mayer said that he believed Dr. Berg's diagnosis was correct. If a saturated solution of indigo-carmine was injected into the jugular vein of a live animal the bile capillaries would be found, a few hours later, filled with crystals of indigo-carmine. Not only that, but the glycogen stored up in the liver would disappear. He had noted this so often in experimental work that he was sure that it was a fact. If indigo-carmine would do this in the liver cell, it seemed to him probable that a pigment deposited in the liver cell would do the same thing. Anything which would irritate the liver cell might produce a glycosuria by interfering with the storing up of glycogen.

**Bronzed Diabetes not an Entity.**—Dr. Berg closed the discussion. He said that he did not look upon diabète bronzé as a clinical entity, but a collection of symptoms, all of which could be explained by the dilution of the blood with a solution of sugar. It was important to remember that while the exophthalmic goitre had developed nine years ago, the pigmentation had not appeared until two years ago. There were white atrophic areas of the skin interspersed with dark brown spots on the face. Regarding emaciation he would say that in all the cases reported by the French emaciation had been present.

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*Stated Meeting, December 7, 1899.*

William H. Thomson, M.D., President.

**The Wesley M. Carpenter Lecture: Researches on Infection by the Tonsils.**—Dr. Frederick A. Packard, of Philadelphia, delivered this lecture. He said that a more accurate title would be "Infection through the Tonsils, Especially in Connection with Acute Articular Rheumatism." He had been interested in this subject ever since he had been the registrar of the Pennsylvania Hospital. The constant shedding of the buccal epithelium of the mucous membrane, and the flushing of the cavity with saliva, constituted important obstacles to infection of the system with the many micro-organisms present in the mouth. In the area of the pharynx was found a group of lymphadenoid tissue, the ring of Waldeyer. In the higher animals the tonsils progressively approached the structure of these organs in the human subject. The tonsils should be looked upon as groups of lymphadenoid tissue. It was probable that one of the chief functions of the tonsils was the formation of leucocytes. The recesses of the mucous membrane covering the tonsil might serve the purpose of reservoirs in which the secretions might accumulate. Judging from analogy with other lymphoid tissues of the body, one could surmise that the tonsils exerted a protective influence. The absorbing power of the tonsils had received much attention from many investigators, and the tonsils had certainly been proved to absorb material from their free surfaces, as well as from their crypts. He personally looked upon the tonsil as lymphatic filters. That micro-organisms might pass through the tonsils had been shown by the finding of streptococci in the blood in a case of angina. The phenomena of acute tonsillitis were those of acute toxæmia. Inflammation of an area of similar extent in any other portion of the body would give no such great disturbance. Lymph nodes elsewhere served as a safeguard to the system, (1) by filtration, and (2) by weakening the virulence of the micro-organisms reaching them, and the tonsils probably acted as did other lymph nodes. This probable function of the tonsils should be borne in mind when the question of removing them was considered. Last May he had reported five cases of acute endocarditis following closely upon angina, in three of which the heart had been known to have been normal prior to the attack of angina. A most interesting experiment was the production of an endocarditis in a healthy rabbit by infection of the animal with streptococci obtained from the mouth of the experimenter. This experiment had been successfully performed. Dr. Packard said that he had been astonished at the number of cardiac cases coming with a history of one or more severe attacks of sore throat, and it was not at all uncommon to meet with cardiac disease in persons giving no history of rheumatism. Cases had been observed by him, and had been reported by others, in which dry pleurisy had developed in connection with angina. Of forty cases of cutaneous manifestations occurring in connection with angina, there were erythema nodosum in twenty-nine, purpuric eruptions in four, and erythema multiforme in two. Two cases were narrated to illustrate the connection of tonsillitis with chorea, and a historical sketch was given of bacteriological investigations bearing on the relation of angina to this disease, and, in general, to the infectious theory of chorea. Cases of acute yellow atrophy of the liver and of peritonitis had been reported as occurring in connection with tonsillitis. Palatal palsy was not extremely rare after angina, particularly after diphtheritic angina. Pyæmia as a result of tonsillitis was unusual, yet Wainwright had reported such a case, with death on the eighth day. Streptococci had been found in this man's blood. The greater malignancy of nasal diphtheria as compared with tonsillar diphtheria was to be explained by the fact that in true tonsillar diphtheria immediately beneath the seat of the infection was true lymphadenoid tissue, whereas in the nasal cavities this lymphatic protection was absent. Regarding the nature of rheumatism, the speaker said that a specific organism had not been found here, any more than had such a discovery been made in scarlatina, variola, and other diseases generally admitted to be infectious. The frequent absence of micro-organisms from the joint cavities in acute articular rheumatism had been explained on the theory that the arthritis of rheumatism was the result of the toxins and not of the bacteria. The view that rheumatism was a modified pyæmia had much in it that was attractive. If rheumatism was admitted to be an infectious disease, the point of entrance of the poison should receive consideration. The frequency of angina preceding rheumatism had been noted by many writers. In many of the fatal cases of rheumatism the tonsils revealed post-mortem evidence of abnormality, although they had appeared healthy during life.

**The Medical Profession in Italy.**—Italy contains 22,000 qualified practitioners, including 1,200 at Naples, 1,000 at Rome, and about 750 at Milan and Turin respectively. This gives a proportion of 1 in 1,400 for the country and about 1 in 550 for the large towns. "What is the condition of this class, and is there a future for physicians in Italy?" asks the *Gazzetta Lombarda*. In reply it points out that 9,000 have their bread assured by the Condotto, *i.e.*, are hired by communes or benevolent societies, about two-thirds having to treat all the inhabitants of a commune, and the remaining one-third the poor only. The salaries of the latter range between 1,000 to 2,000 lire (on a liberal exchange $200 to $400), while the former may get about twice as much.

# Correspondence.

## OUR LONDON LETTER.

(From our Special Correspondent.)

NEW MOVE IN MEDICAL POLITICS—ANTISTREPTOCOCCUS SERUM—OPEN-AIR TREATMENT OF TUBERCULOSIS—HULL EPIDEMIC—STRANGE BLUNDER OF A MEDICAL WITNESS—CONVICTION OF ABORTION GANG—LEICESTER'S CLIMB-DOWN.

LONDON, November 24, 1899.

WE are again in for a season of medical politics. Not that the tame proceedings at the College of Surgeons which I told you about will have any influence, nor that much good is anticipated from the meeting of the Medical Council which opens on Tuesday next. But a new departure has been taken on the initiative of several societies in the North of England. At the joint invitation of these societies the direct representatives in the Medical Council all three attended a conference at Newcastle on Wednesday evening and made rather lengthy speeches. Six societies took part in organizing the meeting, and about one hundred and sixty doctors attended the conference. Such a movement may or may not lead to important results. Much depends on the extent to which the precedent may be followed, and some of the speakers were animated by the hope that practitioners in various districts would organize similar meetings.

The constitution of the Medical Council was a prominent subject for the three representatives, and Mr. Horsley admitted that the quickest reform would be to give every holder of a diploma a vote for the body which conferred his qualification. This plan was proposed from the formation of the Council, though Mr. Horsley did not seem aware of the fact. His ideal would be for practitioners to vote in districts, but he felt that it could not be attained. He may comfort himself, for there is much to be said against such localization. Territorial distinctions have had their day. Mr. Horsley was to a certain extent on his defence for supporting the midwives bill of the British Medical Association. He feels sure that the women's influence will carry some bill through the House of Commons, and so adopts the bill he considers least injurious. This is hardly the policy one would expect from so fearless an advocate of professional rights, and I regret he has adopted it. But I cannot sympathize with those who accuse him of breaking his election pledges. The bill of the Association is admitted on all hands to be bad, though others may be worse. The Council of the Association has forced it forward in direct opposition to every general meeting. This is, you will say, scandalous. Alas! it is not the first time that this Council has perpetrated "a great betrayal" of the profession.

Mr. George Brown exposed again the conduct of the rulers of the corporations and wanted more direct representatives. Dr. Glover, too, wanted additions, but it is childish to expect that a number can be added to outvote the corporations.

The demand for a one-postal system was reiterated and is certainly less impracticable.

After the representatives had made their speeches some questions were asked and answered more or less fully, but there was not much time to spare for discussion, though the conference did not break up until 11 P.M.

I gave you a pretty full account of the discussion at our Obstetrical Society on antistreptococcic infection, thinking your readers would like to compare it with the report of your Gynæcological Society, which has attracted considerable attention on this side and confirms the views of many observers. A further contribution to the question was made on the next day at a sister society (the Harveian). Dr. Washbourn held that erysipelas, puerperal fever, septicæmia, etc., were manifestations of a single disease due to streptococcal infection, and that there were distinct varieties of the streptococcus which could be distinguished only by their behavior toward serum. As the serum seemed of great value in some cases but valueless in others which were apparently identical, he explained the different results by the different varieties of the streptococci present, and suggested that when the serum failed a second sample from a different source should be tried.

Dr. Dean also insisted on these differences, and said two streptococci of similar virulence might differ greatly in the ease with which the virulence could be increased by passage through rabbits. He also reported that an attempt was being made at the Jenner Institute to prepare a poly-virulent serum by using streptococci obtained from varying sources.

Dr. Goodall had tried the serum in malignant scarlet fever without benefit. Other speakers mentioned their experience, which was for the most part rather unsatisfactory. Dr. Ewart had seen in one case improvement after each injection, and ultimate recovery. But in this case the streptococcus had been found in the blood. The general impression is to reject as worthless all cases in which it has not been proved to be present. Again the question of mixed infections gave rise to differences of opinion. The indiscriminate use of this serum is certainly to be deprecated. Perhaps the more prevalent view in this country to a great extent coincides with that of the American report I have already referred to, and you will remember that at the British Medical meeting Dr. Spencer's report pointed to similar conclusions.

The open-air treatment of tuberculosis is now being discussed at the Medico-Chirurgical Society. Dr. Kingston Fowler opened the discussion, and was followed by Sir W. Broadbent, Professor Boyce, Dr. Burton-Fanning, Dr. Thurman, and Professor Clifford Allbutt. So far as it has gone the debate has turned largely on the construction and management of sanatoria, the importance of diet, exercise, temperature, climate, and general treatment; also whether the patients should be kept separate or together, and the maintenance of reasonable discipline. There were further strong expressions of opinion as to making sanatoria centres for research on tuberculosis.

Dr. Fowler insisted on a suggestion he had previously made, to substitute the term "pulmonary tuberculosis" for phthisis or consumption, and such diagnosis, he said, would be accompanied by an assurance that the disease often was arrested. It may, he thought, be doubted if intelligent patients would be deceived by a change of name, and it might be better to give them the assurance that consumption, as they will persist in calling it, may undergo arrest. He would, too, prefer the term "sanatorium treatment" to open-air, as fresh air is only one of several factors. Brehmer's system was stated by Dr. Fowler to consist in (1) residence in a sanatorium under constant medical supervision; (2) complete freedom from any excitement; (3) life in the open air; (4) rest during febrile periods; (5) methodical hill climbing as exercise when fever is absent; (6) abundant and varied diet, in which vegetables hold an important place; (7) hydrotherapeutic measures. Dr. Fowler did not regard any of the modifications of this system which had been proposed, as improvements. Hill climbing he said strengthened the muscular power of the heart, and a patient stuffed with food and kept at rest might become stout and flabby without arrest of his disease. The greater the amount of food taken, the less was

the significance of a gain in weight as evidence of arrest of the disease. Some establishments were really hotels rather than sanatoria. Nordrach should be the model. The number of patients in each sanatorium should be restricted to forty-five or fifty, so that the physician could supervise every one. The temperature should be taken in the rectum, where it might be 0.5° or 1° or even 2° above that of the mouth. The great object was to develop the resisting-power of the body by every means. They were dealing with pulmonary tuberculosis—not with catarrhal inflammation from "catching cold." Catarrh was no doubt an infectious malady, and patients under the open-air treatment did not catch it. Visitors to the Scotch hills could get wet through without taking cold.

Sir William Broadbent indorsed nearly everything advanced by the opener of the debate, but he held to the term "open-air" as the prime factor. Isolation was no doubt an important point in sanatorium treatment; so was the avoidance of all secondary infections—influenza being very disastrous. Sanatoria should be conducted on scientific lines and the commercial element excluded. He found the mouth temperature a sufficient guide. Feeding must be according to the needs of each patient—no hard-and-fast routine being adopted.

Professor Boyce dealt chiefly with the construction of sanatoria. Curiously, though Nordrach was so lauded in England, he had met with many German physicians who had never heard of it. He did not think it an ideal. The block system had more freedom of air, more homeliness, and was cheaper. Dr. Trudeau's at the Adirondacks was excellent. The rules should not be too Spartan. Well-equipped laboratories were essential.

Dr. Burton-Fanning said he had evolved a proper sanatorium after four and a half years' study. He said the treatment should be begun early, and then if continued long enough the patient would certainly recover, the first sign of improvement being in the weight and symptoms. He took temperatures in both mouth and rectum, and found after a short walk the rectal might be 0.5° above the oral, but would soon go down. As a rule there was very little difference between the two, but that was constant. An objection to rectal observation was that patients had to go to their rooms. In nervous patients the temperature ran up very rapidly.

Dr. Thurnam declared himself "an apostle of Nordrach." He saw no necessity for Liegehalle; the point was whether patients should be separated, and he thought, with due limitations, the fewer together the better for them. They should not get into groups. He preferred rectal temperatures as easiest to take and most sensitive, the range being wider but truer.

Professor Allbutt in visits to sanatoria had been struck by the difference between treatment by open air and by draughts. In pavilions on the H plan, the dining-room being north and south and the windows open, it became a portico and the wind blew through it as through a passage. In small bed-rooms, too, there were a lot of circular draughts. The result was "a lot of cold-catching." He admitted a cold was an infectious disease, but these catarrhs were extremely depressing. Camping out in the open was better than draughts. Patients, he was told, did not complain, but he had seen them with cyanotic faces and livid hands. In such states the vital powers must be depressed by draughts. The discipline was often most trying. Patients should be cheerful. If not allowed to read a book, which implied a little mental exercise, or to speak to a friend, the result would be enforced imbecility. He agreed with the opener as to increase of weight in relation to exercise. High feeding required discretion. Cure was a relative term. He would restrict it to cases in which patients had returned to their ordinary work for a year and remained well all the time. He indorsed Professor Boyce's remarks on the necessity of research.

The debate was then adjourned.

An extraordinary proceeding has taken place at Hull. A sub-committee resolved to withhold all information about the smallpox epidemic even from the town council, including the members of the health committee. At the meeting of the full health committee on Wednesday, the resolution of the sub-committee was set aside, and it was agreed to publish the facts. The returns show 210 persons in hospital on Tuesday. The fresh cases reported were: On Sunday 17, Monday 9, Tuesday 5, Wednesday 3. The number of cases since the beginning of the outbreak is 552. The deaths have been 13.4 per cent.

A strange blunder seems to have been made by a medical witness who testified that the death of a man was the result of a broken neck. This led to the arrest of his wife on a charge of murder. Further examination by an expert for the Home Office showed that there was no trace of a broken neck, and the man had died of acute pneumonia. The judge at the assizes ordered the release of the accused, commented severely on the unaccountable blunder, and told the medical witness he ought to make every compensation he could to the victim of his carelessness, who had had a narrow escape from execution for a crime never committed.

The police seem at last to have succeeded in breaking up the abortion business carried on as Mme. Frain's Medical Institute. They have secured the conviction of five persons for conspiracy to incite women to administer to themselves noxious things. The evidence showed that the business was extensive and profitable. After the prosecution was begun the convicts returned money to over thirteen hundred applicants for the remedies. Mr. Justice Darling gave a significant warning to the newspapers which insert such advertisements. The learned judge distinctly said that they were liable and the proprietors might be indicted for conspiracy too. Now let the police carry their war into the newspaper offices.

The courage of the Leicester Guardians, who so earnestly protested their desire to be imprisoned as antivaccinators, has failed them in presence of the rule *nisi* for an attachment. They have now judiciously resolved, by twenty-five to nineteen, to appoint a vaccination officer in obedience to the court.

The Luton Guardians, who imitated those of Leicester, had better carry their imitation as far and climb down without more ado. It is to be hoped that in all cases of such defiance of the law the would-be martyrs may be mulcted in costs as individuals, and that the rate-payers may not be required to pay.

## UNWARRANTED ARRESTS OF PHYSICIANS.

To the Editor of the Medical Record.

Sir: Your editorial, "An Unpardonable Indignity," in your issue of November 4, 1899, was most admirable, and I wish to offer you my hearty thanks for it. When such an influential journal as yours, and the leaders of the medical profession take such a deep interest in the matter, it gives great promise that we may succeed in having the law so amended that it will be safe for honorable men to practise general medicine in this city and State.

The letters of several eminent physicians which I enclose, and which I have permission to publish, refer to the subject that prompted your able editorial above mentioned. That is, the recent unwarranted arrest of

two physicians, who, out of charity, attended a poor woman who had been ill and neglected for two weeks. To give her the best chance to recover, one of the physicians sent her to Bellevue Hospital, where a positive diagnosis was not made. On October 18, 1899, she died. After her death, by the merest accident Coroner's Physician Donlin discovered that at some time in the past she had aborted, and he claims to have found one or two slight "contusions" that caused him to believe that a criminal operation had been performed. He claims that the woman had been pregnant six weeks, and that he found a "necrotic mass in the fundus uteri apparently placental." He at once handed the case over to the police for investigation. Their investigation consisted in ascertaining what physicians had ever attended the woman, and that only.

The physicians who were arrested had no difficulty in proving that, if there had been a criminal operation performed, they could have had nothing whatever to do with it, and the coroner's jury, after a very few minutes' deliberation, brought in this verdict: "That "the said Nora Selz came to her death on the 18th of October, 1899, at Bellevue Hospital, by asthenia from septicæmia, following criminal abortion at about sixth week of utero-gestation, induced by some person or persons unknown to the jury, and we exonerate Drs. Harry R. Purdy and Otto Maier from all responsibility and blame." HARRY R. PURDY.

149 LEXINGTON AVENUE, December 7, 1899.

DEAR DOCTOR PURDY: I have read the testimony in the case of Nora Selz. I am convinced by the perusal that gross injustice was done to Dr. Harry R. Purdy and to Dr. Otto Maier by the action of Police Captain John Delaney. The testimony distinctly shows that the woman was already ill when these physicians were called to see her. It also shows that they were called in by her neighbors because she was ill. This evidence is not such as entitled the police captain to regard these physicians with suspicion as the person or persons who had brought about the disease. The police captain has access to physicians, as the police surgeons or deputy coroners. These he should, in my judgment, have consulted before resorting to such a measure as the arrest of reputable physicians for the production of a crime. A police captain, in my opinion, should have sufficient knowledge, judgment, and discretion as would have prevented him from making such a mistake as this was. It demonstrates to me that he was not possessed of such desire to avoid the injury of the innocent as should be possessed by one intrusted with the responsibility of the office he holds. The system which is productive of such a case as this needs revision.

Yours very truly,
E. G. JANEWAY.

36 WEST FORTIETH STREET, December 1, 1899.

DEAR DOCTOR PURDY: My perusal of the papers which you have submitted to me convinces me not only that you were subjected to most outrageous treatment, but that the medical profession must take up your case as its own without delay. Not a physician in practice, however reputable and conscientious, is safe in New York City if he can be dealt with by the presumed law officers of the city as you were, arrested on such a criminal charge and with the effect of being published throughout the land by the daily press as an abortionist. No other business, calling, or profession is exposed to such ruinous perils as ours, if such experiences are possible, besides the damage to personal reputation which to many would outweigh all pecuniary loss.

Thorough legal remedies must be provided for, to insure the safety of reputable medical men from such injustice, and it is here that, in my opinion, care should be taken that all steps toward that end should be so devised as to secure the desired result. The one medical organization which is recognized by the law of the State of New York as entitled to take cognizance of and act upon all questions pertaining to the legal status of medical practitioners, is the County Medical Society. Any other medical societies could not appear as such or by their representatives in any court, except as private parties or individuals, but the New York County Medical Society can compel a hearing before any judge. What the other organizations should do, however, is to have the question brought before them at one of their stated meetings, for an expression of opinion on it, to be made a matter of record. The by-laws of the Academy of Medicine unfortunately enjoin that no question of a public nature, not scientific, can be acted on at any meeting unless due notice of the matter be given at a previous stated meeting. If any member of the Academy would give notice of such a motion accordingly, I have no doubt that it would be entertained; but meantime, as an individual, I would be glad to co-operate with any friends of yours to have the question discussed and proper action taken on the first opportunity at the County Medical Society.

Yours sincerely,
W. H. THOMSON.

23 EAST FORTY-SEVENTH STREET, December 1, 1899.

*Dr. H. R. Purdy.*

DEAR DOCTOR: Yesterday, on my return from the hospital, I found awaiting my examination the papers you so kindly forwarded to me. Without attempting any other work I promptly read through the evidence in question, and I am forcibly impressed with the fact that there is great need of wiser and more considerate discrimination on the part of public officials, or that their powers be diminished to correspond with the lack of wisdom displayed in the exercise of their duties.

The question is a somewhat perplexing one. Just how to accomplish the purpose is much more easily arrived at than carried into effect. I am disposed to feel it would be better for you, at your earliest convenience, to run in and talk with me about the proposition you have in view, and it is not at all improbable that we may mutually instruct and possibly support each other in forming final conclusions.

Yours very sincerely,
JOSEPH D. BRYANT.

54 WEST THIRTY-SIXTH STREET, December 1, 1899.

*Dr. Harry R. Purdy.*

DEAR DOCTOR: Permit me to extend to you my hearty congratulations upon your "vindication." The wretched farce which resulted in your arrest and appearance at a coroner's court needs no comment. That a reputable physician engaged in a work of charity should be insulted and injured as you have been, is a reproach to our laws, or, rather, an example of our need of laws. I have investigated the case, and not only am impressed with the absolute injustice of arresting you upon such flimsy evidence, for there was not only nothing in the woman's symptoms to create the suspicion that she had aborted, but an inspection of the post-mortem examination and other information that has come to me makes me doubt the existence of any conclusive evidence that she had lately miscarried.

Very truly yours,
ALLAN MCLANE HAMILTON.

44 EAST TWENTY-NINTH STREET, December 3, 1899.

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**Functional Impotence.**—Ligate the dorsal vein of the penis under cocaine.—WILEY BROOME, *Med. Rev.*

# Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending December 9, 1899:

| | Cases. | Deaths. |
|---|---|---|
| Tuberculosis | 144 | 138 |
| Typhoid fever | 66 | 20 |
| Scarlet fever | 138 | 6 |
| Measles | 337 | 11 |
| Diphtheria | 255 | 40 |
| Laryngeal diphtheria (croup) | 15 | 10 |
| Cerebro-spinal meningitis | 0 | 4 |
| Chicken-pox | 20 | 0 |

**The Dum Dum Bullet.**—Professor Bruns, at the German Congress, described these projectiles. He said that they were originally coated with nickel, but as it was found that the enemy's soldiers when wounded were not invariably disabled, the nickel coating was filed away from the top of the bullet. In fact, the nickel covering enabled the bullet to pass through the body, making only a relatively small wound, but when this covering was removed from the top the lead was flattened out as soon as it struck the body, by which flattening the remainder of the covering was burst open in an explosion-like way, inflicting wounds of an astonishingly severe character.

**Climatic Treatment of Tuberculosis.**—The treatment of tuberculosis by climate, says Dr. W. Howship Dickinson, is nothing new. For over one hundred years scrofula or tuberculosis not of the lung has been treated at Margate, England, by exposure to the air of the North Foreland, with a success which has not been attained elsewhere. Pulmonary tubercle has also long been dealt with climatically, but with a less bold appeal to fresh air. The desiderata for this condition were, in the minds of our predecessors, warmth and equability. This was distinctly formulated by "the great Thomas Young," and represented the practice of 1815 and many subsequent years. Consumptives were accordingly sent to low-lying and sheltered places on the seacoast, and were crowded into hospitals in towns where, if some of the desired conditions were present, the most important were assuredly wanting. Protection from catarrh is essential; here we are at one with those who preceded us; but we recognize what they did not—the paramount influence of virgin air. High altitudes and ocean expanses, together with an open-air life, even though somewhat careless, accomplish what was not attained when the chief aim was protection from cold, and the invalid was surrounded with precautions lest the winds of heaven visit his face too roughly. Now for tuberculosis of every kind we make alliance with the powers of the air, whether on the historic North Foreland or where the north Atlantic pulverizes itself on the Cornish cliffs, or on the lofty levels of South Africa, where the invalid may walk in warmth and comfort at an altitude greater than the summits of Snowdon and Ben Nevis.—*Public Opinion.*

**Eels as Water Purifiers.**—Professor Sobrero, of Turin, has recently suggested that eels should be used as purifiers of water. All that one has to do is to put two or three eels, not very big but lively, into the domestic cistern. The fish devour with marvellous appetite everything which the water may chance to contain in the way of animalcules, infusoria, bird droppings from the roof, vegetable matter of any kind; nothing comes amiss to them. When the eels have fulfilled their mission they can be eaten *à la tartare*, or they can be kept for further use as purifiers of the water supply. Such a method of fattening eels for the family table may not commend itself to the average British stomach, though these fish eat worse things in their ordinary haunts than they are likely to find in a cistern, even within the area of distribution of a London company. But as water purifiers a useful sphere of action might be found for them in reservoirs as well as in cisterns.—*British Medical Journal.*

**The Open-Air Treatment of Consumption in a London Hospital.**—In the London Hospital for Consumption the basis of treatment is rest in the open air, graduated exercise, and good feeding. No window in the open-air wards is ever closed, and during the cold weather the consumptive patients are kept warm with extra clothing and artificial heat. It is encouraging to note that practically all the early cases and seventy per cent. of all cases improve considerably under the open-air system.

**Very Old Fogies.**—More people over one hundred years old are found in mild climates than in the higher latitudes. According to the last census of the German empire, of a population of 555,000,000 only 78 have passed the hundredth year. France with a population of 40,000,000 has 213 centenarians. In England there are 146; in Ireland 578, and in Scotland 46. Sweden has 10, and Norway 23; Belgium 5; Denmark 2; Switzerland none. Spain with a population of 18,000,000 has 401 persons over one hundred years of age. Of the 2,250,000 inhabitants of Servia, 575 have passed the century mark. It is said that the oldest person living is Bruno Cotrim, born in Africa and now living in Rio de Janeiro. He is 150 years old. A coachman in Moscow has lived for 140 years. —*Indian Medical Record.*

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended December 8, 1899:

| | | Cases. | Deaths. |
|---|---|---|---|
| **Smallpox—United States.** | | | |
| California, San Francisco | November 23d | 3* | |
| District of Columbia, Washington | November 25th to December 2d. | 2 | |
| Illinois, Dixon | December 3d | 125 | |
| Louisiana, New Orleans | November 25th to December 2d. | 2 | |
| Shreveport | November 25th to December 2d. | 1 | |
| Manchester, Chelsea | November 23d to December 2d. | 3 | |
| Michigan | November 25th | † | |
| New York, New York | November 25th to December 3d. | 2 | |
| Ohio, Cleveland | November 17th to December 2d. | 1 | |
| Virginia, Portsmouth | November 25th to December 2d. | 1 | 1 |
| * In Forty-eighth Regiment United States Volunteers. | | | |
| † Reported in two places. | | | |
| **Smallpox—Foreign.** | | | |
| Belgium, Ghent | November 4th to 18th | .. | 3 |
| Brazil, Rio de Janeiro | October 22d to November 3d | 200 | 123 |
| England, London | November 11th to 18th | 1 | |
| India, Bombay | October 22d to November 7th | .. | 7 |
| Madras | October 28th to November 3d | .. | 1 |
| Mexico, Mexico | November 12th to 10th | 1 | 1 |
| Russia, Moscow | October 9th to November 4th | 1 | 1 |
| St. Petersburg | November 4th to 11th | 9 | 5 |
| Warsaw | November 4th to 11th | .. | 9 |
| **Yellow Fever—United States.** | | | |
| Louisiana, New Orleans | November 25th to December 2d. | 1 | |
| **Yellow Fever—Foreign.** | | | |
| Brazil, Rio de Janeiro | October 23d to November 4th | 6 | 3 |
| Cuba, Havana | November 22d to 29th | 11 | 8 |
| Santiago de Cuba | November 15th to 22d | 1 | |
| **Cholera.** | | | |
| India, Bombay | October 23d to November 7th | .. | 2 |
| Calcutta | October 1st to 21st | .. | 33 |
| **Plague.** | | | |
| Austria, Trieste | November 4th | .. | 1* |
| India, Bombay | October 28th to November 7th | .. | 102 |
| Calcutta | October 1st to 21st | .. | 134 |
| Kurrachee | October 22d to November 4th | 3 | 6 |
| Paraguay, Asuncion | October 7th to 24th | .. | 10 |
| * Sailor on Ottoman liner *Polis Mytilini*. | | | |

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 56, No. 26. Whole No. 1520. NEW YORK, DECEMBER 23, 1899. $5.00 Per Annum. Single Copies, 10c.

## Original Articles.

### AN ACCOUNT OF SOME PERSONAL WORK ON THE MOSQUITO-MALARIA THEORY, WITH REMARKS UPON THE PRESENT STATE OF THE INVESTIGATION.[1]

BY WILLIAM N. BERKELEY, A.B., M.D.,

NEW YORK,

ATTENDING PHYSICIAN AT THE GOOD SAMARITAN DISPENSARY; ASSISTANT IN MEDICINE, UNIVERSITY AND BELLEVUE HOSPITAL MEDICAL COLLEGE.

SINCE the publication in the *British Medical Journal* for December 18, 1897, of Surgeon-Major Ronald Ross's epoch-making discovery of pigmented malarial organisms in the stomach-wall of the "dapple-winged mosquito," the mosquito-malaria theory has made rapid advances. While many important collateral points remain to be determined, the theory now rests in essentials upon a rigidly experimental and scientific basis.

In brief, it has been demonstrated by competent observers in India, Italy, and Africa that certain species of Anopheles, when fed upon malarial blood and kept at a favorable temperature, show in the stomach-wall during the next five to seven days a series of uniform and characteristic phenomena. There first appears in the meshes of the gastric muscle fibre, outside of the secreting epithelium, a small roundish pigmented body 6–8 $\mu$ in diameter. This body (zygote) is usually demonstrable by the end of the second day after inoculation. Fig. 1[2] illustrates a generally similar process in the stomach-wall of Culex pipiens fed on a bird infected with avian malaria (Proteosoma). The germ in its new site grows fast. By the end of the fifth day it measures 50 $\mu$ and more, and has a distinct wall or capsule (Fig. 2). Within many of the capsules (or "coccidia") a succession of elaborate reproductive changes occurs. On the seventh or eighth day (the exact time varying with conditions of temperature) the capsules rupture, and discharge into the cœlomic or general body cavity of the insect swarms of minute, straight, or slightly curved filaments (zygotoblasts) 12–16 $\mu$ in length and provided with terminal flagella. These filaments—first called by Ross "germinal rods," and in the German literature *Sporozoiten* (Nuttall) and *Sichelkeime* (Koch)—spread throughout the circulation of the insect and settle in great numbers in the cells of the poison-gland at the base of the proboscis. The infected insect is now able by biting to communicate malaria of a specific type to man.

This is not the whole story. Some of the coccidia are found to contain not filaments but a number of dark, hard-shelled, cylindrical bodies ("black spores") of variable length and outline, which also upon rupture of the capsule are scattered through the anatomy of the mosquito, but have not been seen to enter the glandular cells. To these, in spite of numberless ingenious experiments and speculations, no satisfactory significance has as yet been assigned.

For a complete history of this brilliant scientific work (of which but the briefest outline is meant to be given here) readers of German are referred to the admirable account, with bibliography, given by Nuttall.[3] An interesting and useful sketch in English has also been made by Futcher.[4] In *Nature* for August 3, 1899, will be found a complete and elaborate technical description, by Ross, of the successive phases of the extracorporeal life of the parasite, together with an attempt at a more perfect classification and nomenclature of the *Hæmamœbidæ* than has thus far prevailed. It is announced that certain of the Italian

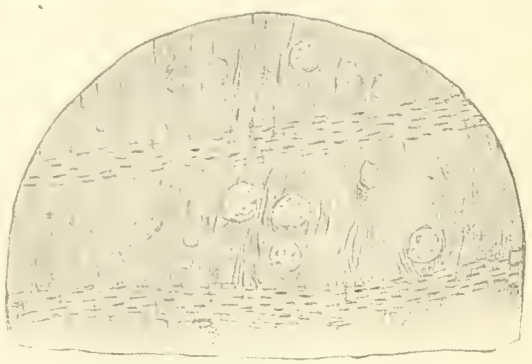

FIG. 1.—From a Preparation of Mosquito's Stomach, dissected thirty hours after the insect had fed on bird's blood containing Proteosoma. The pigmented cells evidently lie between the longitudinal muscular fibres, which they have to some extent disassociated. (From Manson.)

observers, Grassi, Bignami, and Bastianelli, have in preparation a series of plates, made from original sections and dissections, which will illustrate the cycle of changes observed in the mosquito in each of the several types of malarial infection.

The object of this paper is to describe some preliminary work of my own on the subject during the past August, September, and October, and to state briefly the problems that now lie before American workers in the same field.

There is a growing conviction among those best qualified to judge that among the mosquitoes (*Culicidæ*) the genus Anopheles will be found the only one that harbors the parasites of human malaria. Ross[3] dissected "quite a thousand" specimens (all the common species) of Culex inoculated with malarial blood, and failed in every case but one to find a single plasmodium. In the exceptional case he subsequently con-

FIG. 2.—Development of the Pigmented Cell. The figure marked "6th day" is intended to represent what is evidently a capsule whose contents have escaped. (From Manson.)

cluded, with much reason, that he had found an avian parasite, the mosquito having perhaps previously bitten an infected bird. Koch[4] claims to have found near Grosseto in Tuscany one Culex pipiens with zygo-

[1] Revised from an account given by invitation before the Practitioners' Society November 10, 1898.

[2] P. Manson: British Medical Journal, June 18, 1898.

[3] Centralbl. f. Bacteriologie, etc., xxv., 1899.

[4] Am. Jour. of the Med. Sciences, September, 1899.

[3] Brit. Med. Jour., July 1, 1899, and elsewhere.

[4] Deutsche med. Woch., 1899, No. 37, p. 601.

tobiasts (*Sichelkeime*) in the poison gland. He offers no evidence to show that this was not also, like Ross's case, a Proteosoma infection.

Until definite proof to the contrary is forthcoming,

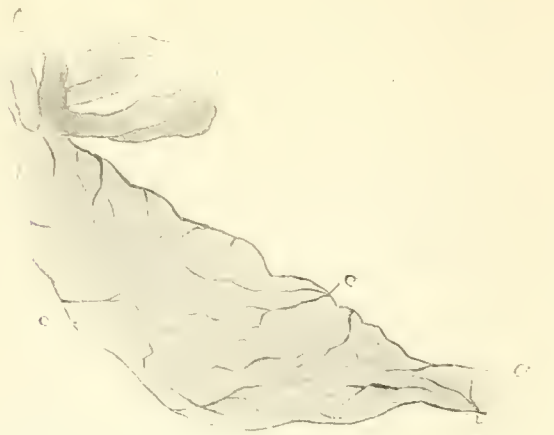

FIG. 3.—Stomach of normal Culex pungens (low power). *a*, Œsophagus; *b*, Malpighian tubules; *c*, *c*, minute air-tubes in the outer coating, just under the chitinous exoskeleton. Original dissection.

we may safely presume that Anopheles is at least the mosquito most often concerned in malarial propagation by suctorial insects.

The species of Anopheles in other parts of the world so far proved to be malaria-bearers are[1] A. claviger Fabr., A. pictus (or superpictus), A. nigripes, A. bifurcatus (probably a variety of nigripes), and A. pseudo-

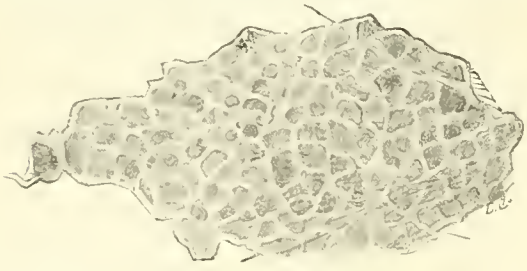

FIG. 4.—Epithelial layer and innermost muscular layer of stomach (Leitz objective 4), from near œsophagus; same dissection as Fig. 3.

pictus. Besides these are two or three species (not named—perhaps among the above) upon which Ross made his first experiments in India.

The first question of interest for American workers is, How many species of Anopheles are to be found in the eastern United States?

In Osten Sacken's "Catalogue of the Described N. A. Diptera" (second edition, 1878), the following list is to be found (omitting references):

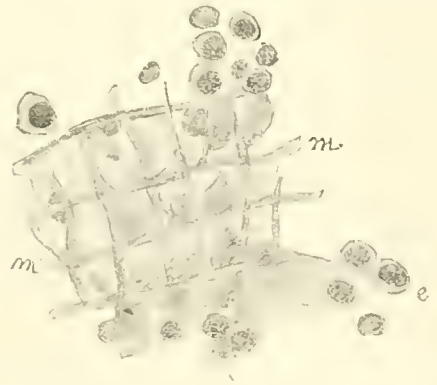


FIG. 5.—Transverse section of stomach of Culex. *e*, *e*, Gastric epithelium; *m*, *m*, meshwork of fibres in the muscular layer. ($\frac{1}{12}$ oil immersion objective, original preparation.)

1. A. annulimanus. Wisconsin.
2. A. crucians Wied. Maryland.
3. A. ferruginosus Wied. New Orleans and lower Mississippi.
4. A. maculipennis Meigen.
5. A. nigripes Staeger.
6. A. quadrimaculatus Say (A. pictus Loew). Atlantic States and Canada.
7. A. albimanus Wied. San Domingo.

It was not, I believe, the author's intention to make an exhaustive statement of the *habitat;* we may therefore view all of the first six as possible inhabitants of the eastern and southern United States.[1] Further study will doubtless indicate changes to be made in this list and additions to it. Mr. D. W. Coquillett, of the United States National Museum, kindly writes me (October 25, 1899) that he knows personally but three native species of Anopheles—A. crucians, A. quadrimaculatus, and A. punctipennis Say. "The last was set down by Osten Sacken as synonymous with crucians. It is undoubtedly a distinct species."

During late August, September, and October I have searched with some diligence in the neighborhood of

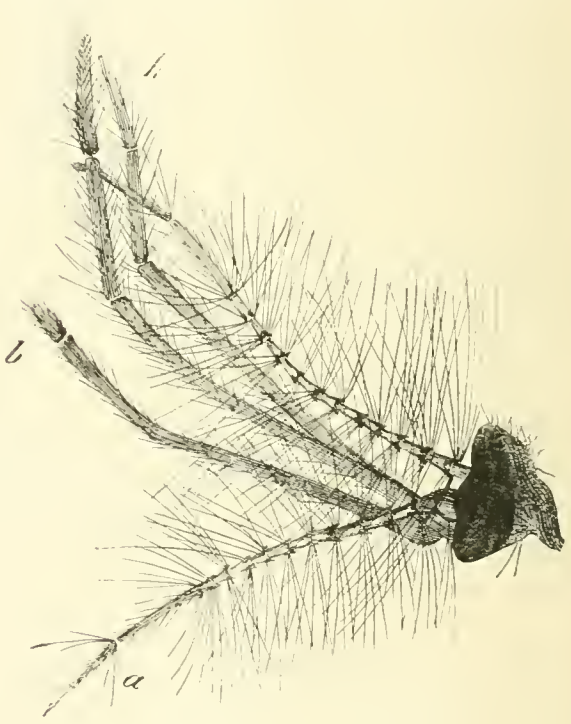


FIG. 6.—Head of male Culex (side view, head somewhat distorted). *a*, Antenna; *b*, proboscis; *h*, palpus. (Original preparation.)

New York for Anopheles, and have thus far not been able to find a single specimen. In Bronx Park, the open fields about Tremont, the vicinity of Port Richmond and West Brighton, Staten Island, and Corona, Long Island, there were hordes of Culex (several species), but nothing else. Acknowledging my own likelihood of error, the cold summer and early frosts were also perhaps responsible, since Anopheles appears considerably less resistant to low temperatures than Culex. At the last-named place, Corona, a part of which is admitted even by the inhabitants to be a plague-spot, I found a house on the edge of the swamps where there were three recent cases of malaria in one family. In one of the patients I demonstrated numerous tertian parasites in the peripheral blood. The other two were yellow and cachectic, gave a clear history of chills and fever on alternate days, and had improved on quinine. I made a thorough search of the walls and ceilings of the kitchen, basement, din-

[1] Nuttall: Lancet, September 16, 1899.

[1] Some valuable and recent information is to be found in "Principal Household Insects of the United States," by L. O. Howard, Department of Agriculture, Bulletin No. 4, New Series, 1896.

ing-room, bed-rooms, and hall. No Anopheles was to be found—only Culex. In a florist's hot-house near

Fig. 7.—Head of female Culex (drawn by mistake from the lower instead of upper side). *e, e*, Compound eyes; *h*, palpus; *t*, proboscis; *a a* antennæ (only six of the fourteen joints drawn). (Original preparation.)

by I saw many and caught several specimens of Culex pungens, but no Anopheles.

My experiments have been, therefore, confined to Culex, and have been uniformly negative. A number of individuals from two or three different species were allowed to bite (tertian) malarial patients in the fever stage (103° to 105° F.) at Bellevue Hospital. Numerous intracellular and extracellular parasites were in each case found in the capillaries of the patient just before the inoculation was made. Of the stomachs thus far examined none differed essentially from the control preparation of normal culex-stomach figured here (Figs. 3 and 4). In Fig. 5 is drawn a 3 μ paraffin section of the stomach of a Culex killed on the fifth day after inoculation. In stained serial sections of the entire body (all carefully studied with the oil-immersion lens) I could find nothing in the least suspicious. I am still at work upon other specimens hardened for sections.

As regards the natural history of the *Culicidæ* a few notes, taken mainly from Wiedemann's and Meigen's large works, may be of use to students who have no access to a good entomological library. Belonging to the *Culicidæ* there are several genera (Aëdes and others — the classifications vary) besides Culex and Anopheles. Only the last two have thus far fallen under suspicion of conveying malaria. Culex has in the male (Fig. 6) upcurved palpi that are much longer than the proboscis; in the female (Fig 7) straight palpi much shorter. Anopheles (Greek ἀνωφελής, Latin *inutilis*, useless, harmful) has in the female (Fig. 8) palpi that are nearly or quite the length of the proboscis; and the proboscis itself is as long as the abdomen, longer and larger than in Culex. This difference can be noted in a moment with a hand lens. Another difference, readily noticed if the insect is caught sitting, is that Culex sits flat on the wall, while Anopheles sits with the body almost at a right angle. The larva of Culex breathes through a minute tube in the tail and swims perpendicularly in the water. The larva of Anopheles breathes by an abdominal trachea and swims flat. As to the species of both genera, identification requires no little practice, and the beginner had best send his specimens (properly mounted and labelled) to the Department of Agriculture in Washington, where I have found Mr. L. O. Howard and his associates most courteous and helpful. A. maculipennis Meigen (Fig. 9) is readily distinguished by the five spots on the wing (Fig. 10) and by two in-curved hooks near the anus. This is the species called A. claviger Fabr. by those European writers who follow the nomenclature of the well-known Danish entomologist Fabricius.[1] A. quadrimaculatus Say has two spots[2] on each wing. Wiedemann describes two large and two small spots. It is a large mosquito, biting fiercely in the spring, and is thought to hibernate in houses and cellars. A. punctipennis Say "has a large yellowish-white mark near the last fourth of the

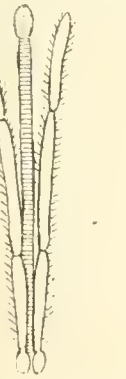

Fig. 8.—Proboscis and palpi of Anopheles maculipennis. (Enlarged from Meigen.)

Fig. 9.—Anopheles maculipennis, female (Enlarged from Meigen.)

costa" (Coquillett: personal letter). For minute details of these and the other species the specialists and special works must be consulted.

As to the malarial susceptibility of A. ferruginosus, crucians, punctipennis, and annulimanus, our native species, I know of no published observations. For physicians and entomologists in the Southern and Gulf States the study of these will be most fruitful.

In respect of the habits and mode of life of Culex I have nothing to add to the well-known facts save by way of confirmation. Culex is cleverly said by Ross to be a "pot-mosquito," Anopheles a "puddle-mosquito." This marks perfectly their habits of breeding. Culex lays its eggs by preference in pots, pans, barrels, wells, and other artificial accumulations of water. Anopheles lays in (or on hard substances near) pools in the fields or puddles in the streets and yards of marshy villages.[3] It is rarely or never in the stricter

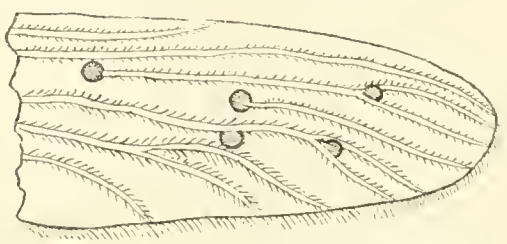

Fig. 10.—Part of wing of Anopheles maculipennis (From Meigen.)

sense urban. Both appear to prefer fresh water for breeding. L. O. Howard[4] says incidentally that water that is somewhat brackish will support mosquitoes.

[1] Grassi: Il Policlinico, 1898, No 17.

[2] A. S. Packard: "Guide to the Study of Insects," Salem, Mass 1873.

[3] Brit. Med. Jour., September and October, 1899. Correspondence of the British malaria expedition in Sierra Leone.

[4] *Loc. cit.*, p 6.

Ficalbi (quoted in the circular of the British Museum, "How to Collect Mosquitoes") affirms that they will breed in salt pans and salt marshes, of even greater saltness than the sea.

In August Culex can be found in almost any New York back-yard where flowers and grass grow. I have found them in many yards in my own vicinity. Since the cold weather began (about November 1st) I found more than half a dozen females hanging dormant (the beginning of hibernation?) from bits of cobweb on the ceiling of my cellar. They readily revived and lived for days when carried to a warmer room. A few have been recently appearing every week or so in the well-warmed laboratory of the Presbyterian Hospital, where I could find no possible breeding-place except the closet-tank. Specimens healthy when caught, kept warm, and properly fed will live usually as long as one needs them, in large test-tubes or bottles stopped with cotton. A few blossoming stalks of fresh orchard grass appeared to make a good food. Some stayed well and active for seven to ten days (they were then killed) on nothing but a drop of fresh sugar-water every day. Dr. Bancroft (reported by Manson, *British Medical Journal*, April 2, 1899), of Brisbane, Australia, kept them alive in captivity for upward of six weeks on bits of fresh banana renewed every four or five days. Diluted honey is probably the ideal food. The larvæ will hatch readily in a warm place (75° to 80° F.) and well-kept females will often lay in captivity. Out of a dozen or so specimens of live Culex sent me by Dr. L. T. Royster, of Norfolk, Va., one or more laid eggs in a minute pool of water in the bottom of the test-tube on the journey. Unless starved for twenty-four hours the females will not always bite readily. In most species the males do not bite. I have usually applied Culex to the soft skin of the inside of the patient's arm, but when hungry they will even puncture the tough skin of the palm.

As to the limits of temperature favorable to the growth of the malarial parasite in the mosquito, it has been found by Grassi and others that about 30° C. (86° F.) is most satisfactory. Koch[1] believes that a night temperature in rooms of 24° to 25° C. (77° F.) will be found a minimum. Culex in my experience dies quickly in an incubator kept at 37° C., though my experiments were too few to exclude other possibly unfavorable circumstances.

There are numerous questions for which the investigation has so far found no answer. The rôle of the "black spores" is still a mystery. Whether or not mosquitoes directly infect one another or their larvæ, and whether the infected adult bequeathes the disease to the ovum, has not been determined.

A still more vital question is, Are there other modes of malarial infection than by the bite of suctorial insects? Ross, Manson, and Koch, whose wide acquaintance with similar biological processes elsewhere makes their opinion wellnigh a scientific induction, have unanimously answered in the negative.

The vast commercial and economic interests involved in the question whether malaria can be exterminated need be little more than mentioned. It seems likely that the problem will hinge on the destructibility of Anopheles. A large literature on the subject is already in print, to which there is no space here to allude. The plans comprise briefly: (1) drainage of the breeding-pools; (2) destruction of the larvæ and adults with chemicals, *e.g.*, kerosene and pyrethrum; (3) the cultivation of fishes in the pools, or of other insects like dragon-flies[2] that make mosquitoes their prey.

[1] *Loc. cit.*

[2] See an interesting paper by Beutenmuller in Lamborn's "Dragon Flies vs. Mosquitoes." New York: D. Appleton & Co., 1890.

One point of urgent and immediate practical value[1] is that the malarial patient should be isolated from mosquitoes and considered a source of danger both to family and community so long as he has germs in the peripheral blood.

121 East Twenty-sixth Street.

## THE SUBMAXILLARY PART OF THE OPERATION FOR EPITHELIOMA OF THE LIP.

By CHARLES N. DOWD, M.D.,

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In March of last year the writer published, in the Medical Record, a plea for the exploration of the submaxillary spaces in patients from whom small epitheliomata of the lip were removed, and cited instances in which infected lymph nodes were found there, even when the epitheliomata of the lip were very small. Further developments in some of the cases referred to and facts observed in other cases make it desirable to bring the subject again before the medical profession, particularly as there have appeared within the current

Fig. 1.—Incision for the Submaxillary Part of the Operation for Epithelioma of the Lip.

year at least two articles, one in a leading American and one in a leading German journal, advocating plastic operations on the lip for cancer, but not suggesting the removal of lymph nodes beneath the jaw. One wonders why the contiguous lymph nodes are not more generally removed for cancer of the lip, when they are almost universally removed in operating for cancer elsewhere. Hardly any surgeon would remove a cancer of the breast without removing the axillary lymph nodes, yet it is still common to remove a lip cancer and not touch the submental and submaxillary nodes.

[1] Koch: *Loc. cit.*

Two possible explanations suggest themselves: 1. Many cases are known to have been cured by the simple excision of the growth from the lip. 2. Physicians generally believe that they can feel the submaxillary or submental nodes if they are infected.

Fig. 2. — Exposure of the Mylo-Hyoid Muscle, after the Skin, Superficial Fascia, Platysma, and Deep Fascia have been divided and retracted.

In answer to the first statement, it may be said that although many patients do recover from whom the lymph nodes are not removed, many others die because they are not removed. Fricke[1] has recently reviewed the histories of one hundred and fourteen cases of cancer of the lower lip treated in the Göttingen clinic from 1874 to 1896, and calls particular attention to the frequency of lymphatic involvement even when the primary growth is small. As there were only three cases of local recurrence in the entire number, the cure of the local growth can almost certainly be accomplished by excising it at a distance of one centimetre from its visible or palpable border; but the great majority of the deaths came from metastasis which resulted from lymphatic infection. The cancerous condition of the lymph nodes often existed when the lip ulcer was no larger than a hazel-nut; in one instance it was present in the submental nodes when the lip sore had been present only six weeks, and was small and not ulcerated, and the nodes could not be distinctly felt before operation. His statistics, which are in the main similar to those of other observers, indicate recurrences, or metastasis, in thirty-two per cent. of the cases, three-fourths of which were in the neck or under the jaw or in the jaw.

Gussenbauer,[2] as previously stated, found evidences of malignant infection of the lymph nodes in twenty-nine out of thirty-two ordinary cases of lip cancer. It is manifestly wise to turn our attention to the lymph nodes in all cases of lip cancer, even though some patients will recover without it.

As to the belief that the lymph nodes can be palpated if they are diseased, it is true that they can be in the great majority of cases; but the examination is so often made without counterpressure within the mouth in just the right places, that enlarged nodes frequently escape detection. Within the current year I have seen several experienced physicians and surgeons examine a patient with a small lip cancer, and fail to discover enlarged submaxillary lymph nodes, and yet at the operation several were removed as large as filberts. Again in some instances they are without doubt infected when they cannot be palpated before operation. It is far safer to make exploratory incisions in all cases than to rely on palpation to discover enlarged nodes.

In the previous paper exploratory incisions were advocated which were located beneath the margin of the jaw, and which extended forward about one inch from the facial artery, the incisions being extended in either direction as was necessary to remove all infected lymph nodes. Two patients operated upon by this method have since shown recurrences, one of them, sixteen months after operation, in the submental group, and nine months after that in nodes situated just beneath the margin of the jaw at the posterior margin of the submaxillary salivary gland, and seven months later in the nodes beside the internal jugular vein. The other patient had a recurrence fifteen months after operation in nodes at the posterior margin of the submaxillary salivary gland. It is not certain that these nodes would have been found at the time of the first operations if longer incisions had been made. They could not be palpated, but their involvement indicates the desirability of carefully inspecting the locations in which they lie.

At least three localities should be examined in order to make a proper exploration of the lymph nodes beneath the jaw, which are likely to be infected in lip cancer.

Fig. 3.—Exposure of the Submaxillary Salivary Gland after the Mylo-Hyoid has been drawn forward. The gland is drawn downward so as to show lymph nodes above its anterior border which are nearly constant, and lymph nodes at its posterior margin which are sometimes found.

[1] Theodor Fricke: "Beiträge zur Statistik des Lippenkrebses." Deutsche Zeitschrift für Chirurgie, Band 50, Heft 1.

[2] Gussenbauer: Zeitschrift für Heilkunde, 1881, Bd. ii., S. 17

I. The region above the anterior part of the submaxillary salivary gland. There are regularly two or three nodes here, and they are the ones most commonly affected.

II. The space under the chin between the anterior bellies of the two digastric muscles; there are regularly two or three nodes here, and these are the ones next most commonly affected. They are sometimes called the submental nodes.

III. The region beneath the border of the jaw about the posterior part of the submaxillary salivary glands; the nodes here are less commonly affected.

In addition to these three localities, the region of the internal jugular vein should be explored when the submaxillary nodes are decidedly infected. Incisions two and one-fourth to two and one-half inches long should be made. They should be beneath the margin of the jaw as shown in Fig. 1. Scars in this region which are parallel with the jaw border show hardly any tendency toward stretching.

After cutting through the skin, the superficial fascia, the platysma myoides, and the deep fascia, the mylohyoid muscle is brought into view. If this is pulled well forward, and if the two margins of the wound are also strongly retracted, the submaxillary salivary gland comes well into view. It may be loosened or drawn down so as to expose well its upper anterior surface, and the nodes which regularly lie above it there may be removed. If they appear infected and adherent to the salivary gland, that may also be removed, but it is seldom infected. The retractors should then be applied to the posterior part of the wound, and the tissues under the margin of the jaw should be inspected as far back as the parotid gland. Frequently two or three nodes are found just back of the submaxillary salivary gland, which should be removed.

After this is accomplished the retractors should be put in the anterior part of the wound, and the dissection carried forward to the submental nodes. There are usually three of them, and they lie about one-half to three-quarters of an inch below the symphysis menti, between the anterior bellies of the two digastric muscles.

If the nodes beneath the jaw are found infected the deep chain of lymphatics which accompanies the internal jugular vein should be examined. The upper part of this chain can be reached through the incision already made, but if it is necessary to remove nodes from the lower part of the chain an incision along the course of the carotid is desirable.

In closing the wounds careful apposition of the skin edges is important, and the subcuticular stitch is best adapted for the purpose. A small opening in the middle of the incision may be left through which a bit of rubber tissue may be put for drainage, since the proximity of the mouth and ether cone makes it difficult to preserve asepsis. This is to be removed in forty-eight hours if healing is progressing satisfactorily.

The ultimate results of this operation cannot yet be determined, but as some method of removing the lymph nodes from beneath the jaw in cases of lip cancer is coming more and more into general use, we may expect reports in due time. The particular purposes of this communication are to call attention again to the desirability of removing the nodes from beneath the jaw, and to indicate the exact location of the nodes most likely to be infected, and the way of reaching them.

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Soaps containing antiseptics have been found to possess less antiseptic power than the same amount of such substances without the soap. In disinfecting the hands, a non-antiseptic soap can first be used, and the desired antiseptic afterward applied to greater advantage.

## THE PREVENTION OF CONTAGIOUS DISEASES.[1]

By FRANK W. WRIGHT M.D.,

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It seems to be the custom for sanitarians to discuss fanciful theories rather than the practical questions that are daily met by those actively engaged in municipal sanitation. Contagious diseases we always have with us, and their suppression, or at least minimization, is of vital importance to any community.

It is expected that he whose duty it is to assist in preserving the health of a community will be progressive, and attempt by all means that are practicable so to educate the people as to the measures necessary to accomplish this, that they will co-operate; but when his views are so far advanced, both in theory and practice, that they cannot be understood, or he attempts to enforce the law so rigorously that the people consider their rights to be encroached upon, he is going beyond his duty, and doing irreparable injury to the cause. That there is a gradual advance in public sentiment is certain, and it is just as certain to those whose duties bring them almost constantly in contact with contagious diseases that measures cannot be successfully enforced that do not have the support of public opinion, and that this opinion will sustain more and more rigid measures as fast as it is demonstrated that good comes from them.

From a very early period in the world's history, it has been recognized that certain diseases were in some way conveyed from place to place and from one person to another, and there has been some attempt to limit these diseases when they became epidemic. That these diseases were rendered more communicable by certain acts of mankind, was also recognized. As early as 1500 B.C. the Egyptians formulated certain hygienic rules. The ancient Jews also enforced many sanitary regulations, but to give them the strength and support of public sentiment they were made religious rites. As the world became more enlightened and these diseases have become better understood, more effective regulations have been adopted. It is to be presumed that in all these years there have been many persons, as there are at the present time, who could not see the wisdom of these regulations, and consequently put many hindrances in the way of those who were to enforce them. At certain periods the cause of contagious and infectious diseases was attributed to conditions of the earth and atmosphere, and it is not improbable that, to a certain extent, such is the case, but these conditions must be regarded as secondary to the now generally accepted causes. It is only within very recent years that anything definite has been known as to the real cause of a contagion being conveyed from one person to another. Bacteriologists have shown us that the causes are micro-organisms that are capable of being conveyed from place to place and from person to person, and that contagious and infectious diseases only invade new localities as communication by persons and commerce acts as their means of locomotion. Bacteriologists, in studying the life of these germs, have also studied how they may be destroyed. They have gone still further, and in a few instances have produced an antitoxin, and as time goes on will produce more, so that it is very probable that many living to-day will see antitoxins for both the curative and preventive treatment of nearly all of the diseases caused by micro-organisms.

To cause a contagious disease there must be at least two conditions: first, there must be the poison or germ of a particular disease, and next there must be a peculiar susceptibility, whatever that may be, to this dis-

[1] Read before the American Public Health Association, November 1, 1899.

ease. Neither one of these conditions in themselves can do harm, but by bringing them together the disease results, which in turn produces more micro-organisms, and these being disseminated may meet other susceptible persons.

To prevent the spread of these diseases, two objects must be accomplished: first, the destruction of the poison given off from the sick one, which is called disinfection, and second, the prevention of any poison that has escaped disinfection from coming in contact with susceptible persons; therefore isolation. There is one other way in which certain diseases may be limited—that is, by rendering persons immune by inoculation, as in smallpox and diphtheria, it being now practically impossible for the former of these diseases to obtain a firm foothold in any well-vaccinated community.

If, therefore, isolation and disinfection, which are so easy, will prevent contagious diseases, why are not these complaints entirely done away with, or at least reduced to a minimum and kept there?

The answer to this is the practical side of the question. Theoretically isolation and disinfection are possible, practically they are not; and why? Because of the lack of co-operation by all and the indifference of many. The persons who can, and do, do the most to assist in this labor are the members of the medical profession. These, by the nature of their close relation with the family, are in a position to advise as to the measures to be pursued in a home attacked by a contagious disease; they can report their cases promptly to the authorities, that others may be warned and official action may be taken to confine the disease; and they may also render substantial aid by expressing confidence in the authorities and in the regulations. This by far the larger part of the profession do. But there are enough physicians in every community, who are inspired either by petty jealousies or pure perverseness, who conceal their cases, or report them too late for the public to be warned; who neglect to instruct the family as to precautionary measures; who cast insinuations upon the competency of the officials of the health department, and evade as far as possible all regulations. Some even go so far as to advise those who place implicit confidence in them, that the whole business amounts to nothing. The presence of half a dozen physicians of this kind in a community interferes with any system and renders ineffective the services of a hundred who lend their support.

The people themselves are gradually becoming aware of the fact that contagious diseases can be controlled by attention to disinfection, and that the sick should be separated from the rest of the family. It is truly surprising to see the zeal certain persons exhibit when their neighbors are afflicted, but they themselves illustrate that "familiarity breeds contempt," when their own families are attacked, and disregard all sanitary precautions. This feature is not confined to the ignorant, but rather is to be seen among those who are regarded ordinarily as intelligent people.

One may pertinently ask, Why not enforce the laws? My experience is similar to that of others, namely, that the courts do not sympathize with the health department, and will not prosecute those who flagrantly violate the health ordinances; or, if they do, they either require impossible evidence, or push the matter with so little energy that the effort reacts to the injury of the department.

The effectiveness of the sanitary work of a city is in direct proportion to the amount of money allowed for it by the city councils. The suppression and care of contagious diseases are necessarily expensive, but as politics in a considerable degree control appropriations it cannot be expected that non-partisan health boards will be generously dealt with. As it now is, an injustice is done to the poor man whose family is attacked, if the case is reported. His boss, who, when he has the same trouble in his own family, insists there is no danger, immediately lays him off from work. He thus loses his source of income, and is obliged to run in debt or become a public charge. Consequently he conceals, if possible, any sickness of a contagious nature in his household.

There are certain persons who argue that our most common contagious diseases are maladies that can best be borne during childhood, and that by preventing them during that period, or in early youth, we are rearing a population of adults who are liable to contract these complaints with more fatal and disastrous results both to the afflicted and to the community in which they reside. These people, by their actions and influence, greatly obstruct the work of health boards.

Epidemics do not often arise as such, but have their origin usually from a small beginning, gradually spreading from person to person, costing valuable lives and much money, which might have been easily avoided by a little care at first and a few well-spent dollars. The first requisite is uniformity in health laws and usages, thoroughness in any locality being to an extent useless, if an adjoining town is negligent in adopting and enforcing proper precautions. A medical man should inspect the schools daily, and examine each child that seems to be ailing; he also should inquire into the cause of illness of those who are reported sick, and in case of doubt personally examine them. If a disease at all suspicious should be found, all children of the family should be excluded from school until an accurate diagnosis can be made. The writer is convinced that children with mild cases of diphtheria and scarlet fever occasionally attend school throughout the whole course of the disease.

A good hospital for the exclusive accommodation of those suffering from contagious diseases should be maintained in every city. The writer found a short time ago, by inquiry, that of the sixty-two principal cities in the United States and Canada, less than one-quarter were provided with decent hospitals for contagious diseases, some not even having a place for the care of smallpox. All cities should be compelled by law to provide a hospital for the care of these diseases. Smaller places could easily and cheaply provide sectional hospitals, that could be taken down and transported from place to place as required for the use of those who could not receive proper domiciliary care. Such buildings would possess the advantage of being easily disinfected. A hospital to be complete would necessarily require modern disinfecting apparatus, an ambulance, trained service, and a detention building for the accommodation of those suspected of having a contagious disease. In addition, boards of health must have liberal appropriations of money for the care of the sick, and the full and free support of the medical profession and of the public at large. The dread of smallpox at this time is so great that public sentiment will sustain any measures for its suppression, no matter how radical. This same feeling is gradually being developed in regard to scarlet fever and diphtheria, but it has not reached the point where it demands the prompt and decisive action which it should. It does not always sustain such action, which is just as essential as the work itself. The expense of limiting these diseases would at first be great, but if we could with accuracy determine the aggregate expense to both individuals and municipalities, I am convinced it would be found that it is costing more now than would be necessary to carry out a good system. The writer makes the following conservative estimate of the average cost of a contagious disease under the present system.

One person at least is thrown out of employment on

account of every contagious disease; often several are obliged to remain from their work. Basing the estimate upon the assumption that this person can at least earn a common laborer's pay—$1.50 a day—and that he will be compelled to lose this for two weeks or twelve working days, we find that he loses $18 from his earnings. Happy is he who escapes with a bill for a like sum for medical attendance; $36 for lost time and the doctor. Now with medicine, nursing, and articles destroyed the sum is easily increased to $50.

This altogether too conservative estimate places on the average the direct cost to the head of the family in which the sickness occurs at $50 if the patient recovers. Indirectly the cost may be vastly more than this.

The comparison of the origin and spread of these diseases to a fire is old, but appropriate.

It will be practically impossible to prevent isolated cases now and then occurring until bacteriologists have taught us more concerning the micro-organisms that cause them, and every city and town has adopted the same stringent regulations and makes sure they are carried out in detail. Then, when from an isolated case the disease spreads and other cases occur, some one will be responsible, as all great epidemics, like great conflagrations, usually begin with such small proportions that almost any well-directed effort to subdue them at an early stage would be successful. Health departments should be as well or better equipped than fire departments; as when a flame is quenched, no matter how great the threatened peril at first, the danger is gone; with the alarms the health department receives, the danger only begins, the flame burns constantly for weeks and is liable to break out with renewed vigor at any moment, until the patient has recovered and every article which may have been in the least infected has been disinfected. Thus for a long time does one single case of a contagious disease require constant vigilance. All cities maintain at great expense well-equipped fire departments. Why not have the health department as well equipped, so that when a physician is called to see a sick person and makes a diagnosis of a contagious disease he may immediately notify the health authorities, who have a representative constantly ready to respond at once to the call? This person without delay visits the place, and if he is convinced that the patient can be isolated at home so as to expose none but the necessary attendants, he should be allowed to remain there, but the portion of the house not used for the sick person's care should at once be disinfected. The responsibility of the health authorities should not end until the patient has recovered and everything has been disinfected. Until then they should have personal knowledge that their rules and regulations are being fully complied with. If, on the other hand, as in the majority of cases is likely to happen, it is found that the sick one cannot be completely isolated, or that from any cause others may be endangered, the ambulance should be at once summoned and the patient removed to the hospital, and at the same time all articles which have been subjected to infection and can be transported should be taken to the disinfecting plant and sterilized. These can be returned within twenty-four hours, or as soon as the house is ready to receive them. When the sick person and infected articles have been removed, a corps of trained and reliable assistants should immediately cleanse with disinfecting solutions any room or portion of the house which could possibly in the future be a source of danger. As soon as all this is accomplished the bread-winners of the family could pursue their usual vocations.

This plan, when put to the test, may need modifications, but in the main could be carried out. The expense, which upon first thought would seem to be very great, would not be so large as to render it impracticable; as, after the plant was once established, the number of persons constantly employed would be small. In times of need, outside help could be secured.

Undoubtedly, many lives are sacrificed by contagious diseases yearly that could be saved if all persons would conscientiously give attention to details and lend their support both morally and financially.

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## LIGATURE OF THE FIRST PORTION OF THE LEFT SUBCLAVIAN ARTERY FOR ANEURISM; DEATH AFTER FOUR WEEKS.

By F. KAMMERER, M.D.,
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In view of the fact that ligature of the left subclavian artery within the thorax has perhaps never before been attempted, I venture to report the following case:

L. W——, aged forty-seven years, was admitted to the German Hospital, in New York, on September 27, 1899. Twenty years ago he had contracted syphilis, but had had no secondary or tertiary lesions, according to his statement. In July of this year, he for the first time noticed a small swelling in the left supraclavicular region. He distinctly stated that he had received a blow at this point, some weeks previous. The growth gradually increased in size until he came to the hospital. For three weeks he had noticed a numbness in the third and fourth fingers of the left hand. When I first saw him, a tumor, about as large as a man's fist, was present in the region above stated. The tumor was in part covered by the sternal end of both the left sterno-mastoid muscle and the clavicle. It entirely filled the angle formed by them, and overlapped the clavicle to a slight extent. Immediately above the clavicle, it was in close relation and adherent to the skin covering it. The pulse at the radial artery was scarcely retarded on the left side. Expansile pulsation of the tumor was very marked. There was no dulness on percussion of the anterior upper part of the thorax.

The case seemed a very urgent one indeed, more especially as the aneurism was already adherent to the skin above the clavicle and evidently preparing to rupture. I therefore concluded that palliative treatment would be of little value, and that the patient's only chance lay in ligature of the subclavian on the cardiac side, the distal ligature being unavailable owing to the many collateral branches of the sac. I was encouraged in this view by the belief that the aneurism did not extend for a great distance into the thorax, and, secondly, by a perusal of Wyeth's able article on "Special Aneurisms," in his "Text-Book of Surgery," where the author gives a more favorable prognosis of ligature of the left than of the right subclavian artery. He bases this opinion mainly on the unfortunate position of the innominate artery, which is in a direct line with the impact of the blood current forced out by the left ventricle. The operation was performed in the following manner, on October 18, 1899:

Under chloroform a transverse incision passing over the ends of both clavicles and the manubrium of the sternum, fully six inches in length, was made. A vertical incision in the median line of the body, beginning at the cricoid cartilage and meeting the transverse incision on the sternum, was now added. The flaps thus outlined were dissected from the underlying parts. With the help of Gigli's saw, about one and a half inches of the right and two inches of the left clavicle, bordering on the sternum, were resected. The aneurism was in such close relation to the left

clavicle that great care had to be taken at this stage of the operation. The upper end of the sternum was now removed for about a half an inch. The two innominate veins were thus exposed, whereupon it became apparent that access could not be had to the left subclavian artery, owing to adhesions of the left subclavian vein with the aneurism, as a result of which the space between the first left rib and the left innominate vein was entirely too small for any manipulations at such depth as is made necessary by the course of the subclavian artery after its origin from the aortic arch. I, therefore, resected two inches of the sternal end of the first rib, and removed the corresponding part of the manubrium. Even now, the arch formed by the superior cava and mainly by the left innominate vein, below which, of course, I had to search for the subclavian artery, proved a great hindrance, as I did not venture to dissect the innominate vein from the aneurismal sac. Two blunt curved retractors were inserted below the venous arch, and the latter was, with great care, pulled somewhat in an upward direction, out of harm's way. However, during the entire operation, I was in continual fear of a lesion to these vessels, as at times strong traction had to be exerted upon them. I now separated the tissues to the left of the three arteries springing from the arch of the aorta, with my fingers, and as I was doing this I could very distinctly, in turn, recognize by the touch first the innominate, then the left carotid, and finally the left subclavian artery, the latter at about a distance of two and a half inches from the posterior surface of the sternum. When pressure was exerted upon the subclavian with the tip of my finger, forcing it toward the vertebral column, pulsation immediately ceased in the aneurism and in the left radial artery. Under such circumstances, it was impossible to expose the subclavian artery to view, and then to separate it from its sheath. To accomplish the latter, I had to rely upon the sense of touch, and separation of the artery from the surrounding tissues was done entirely by the aid of my left index and a pair of long curved scissors, which were not used as a cutting instrument. Contrary to my expectations, I succeeded in this very well, and I soon had the vessel sufficiently isolated to think of passing a ligature around it. This proved a very difficult task, however, and it was only after many and prolonged attempts that I succeeded in passing an aneurism needle and a thread. With the assistance of the latter, I also passed the ligature beneath the artery. It consisted of several pieces of strong chromicized catgut, wound together. I now tightened the first hitch of a surgical knot until I felt a resistance, and until pulsation in the aneurism and the arteries of the left upper extremity entirely ceased, my object being to stop the circulation, but not to injure the coats of the vessel. The knot was now completed. No drainage was established from the seat of the ligature, but the soft parts were allowed to come together, closing the deep wound cavity. The vertical incision was entirely closed by sutures, as were also the ends of the horizontal incision, thus covering what remained of the clavicles. The remainder of the wound was covered with loose gauze. The operation had lasted over three hours.

The course of the case for the first three weeks was entirely uneventful. After the first few days, the patient's temperature and pulse became practically normal, and the wound cavity was soon lined with healthy granulations and filled up rapidly. On the day after operation, there was no pulse in the left radial nor in the aneurism. The latter had decreased considerably in size. The left arm was not swollen, nor was its temperature appreciably lowered, and sensation and muscular power were intact. On the following day, October 20th, there was faint pulsation at the left radial, but none could be detected in the aneurism, and sensation in the arm was slightly retarded.

October 22d: Sensation was apparently normal in the left arm.

October 23d. The pulse at the left wrist was somewhat stronger.

October 25th: The patient complained of shooting pains in the left arm.

October 30th: There was slight œdema of the left hand.

November 3d: The œdema of the left upper extremity had increased a little. The patient continually complained of intermittent shooting pains in the left arm. The pulse in the left radial artery was no stronger than on the third day after operation. There was not the slightest pulsation in the aneurism; the sac was firm and not compressible.

November 6th: On that day the patient complained of a feeling of weakness. Temperature, 101° F.; pulse, 120. On removing the dressings, it was seen that they were saturated with a considerable quantity of fresh blood. Several clots were found on the wound surfaces, which otherwise had the appearance of healthy granulations. On the left side, near the aneurismal sac, a blood clot lay, which was firmly attached to the surrounding tissues.

From this time until November 15th, the dressings, which were changed at least once a day, were always filled with blood, although when they were removed no bleeding point could be found on the granulating surface; the temperature had risen to 103° F. nearly every day since the hemorrhages began, and the pulse ranged between 110 and 130.

November 15th: The patient showed the effect of the continuous loss of blood during the last ten days. At 1 P.M. there was a sudden and very severe hemorrhage, saturating the dressings and the bed linen. Pulse, 140 and very weak. There was slight collapse, but he rallied well.

November 16th: At 4 A.M. another hemorrhage occurred. Pulse, 154, hardly perceptible. At 2:15 P.M., death from exhaustion took place, on the thirtieth day after operation.

At the autopsy, it was found that the hemorrhages had been caused by rupture of the artery at the site of the ligature. The wound was in an aseptic condition. The loop of chromicized catgut had been to a great extent absorbed, especially at the point immediately opposite the knot, but a few strands were still present here, to hold the loop together. The latter had cut through the coats of the artery and almost completely severed the vessel; but it was still lying within the lumen. The knot, however, rested on the outside of the vessel. The distance from the aorta to the ligature was one inch. There was not the slightest trace of a clot on the proximal side of the ligature. The aneurismal sac was lined on its inner surface with a layer of fibrin, varying from one-half an inch to an inch in thickness.

The left subclavian artery has to my knowledge been tied twice before in its first portion as it emerges from the thorax, once by Kearney Rodgers in 1845 with a fatal result, and once by Halsted during extirpation of an aneurism as a preliminary step. His patient recovered. In my own case the situation of the aneurism made such a procedure impossible and necessitated the application of a ligature nearer the aortic arch. The unfortunate final result after an undisturbed course for several weeks was rather discouraging. I had used an absorbable ligature, and the wound surfaces had closed around the same without suppuration—two requisites for a favorable result after deligation of large arteries. Whether or not I avoided rupturing the inner coats of the artery while tightening the first hitch of the surgical knot, I cannot

say—a very important point, according to the experiments of Ballance and Edmunds, Senn, and others. "The living and uninjured wall is the only true safeguard against hemorrhage," to quote Ballance and Edmunds, and this must be especially true of the first portion of the subclavian in man, as the walls of this vessel are exceptionally thin in proportion to its size. The clot on either side of the ligature has really little to do with the tissue transformation that occurs within the uninjured vessel and about the aseptic ligature, leading to permanent occlusion of the artery. Some authors (Bruns) even believe that when the coats are not ruptured clotting does not occur. In my case there was no trace of a clot on the proximal side of the ligature, but I cannot accept this as a proof of my not having injured the coats during application of the ligature. Senn's plan of applying two ligatures, at some distance from each other, thus leaving a bloodless space between them, was not applicable to my case. Nor did I feel that I could have applied a stay-knot, as Ballance and Edmunds recommend, with any amount of exactness, owing to the depth of the wound. Still it seems to me now that an attempt should always be made, in ligating large arteries, to pass several ligatures. We will thus most readily avoid injury to the coats of large vessels and succeed in arresting the circulation.

## Progress of Medical Science.

**Giant Cells in Carcinoma.**—In an examination of four tumors of carcinomatous type obtained from operations J. A. Becher (*Virchow's Archiv*, 156, p. 62) advances a theory of the production of the giant cells which are so frequently found about the "epithelial pearls" in these tumors. The tumors were of the following types: (1) Carcinoma of the foot, developed from an unhealed injury of the soft parts, (2) carcinoma arising in a fistulous tract in a femur which was the seat of osteomyelitis; (3) carcinoma of the lower lip; (4) carcinoma formed at the base of a degenerated lipoma of the back. The giant cells surrounding the "pearls" and, in case 4, also about the hyaline connective tissue, are to be looked on as foreign to the tumor cells proper and possessed of amœboid and phagocytic properties. They form themselves in the periphery of the tumor about the "pearls," surrounding them, breaking in between them, and finally destroying them; while the process ends with complete organization of the carcinomatous nodules with young connective tissue. Thus the process may be looked upon as one of constructive repair and a type of healing. The appearance of the giant cells is not only facilitated but stimulated by long-continued inflammatory processes incidental to the slowly developing tumors. Becher maintains that the giant cells are developed from the connective-tissue cell, though in one case the evidence seemed to point to the epithelial cells as giving origin to the phagocytes. The positions assumed by the giant cells are similar to those found in tubercle tissue, in which, as is well known, the phagocytic function is maintained, though Langhans assumes that the peripheral position in the tubercle is a secondary process brought about by toxic, trophic, or mechanical changes. With reference to the genesis of the cells, Becher maintains the position adopted by Marchand, that they are in reality types of myelocytes. The young mononuclear cell undergoes the mitotic process, but no actual division of the protoplasm takes place. The nucleus, however, divides, and thus the multi-nucleated cell arises, which cell by means of its increased proportion of nuclear substances possesses much greater energy than an ordinary cell, and can thus act better as a destroyer of poisonous agents. Thus in an indirect way this point of view would uphold the parasitic nature of the carcinomatous process. The ultimate destiny of the giant cells is not yet thoroughly determined, but the greater number of them undergo fatty degeneration.

**Pathology of Ovarian Dermoid Cysts.**—The latest researches have shown a distinct difference between dermoid cysts of the ovary and those of other regions of the body. The contents of the former, though for the most part composed of cells arising from the epiblast, also contain tissues derived from the other embryonic layers of the body. An interesting case in point is described by Arnsperger, of Heidelberg (*Virchow's Archiv*, 156, p. 1, 1899), of a young woman aged twenty-seven years, in whom there was found a typical ovarian cyst. In the wall of this cyst, bulging inwardly, were two rounded masses, the smaller one of walnut size, which merged into one another. Both were covered with a hairy skin, and both histologically and anatomically the masses might be said to have been rudimentary embryos. Thus there were present a central nervous system in the smaller one, epidermis, skeletal frame, and a tube-like structure resembling the trachea, attached to which was a well-formed alimentary canal. This latter may be said to be a rare find, for usually the ectoderm tissues predominate. After mentioning other noteworthy recorded cases of like kind, the author dwells on the origin of the dermoid ovarian cysts. In this connection he brings out the resemblances existing between these tumors and the Graafian follicle. He agrees with Wilms and others that the fully developed ovum is the mother soil of these cysts. Further than this, it can be said only that a process of accretion of the ovum leads finally to the formation of dermoids and teratomata. Whether, at the very beginning, the cyst arises from an undeveloped double ovum or from the union of ova of different Graafian follicles is still a matter of hypothesis. Richter's theory, of the union of two ova, one fertilizing the other, a sort of parthenogenesis, is that adopted by the author. Dermoid cysts of the scrotum resemble completely those of the ovary, and, it may be inferred, are developed in much the same way from an original sex cell. They are almost always congenital. If not, however, it might still be possible to trace their origin to an ovum which remained undeveloped until later life.

**Vaginal Hysterectomy for Carcinoma of the Uterus.**—Jessett (*Lancet*, November 18, 1899, p. 1359) reports the results of vaginal hysterectomy for carcinoma of the uterus in one hundred and seven cases operated on during seven years. Nine of the patients died from the operation—3 from shock, 2 from intestinal obstruction, and 4 from peritonitis. Of the whole number 4 were operated upon in 1892, 17 in 1893, 22 in 1894, 16 in 1895, 18 in 1896, 18 in 1897, and 12 in 1898. Of the 4 patients operated on in 1892, 1 is known to be well; 1 died within a year from recurrence; 1 had an early recurrence; and 1 was lost sight of. Of the 17 patients operated on in 1893, 1 died from septic peritonitis, and 6 had recurrence and died within a year. Of these 1 died within three months from a secondary growth at the pylorus, and 1 nine months after the operation from a secondary growth in the intestine. There was no local recurrence in either case. Three of the patients were lost sight of, but they were well twelve months after the operation, and the remaining 5 were free from recurrence two and three years after the operation. Of the 22 patients operated on in 1894 early recurrence took place in 5, and 3 died from the operation—1 from shock, 1 from intestinal obstruction, and 1 from peritonitis. One patient

died twelve months after the operation from other causes, and there was no local recurrence. Seven patients were well from nine to fifteen months after the operation, and the remaining 6 were well two years afterward, and so far as is known without recurrence. Of the 16 patients operated on in 1895 early recurrence took place in 5, in 2 within a year, in 2 within two years, and in 1 within two and a half years. The remainder were well when last seen, 4 of these quite recently. Of the 18 patients operated on in 1896, 2 died from septic peritonitis, recurrence took place in 5 within a year, and 1 died within a year from secondary glandular involvement, but without local recurrence; 2 patients were lost sight of, and the remainder were free from recurrence when last heard of. Of the 18 patients operated on in 1897, 2 died, 1 from intestinal obstruction and 1 from peritonitis. In 3 early recurrence took place, in 1 secondary deposits in the abdomen, 2 were lost sight of, and the remainder were free from recurrence when last seen. Of the 12 patients operated upon in 1898, 1 died. This was a case of combined abdominal and vaginal hysterectomy, the carcinomatous uterus being also the seat of several myomata. In 1 case immediate recurrence took place; of the remainder it is yet too early to make any comment, although they are free from recurrence. Two of the cases were complicated by the presence of ovarian cysts, which were tapped through the vagina, and their contents removed. Both patients recovered. In 5 cases myomata were present, in 4 instances necessitating the performance of the combined abdominal and vaginal operation. Two of these died from shock. Myomata of smaller size were present in several other cases, and in these the diseased organ could be removed through the vagina. In 13 cases the seat of the disease was limited to the body of the uterus; in the remainder the disease commenced in the cervical canal or the enlarged os, and in many of these the mucous membrane of the vagina was more or less invaded.

**Obstruction of the Pylorus by New Growths.**—Allaben (*Journal of the American Medical Association*, November 25, 1899, p. 1338) records a case of obstruction of the pylorus due to the presence of a new growth in which pylorectomy was performed, with a successful result. As an outcome of his study of the subject he submits the following conclusions: Carcinoma is one of the most potent factors in the causation of death, with a tendency to increase constantly in frequency of occurrence. The stomach is involved in about one-fifth of all of the cases of primary carcinoma, the pyloric region being affected in sixty per cent. of the stomach cases. The treatment of gastric carcinoma having in view a permanent cure is in the present state of knowledge limited wholly to surgical methods. As early total extirpation of malignant growths with the hope of permanent cure is the goal to be reached, and as these growths occur with such frequency at the pylorus, it would seem to follow as a natural conclusion that pylorectomy would be the treatment most frequently employed for the cure of this malady. Inasmuch as early diagnosis is the most important requisite for the institution of proper radical treatment, the clinician and the surgeon should concentrate their best efforts in this direction. If the operation of pylorectomy be performed before symptoms of obstruction manifest themselves, and before the occurrence of metastasis, the immediate result will be as favorable as is obtained in any other form of abdominal surgery, and the remote results as good as from extirpation of carcinoma of the breast.

**Successful Removal of a Bullet Lodged in the Brain for Nine Months.**—Bampton (*British Medical Journal*, October 28, 1899, p. 1189) reports the case of a lad who shot his brother accidentally with a pistol, the bullet wound being situated just in front of the left motor area. There was no loss of consciousness, although the lad fell to the ground, and shortly vomited. On the same day trephining was practised over the wound, the patient being under ether, and on removal of the bone it was found that the inner table of the skull, some hair, and a thin stripping envelope of lead had penetrated the brain. These were removed, but the main portion of the bullet could not be seen, felt, or traced. As it was thought that the bullet might have gone through the brain to the opposite side, or had dropped down, it was considered unjustifiable to grope about in the brain-substance when there was no indication or symptom as to the whereabouts of the foreign body. It was, therefore, decided to close the wound after thorough cleansing, and await symptoms, or to use the *x*-rays to localize the bullet. The patient made a good recovery, being kept on the lightest of diet. The temperature remained subnormal, and the pulse slow (from 50 to 60). When solid food was given, vomiting took place. There were pain over the left orbit and constipation. There were no paralysis and no twitching. The *x*-rays were used on two occasions without yielding the desired information, and each attempt to photograph was followed by increased headache. After six weeks the patient was allowed to get up, and was able to go about. Any imprudence or indulgence in heavy food caused a return of vomiting, eye-ache, and headache, and necessitating a return to bed and a starvation diet. At the same time slight ptosis of the left eyelid was noticed, and the face was drawn slightly to the left. Improvement continued, and after some eight months the patient was well enough to undertake a journey, in the sequence of which he had a convulsion, with loss of consciousness, after riding on a tram-car. No muscular movements were specially noticed. On returning home two or three more convulsions took place, one of them being accompanied by unconsciousness; the others were Jacksonian in character. It was said that some twitching of the left side of the face occurred, beginning in the left eye and extending to the face. The patient then rapidly grew worse, with increased headache and vomiting, slow pulse, depressed temperature, great drowsiness, and also paresis of the muscles of the left side of the face. Double optic neuritis was now observed, and it was thought that the condition was one of cerebral abscess, which was increasing in size and occasioning symptoms by pressure on the motor area. On operation an abscess was found, with the bullet within its cavity. Convalescence was eventful only owing to the cerebral hernia which formed, and which grew so large that it became necessary to slice off a portion. In three months the hernia was reduced to about the size of a peach. By the direct application in powder form of boric acid and alum daily to the brain-substance, and careful dressing and bandaging, the tumor gradually shrank, and the scalp grew until it gradually healed within another three months' time. The patient kept quite well for seven months, but one day after unusual exertion he had another fit, and following this three others occurred, one after bathing, one after vomiting, and one after measles, with a temperature of 104° F. Nine months, however, had elapsed since the last fit, and the patient was engaged in bee-farming and able to enjoy life and sports.

**Successful Treatment of Cerebellar Tumor by Trephining and Drainage.**—At a recent meeting of the Clinical Society of London, Guthrie and Collier (*Lancet*, November 4, 1899, p. 1232) exhibited a boy, nine years old, who eighteen months after operation for cerebellar tumor was in perfect health except for

blindness due to double optic neuritis. Five years before coming under observation the boy had suffered a fall on the head followed by profuse epistaxis, but had remained well for four years, when headaches came on. These grew worse, and were accompanied by drowsiness, yawning, and unsteadiness of gait. The gait was typically cerebellar; the movements of the arms, especially of the right, were ataxic; and there was double optic neuritis, with considerable impairment of vision. The tendon reflexes were normal. The patient grew progressively worse, and developed a tendency to fall backward or from side to side. The headache became more severe, and was constantly referred to the inner canthus, a feature that suggested a lesion of the right cerebellum. The grasp of the right hand became weaker than that of the left, but the left knee-jerk disappeared entirely, while the right remained active. The pulse was feeble, and the breathing became shallow, weak, and sighing. The respirations fell to from 13 to 15 a minute, and at intervals of a minute periods of apnœa occurred, lasting from ten to fifteen seconds. In the first operation the left lobe of the cerebellum was exposed, but five days later a trocar and a cannula were introduced from the right side upward, inward, and forward. About one ounce of clear, yellow, highly albuminous fluid was withdrawn. The fluid did not reduce Fehling's solution, and it was hence not considered cerebro-spinal. The patient made a good recovery, and during the succeeding eighteen months there had been no recurrence of any of the symptoms.

**Intubation in Private Practice.**—Dr. J. Trumpp (*Münchener medicinische Wochenschrift*, November 7th) draws the following conclusions: (1) Every general practitioner should strive to acquaint himself thoroughly with the technique of intubation as well as tracheotomy. (2) Intubation is absolutely indicated when the patient is in immediate danger of suffocation and there is no time for tracheotomy to be performed; it should also be done when tracheotomy is refused. (3) In other instances the physician is justified in undertaking intubation at home and in urgent cases without the necessary preparations—(*a*) when the transportation of the patient to a hospital is impossible or refused; (*b*) when the relatives and friends are told the advantages and disadvantages of the bloodless and bloody operation, and decide in favor of intubation; (*c*) when means of travel are good and the physician can reach the bedside within an hour. (4) Intubation in private practice should not be undertaken too late, because with good resisting-powers the chances of recovery are better, and the dangers all the smaller, the less the local process is advanced. 5. Inasmuch as tracheotomy in private practice is more difficult to carry out than intubation, the endolaryngeal method should be performed when the aforegoing circumstances are not fulfilled, and further, when the intubation remains useless, decubitus is suspected as the result of a continued intubation, or when in spite of every precaution the tube is frequently coughed up. (6) If tracheotomy becomes necessary, then, even in private practice, it should be performed when possible with a tube in position.

**Treatment of Obesity.**—Dr. Rud. v. Hoesslin (*Deutsche Medizinal-Zeitung*, October 26th) says that for the past five years he has adopted a combined anti-fat method which has for its basis: (1) Feeding by means of a pure albuminoid fat diet after the principle of Ebstein's anti-fat diet; (2) increase of metabolism by hydrotherapy; (3) administration of thyroid tablets; (4) increase of oxidation by increased exercise. Feeding by means of pure albuminoid fat diet has two advantages over the prescribed diet of Oertel: firstly, the quantity of food stuffs taken by the patient need not be very materially diminished; and secondly, he does not have to suffer from thirst. Another advantage of this diet is that it may be continued for a long time, even for a number of months, without in any way undermining the patient's strength or giving rise to nervous disturbances. The menu for the entire year, according to the diet principle as set down by Ebstein, is, in a word, the abstinence in so far as possible from sugar, flour—in fact, all carbohydrates; with each meal a 15-gm. piece of Seidl's bread is allowed. Dessert is cooked without sugar, but with saccharin; all sweet fruits, such as apricots, blackberries, pears, etc., as well as carrots, peas, cauliflower, are to be avoided. For breakfast coffee or tea without sugar, perhaps with saccharin, and a tablespoonful of cream, together with a piece of well-buttered Seidl's bread, are to be given. If a second breakfast is desired at ten o'clock, then the patient receives one or two soft-boiled eggs, one or two slices of fat ham or fat bologna; at four o'clock, tea or coffee without sugar. Among the drinks, Moselle wine, Bordeaux wine, water, and mineral water are allowed, but beer, even Pilsener, is not allowed under any circumstances. During the first few days, until the patient becomes accustomed to the new diet, attention must be given to the gastro-intestinal tract, since half of the patients have gastric disturbances on account of the unaccustomed fat consumption. On the second or third day mild nausea, belching, and pressure in the gastric region are often complained of. Patients soon, however, become accustomed to the diet. This diet is enhanced in its effects by hydrotherapy, in the forms of cold douches and sweat baths, which increase the metabolism. Thyroid extract is an effective help in the treatment of obesity; tablets of 0.3 gm. each are used, given once or twice daily. The pulse is observed twice daily, and if increased in frequency the dose is at once diminished or the drug is entirely discontinued. Many patients, even with small and infrequent doses, react with continuous cardiac palpitation and increased pulse frequency. In these cases the drug must be discontinued entirely.

**Neurasthenia.**—Dr. M. Wernberger (*Deutsche Medizinal-Zeitung*, October 26th) defines neurasthenia as a functional disease without any organic changes, and characterized by an increased sensibility and diminished resistance. According to Charcot, the cardinal symptoms of neurasthenia are: (1) the neurasthenic headache and head pressure; (2) disturbance of sleep; (3) rachialgia and spinal hyperæsthesia; (4) muscular weakness (amyosthenia); (5) disturbances of digestion (nervous dyspepsia); (6) disturbances of the genital apparatus; (7) psychical changes, such as irritability, fear, lack of will-power, and tired feeling after mental exertion. Secondary to these are vertigo, nervous asthenopia, hyperæsthesia, paræsthesia, fibrillary twitchings, tremor, muscular cramps, feeling of pressure, and neuralgic sensations. Of course it is rare for all these symptoms to be present; indeed, in a fully developed case of neurasthenia some of the cardinal symptoms may be absent. If increased sensibility and rapid tiredness exist, and if hysteria, dementia, tabes, and paresis can be excluded, then the diagnosis of neurasthenia is justifiable even though amyosthenia is absent. There are three degrees of neurasthenia. In the first class of cases—mild form—are included those patients who present weakness as the main symptom, a form which the laity term "nervous"; in other words, those who become excited at every noise, are tired upon arising in the morning, and only regain their elasticity, as it were, during the course of the day or at night; those who sleep poorly and complain of headache, irritability of the heart, and vertigo. The second class comprises those patients who no longer

possess the will-power and energy to overcome the inroads of neurasthenia, and thus can no longer follow their usual occupation; those who suffer from all sorts of fears, paræsthesia, hyperæsthesia, arrhythmia, tachycardia, and sometimes impotence. The third class contains the so-called severe cases, those which are on the border line of neurasthenia, so that the question arises whether we are not dealing with a development of one of the psychoses, with a "nervous apoplexy," as Müller puts it.

**Can Malarial Plasmodia be Mistaken for Nucleolated Erythroblasts?**—Dr. Engel (*Deutsche Medizinal-Zeitung*, November 9th) concludes as follows: (1) The malarial plasmodia cannot be mistaken when they contain pigment, that is, when they are old forms, inasmuch as yellowish-black pigment as it occurs in the plasmodium is never observed in the nucleus. Under these circumstances the plasmodia can be easily recognized in the fresh, unstained blood specimen. (2) The plasmodia cannot be mistaken in a fresh preparation when they show amœboid movements. Then even the spores can be diagnosticated as foreign bodies within the blood cells. (3) The plasmodia cannot be mistaken for the nucleus of the polychromatic normoblast (in stained preparations), because on the one hand the intensely stained nucleus, on the other the more or less irregular form of the polychromatic protoplasm, render error all the less likely because they resemble for the most part orthochromatic, normally stained erythrocytes. (4) The plasmodia cannot be mistaken for the small nuclei of the orthochromatic, nucleated red blood cells, as long as the nucleus is intensely stained, inasmuch as the staining of the plasmodia is very much weaker. (5) The malarial plasmodia, especially their spores, may, however, be confused with particles of nuclei, as well as with that form in which the nucleus gradually becomes smaller and disappears, as well as with that form in which the nucleus divides itself into many parts. Even the blood plaques, which seem to bear a relation to the particles of the nuclei, may occasionally be confused with the spores of the plasmodia.

**Surgical Treatment of Duodenal Ulcerations.**—Dr. Ernst Pagenstecher (*Deutsche Medizinal-Zeitung*, November 13th) says that the cause of the existence of ulceration of the duodenum has as yet not been definitely settled, but that he believes disease of the blood-vessels plays an important part. The course of the trouble is chronic—often, in fact, latent until the occurrence of severe complications; sometimes it is accompanied by marked discomfort and frequent small hemorrhages which may be evacuated either per os or per rectum. The indications for surgical intervention are: (1) perforation of the ulcer; (2) recurrent severe hemorrhages; (3) increased cachexia, which is dependent upon the presence of the ulcer. In all cases of perforative peritonitis it is well to think of the possibility of a perforating duodenal ulcer, and to try to close the opening, if it exists, with sutures; unfortunately, in spite of all the result is often uncertain. Excision of the ulcer is to be undertaken only in the rarest of cases. When the indication is to relieve the severe symptoms dependent upon the ulcer, gastro-jejunostomy is advocated, and in one severe case it gave a brilliant result. It is possible, though of course not certain, that after a rest of the affected duodenum a healing of the ulceration, not only in the functional but also in the anatomical sense, may take place. As far as concerns the duodenal stenoses which are secondary to the old ulcerations, it must be determined whether the stenosis exists above or below the papilla; in the latter instance it is often combined with disease of the biliary ways, which gives rise to stagnation and may cause icterus. In some instances a narrowing may take place without any preceding cicatrix; bands in the neighborhood of the ulcer narrow the lumen of the duodenum.

**Seborrhœa of the Body (Duhring) and its Relations to Psoriasis and Eczema.**—In a study of body seborrhœa in its various relations, Török (*Archiv für Derm. und Syphilis*, lvii., 1899) endeavors to demonstrate that the affection is only an extremely attenuated form of psoriasis, and not related, as has been recently claimed, to Unna's seborrhœic eczema. In conclusion the writer thinks he is authorized in saying: (1) The existence of the most important macroscopic and microscopic lesions of psoriasis permits us to unite in a single group all the typical and atypical cases of psoriasis, starting with the cases typical in their symptoms, course, and localization, and ending with the slightly developed forms, such as those which have become irritated, eczematized, etc., including the rebellious cases and those which disappear readily or have an atypical localization. Neither clinical observation nor anatomo-pathological examination permits the discovery of a close connection between psoriasis and eczema, and this is just what we should expect if we are to look upon eczematization as a mode of reaction of the skin following irritations. (2) We must consider seborrhœa of the body (Duhring), lichen annulatus serpiginosus (Wilson), as a variety of psoriasis vulgaris less intense in degree and having an atypical localization.

**Necrotic Acne.**—In a laboratory work carried out with Dr. Amabilis of Mexico, Dr. Sabourand (*Annales de Dermat. et de Syph.*, October) presents the following conclusions: 1. Necrotic acne is a perifolliculitis of the upper portion, with extension at the same time superficially and into the deeper parts, terminating in necrosis of all tissues invaded and in a depressed variola-like cicatrix. 2. The lesion exacts for its centre a follicle previously infected by the micro-bacillus of fatty seborrhœa. 3. This affection is produced by a yellow staphylococcus, whose presence in a pure state is constant and abundant in the lesion from beginning to end. 4. This staphylococcus is not to be distinguished by present methods of technique from the common staphylococcus aureus. 5. This fact taken in connection with the attentive observation of the various clinical forms of necrotic acne tends to bring into the same group (1) the peri-papillary impetigo of Bockhart; (2) impetigo pilaris of the adult; (3) true necrotic acne. While the treatment of an acute outbreak is simple, usual methods are absolutely powerless to prevent recurrences. In reality the treatment of recurrent necrotic acne runs into that of micro-bacillary fatty seborrhœa, which is its constant and indispensable substratum.

**Leptothrix Infection.**—Max von Arx (*Correspondenz-blatt f. d. Schweizer-Aerzte*, 1899, Nos. 6 and 7) reports three cases of phlegmon of the neck, all very serious, which came under his observation together with a case of Nielhau's of similar origin. All of these cases began with the extension of the inflammation due to carious teeth, and resembled one another furthermore in that their clinical history and progress were alike. They were readily distinguished from other forms of inflammation. The progress of the infection was slow; the swelling and infiltration were very marked, the latter being very extensive, in one case almost reaching the umbilicus. On incision very little pus was found; instead there was an offensive fluid which gave off a very disagreeable odor. The soft parts were unhealthy and grayish-white; the microscopical examination showed leptothrix, together with other bacteria.

As to prognosis, von Arx declares that unless early multiple incisions are made, relieving the congestion as well as freeing the contents of the phlegmon, a fatal issue may be expected. Wet antiseptic dressings are to be preferred to those that are merely aseptic. The proper care of the teeth affords the best prophylactic.

**Hæmatoporphyrinuria.**—Ruedy (*American Journal of Insanity*, October, 1899, p. 326) reports a case of hæmatoporphyrinuria following the use of trional, and expresses the opinion that the condition occurs occasionally in association with a number of different pathological conditions, and even physiologically; more frequently in association with hemorrhage into the alimentary canal and in cases of lead poisoning; and finally after the use of sulphonal and allied substances. As a diagnostic and prognostic sign it is of little value, except in connection with sulphonal poisoning, when it becomes of grave prognostic import, especially in women. The origin of the condition may not always be the same, and in cases of sulphonal intoxication it seems to be associated with badly damaged renal epithelium, probably of a secondary nature. The condition is one that is more easily prevented than cured.

**Oysters and Their Possible Dangers to Health.**—Professors Herdman and Boyce, in their report contained in a "Memoir of the Lancashire Sea Fisheries," have been investigating the cause of the color present in the green oysters, and our own much-prized and world-renowned Blue Point has come in for a share of their scrutinizing attention. The green hue is equally familiar to the man who raises them for the market, to the one who raises them from their bed with a pair of rakes, and also to him who raises them out of their own juices on the half-shell by means of a silver trident. This coloring has been attributed variously to metals, vegetable coloring-matter, bile pigment, and the pigment of diatoms. The investigations recently carried on show, according to an editorial in *The Lancet* of November 18th, on "Oysters and Disease," that in point of fact the green color is not always due to the same cause. In one variety it is copper, and this appears true of the American green oyster, but the metal is found in association with green leucocytes. In other varieties iron is found, while a diatom or moss is suspected as a cause in still others. We are told that American green oysters are frequently thin and have shrunken livers. The important part of the report deals with contamination of oyster beds by sewage and the results of experimental feeding with the fæces of typhoid patients. Oysters taken from the neighborhood of discharging sewers showed abundant bacteria in the fluid of the pallial cavity and also in the rectum. In fæces-fed oysters the typhoid bacillus could be cultivated from the fluid of these cavities, fourteen days after infection. Bacilli of the colon group were frequently found in oysters supposed to be contaminated by sewage. The recommendation is made that oyster beds from which markets are supplied be kept free from possible contamination of this kind.

**Fractures and Other Injuries of the Child during Delivery.**—Dr. David Jessup Doherty, in the *American Gynæcological and Obstetrical Journal*, November, states that the indications for version are of three classes: I. Those conditions which demand rapid delivery: (1) eclampsia; (2) concealed hemorrhage; (3) placenta prævia. II. Conditions which simply jeopardize the child's life: (4) face and brow presentations, (5) prolapsus of the funis, (6) prolapse of the arm or foot alongside the head. III. Conditions which may make unaided delivery improbable: (7) high arrest from inertia uteri, large head, constriction of uterus, Bandl's ring, or rigid soft parts; (8) pelvic deformity; (9) transverse presentation. In only two of these conditions, viz., 1 and 2, is it necessary that extraction should follow version; in 3 complete version is sufficient to stop hemorrhage, and in others either forceps may be used instead of version, or version may be avoided by suitable measures. In short, extraction should not follow version if the mother and child are doing well, if the funis is all right, and if the presenting breech is not too blue. The completion of the delivery should be left to nature. But, if extraction must be made, the following points are suggested: (1) Traction should be made intermittently, at regular intervals or during the pains. (2) It should be supported by external suprapubic pressure by an assistant. (3) The hands should grasp the fœtal parts as near the vulva as possible. When grasping the feet, the heels should lie in the hollow of the hand, the middle finger inserted between the two tibiæ and the other fingers outside the fibula. In grasping the legs the thumbs lie parallel along the calves and the fingers along the internal surface. (4) There should be no twisting, and the direction of traction should be downward and backward until the anterior hip is visible, then horizontally with lever movements to lift the posterior hip over the perineum, and then again backward to free the anterior hip. (5) The blunt hook should never be used on the living child. Happily forceps are no more made with one handle terminating in a hook. (6) In liberating the extended arm it should be grasped as near the wrist as possible, because it will thus be more easily flexed at the elbow; it would be a serious error to grasp it between the shoulder and the elbow. (7) Sweeping the arm over the back is rarely necessary, but if it is, the humerus should be rotated inward. (8) The finger should never be inserted in the axilla to help out the shoulder. A soft catheter would be better, but he feels sure that interference is wrong, for if the head has passed through the shoulders must necessarily do so. If one has not the patience to wait, changing the position of the mother to the side corresponding to the infant's back may help to dislodge the shoulder. (9) In breech presentation the forceps is required, is safer, quicker, easier than any other method. (10) Patience is the best of all forceps.

**Blastomycetic Dermatitis.**—In the *Annals of Surgery*, November, Drs. Owens, Eisendrath, and Ready, of Chicago, report another instance showing the relation of blastomyces to neoplasms, and review the literature of the subject, including the cases reported by Gilchrist, Stokes, Wells, Hersler, Hyde, Hektoen, and Bevan in this country. The patient in question was a woman thirty-eight years of age, who presented an ulcer eight by four inches in size upon the antero-internal lateral aspect of the lower third of the thigh. Four years previously a circumscribed painful elevation with irregular surface had appeared in this same locality. This opened spontaneously, discharging a yellowish fluid. Seven months later the ulcer was the size of a hen's egg. Worm-like bodies as thick as a hair-pin could be squeezed out. The ulcer gradually increased in size until it was removed in April, 1899. The general appearance was "seedy," or coarsely granular, and the surface lacked the redness of normal granulation tissue. The worm-like bodies were supposed to be papillary pus casts. As a whole the lesion suggested lupus, especially as there was no lymphatic involvement. The operation wound healed with the aid of skin grafts, and the patient was discharged in July. The organisms found on histological examination are shown in a number of well-

executed drawings. The great variation in the size of the organisms found seems to depend largely upon the culture media in which they develop. The smaller forms are buds detached from the mother cell. Mafucci and Sirleo, who are less enthusiastic than some other of the Italian scientists with regard to the part played by blastomyces in the production of malignant tumors, still do not exclude this possibility, and believe that no experimental proof has been put forward that carcinoma or sarcoma can be caused by them.

**Inguinal Hernia in the Young.**—Dr. R. H. Russell (London *Lancet*, November 18th) describes the operation which he employs in curing inguinal hernia in the young as follows: The incision is made in the groin parallel to Poupart's ligament; the cord is sought for, the coverings of the cord are successively opened, and the cord, the sac, and the testicle are drawn out of the scrotum. The vas deferens and the vessels of the cord are next defined and separated from the sac, and the sac is freed from these structures as high up in the canal as possible. Chromicized catgut ligature is now applied to the neck of the sac in the form of a Staffordshire knot, and the sac is removed. The superfluous coverings of the cord are cut away, and the testicle is carefully washed and dried and replaced in the scrotum. The wound in the groin is closed by the subcuticular mode of suturing, a single thread of silkworm gut being used for this purpose, the two ends of which emerge from the skin about one-half inch from either extremity of the wound. A single layer of gauze and collodion is then applied to the wound, and when this is sufficiently dried a pad of dry dressing is bandaged on over all. The child, if a small one, is placed on a double long splint, to which it should have been accustomed for a day or two before the operation. At the end of a week the silkworm-gut thread is withdrawn without disturbing the collodion and gauze, and a day or two later the child may be allowed to run about. To recapitulate the salient features of this procedure, the operation consists simply of removal of the sac and nothing else; the walls of the canal are untouched by the knife and they are not sutured in any way; there is no after-dressing of the wound, and there is no prolonged period of recumbency such as is almost invariably insisted upon by authors. In young children it is quite unnecessary to incise the external oblique aponeurosis; the neck of the sac can easily be pulled outside the external ring, so that when the stump is allowed to go back it passes up at once well within the curved fibres and becomes flush with the rest of the parietal peritoneum. As to the age for operating, his rule is not to operate by choice on any child under twelve years of age.

**The Present Uses of Excision of the Knee-Joint.**—Dr. Howard Marsh (London *Lancet*, November 18th) maintains that the cases in which excision, with few exceptions, is advisable are limited to adults and adolescents in whom the growth of the limb is, or is nearly, complete, and the bones have acquired so firm a texture that after the operation they readily undergo an unyielding synostosis. Such cases may be arranged in the following groups: Group 1. Those cases in which the joint has become fixed in a position of deformity. The majority of such cases are tuberculous, but others are the result of septicæmia occurring in a variety of circumstances; of the gonorrhœal arthritis; of the form of disease placed below in group 3; of some forms of osteo-arthritis, etc. In this group operation is resorted to for the purpose of removing deformity. Group 2. Those cases in which the joint is incapacitated by incomplete ankylosis resulting usually either from tuberculosis or septicæmia. The tuberculous cases are those in which, by chronic inflammation, extending it may be over several years, the synovial membrane, ligaments, and cartilage have been destroyed and replaced by fibrous adhesions, which, while limiting to a great extent, do not entirely prevent, movement. Under these circumstances the joint remains irritable and painful when the adhesions are stretched by exercise, and the patient is prevented from following any active employment. In other cases the disease has commenced in the articular end either of the femur or of the tibia, and has resulted in the formation of a circumscribed deposit of tubercle in the immediate vicinity of the joint, upon which it acts as a constant irritant. In other cases, the joint has been destroyed by quiet and slowly advancing tuberculosis. In septicæmic cases, as in tuberculosis, the condition present is that of incomplete fibrous ankylosis leading on exercise to irritability and pain. Group 3. The group of cases in which excision may be required is that in which, by a process recurring of which very little is at present known, a variable number of joints, one after another, become inflamed, slightly over-warm, and somewhat painful, and then, in the course of a few months, become fixed by complete bony ankylosis in the position of flexion. Group 4. When, as the result of osteo-arthritis, any joint has undergone extensive structural change, there are one or two conditions in which excision may be performed alike with safety and great advantage to the patient: first, when the ligaments have become weakened and relaxed so that the joint is reduced to a loose, almost flail-like condition; and secondly, when the joint has become fixed at such an angle of flexion that the limb is useless.

**Report of Cases of Sudden Death from Pulmonary Embolism following Injuries or Operations upon the Pelvic Region.**—Dr. George P. Biggs (*New York Medical Journal*, November 25th) gives the following brief conclusions which were drawn from a study of a number of cases: (1) Emboli are usually in the shape of cylinders, a little smaller than the lumen of the vein in which they form. Such cylinders often become folded several times upon themselves as they are forced into the branches of the pulmonary artery. (2) The thrombi formed in the veins are chiefly of the red variety, though occasionally they are mixed. They may be quite firm and slightly stratified, though at times, to the untrained eye, they differ but little from post-mortem coagula. (3) Once started, thrombi in the veins tend to grow rather rapidly in the direction of the blood current. (4) At the best, the thrombi are but loosely attached to the wall of the vein, and may separate completely, leaving no distinct mark indicating the area of attachment, as was the condition in two of the cases reported. (5) A long, cylindrical thrombus may have but a very small base of attachment to one side of the vein, while the remainder of the thrombus floats free in the blood. This explains the absence of symptoms of venous obstruction. (6) While infection may sometimes play an important part in the causation of these thrombi, such does not usually appear to be the case. It seems probable that simple extension of thrombi formed in the smaller veins, damaged at the time of operation or injury or by subsequent inflammation, will explain the occurrence of thrombi in the large neighboring veins. Slowness of venous circulation naturally favors this process.

**A Short Umbilical Cord as a Cause of Dystocia.**—Dr. Samuel M. Brickner, in the *American Journal of the Medical Sciences*, November, briefly summarizes the diagnostic points in the order of their importance as follows: (1) Recession of the head in the inter-

vals of pains; (2) Arterial bleeding during and between uterine contractions, (3) Urination in small quantities in the intervals of pains after the establishment of the second stage; (4) Pain over the placental site, especially during a uterine contraction or during the application of the forceps, (5) A desire of the patient to sit up; (8) Uterine inertia. Treatment: It is unfortunate that a diagnosis of an absolutely short cord can rarely be made with certainty before birth of the child as far as the umbilicus. If it were possible always to make sure of the condition treatment would be of little avail. When a short cord is suspected, and the life of the child is thought to be in danger from the objective signs of an accelerated heart or the passage of meconium, the labor should be terminated as soon as possible. By pressing the fœtus down the placental insertion of the cord is brought near its umbilical insertion, and the danger of rupture is somewhat obviated; but this is not always feasible or possible. Postural methods may be tried by having the mother assume a squatting or kneeling position, as recommended by Denman and praised by King. If the child presents by the breech, the cord should be tied as soon as the umbilicus is born. The advice given in some text-books, to tie the cord regardless of the position if it is found too short to allow birth to take place, is little short of absurd. The impossibility of tying the cord of the child in the second stage of being born is so self-evident that it seems almost laughable to refer to it were it not a fact that some of the authors recommend it in perfect good faith. The use of the forceps is practically contraindicated in these cases; it would be almost certain to end disastrously to the child.

**The Influence of Physical upon Mental Disease.**—Dr. W. J. Handfield Haslett (*Indian Medical Record*, November 1st) formulates his conclusion to an interesting article upon this subject as follows: That febrile, suppurative, painful, and constant diseases are most likely to produce benefit, particularly boils, carbuncles, erysipelas, and some of the specific fevers; that protracted and debilitating and wasting diseases, producing anæmia and loss of blood, rarely produce any mental improvement; that purely convulsive neuroses are rarely capable of any amelioration in this way; that stuporose mental states and the second stage of acute attacks are most readily influenced for good; lastly, that the evidence chiefly points to the influence being produced by unwonted afferent impulses by abnormal peripheral irritation.

**The Nutritive Value of Albumose Peptone.**—Dr. A. E. Austin (*Boston Medical and Surgical Journal*, November 30th) believes that it is conclusively proven: (1) that it is impossible to maintain life upon peptone alone, as it is upon all other strictly nitrogenous foods; (2) that, upon the addition of a small amount of carbohydrate, the nitrogenous loss from the body, with the slight amount of albuminous food, is very much retarded; (3) peptone must be regarded as not only able to replace albumin as a means of checking nitrogenous loss, but also as a means of increasing albuminous tissue; (4) That, for a period of forty-five consecutive days, at least, peptone causes no diarrhœa or disturbances of the stomach.

**Hæmophilia.**—Dr. G. W. Wagner (*Physician and Surgeon*, September, 1899) draws the following conclusions: 1. That hæmophiliacs make blood rapidly, the cause of which is undetermined. 2. There is a tendency to plethora of the smaller vessels, especially of the capillaries. 3. That the deficiency of oxygen in the blood is one of the main reasons for its slow coagulation. 4. That the narrow lung space, at least in some cases, is a factor in the deficient oxygenation of the blood and would suggest that in future the capacity of the lung space be carefully noted. 5. Apparently the best remedy to control the hemorrhage is oxygen either by inhalation or contact. It acts in two ways: it causes greater rapidity in the coagulation of the blood, and it also causes the nuclei of the endothelial cells of the capillary wall to swell and so narrow the lumen of the vessel.

**Lipæmia, Fat Embolism, and Thrombus in Diabetes.**—Ebstein (*Virchow's Archiv*, 155, p. 571, 1899) describes an interesting case of a domestic servant who had been apparently cured of a severe attack of diabetes, when she suddenly collapsed and died of typical diabetic coma. On autopsy there was found a condition of lipæmia together with fat embolism of the lungs, kidneys, and cerebral vessels. There were demonstrable fat masses in the arteries themselves, parenchymatous inflammation of the kidneys, spleen, and liver, and diffuse fatty infiltration of the mediastinum. The percentage of fat in the blood was far above the well-known physiological limits. Ebstein maintains the hypothesis that the fatty degeneration of the different tissues of the body gives rise to the extra formation of the fat globules, which accumulate until they are of sufficient size to occlude some vessel.

**Meningitis.**—Dr. James Barr (*British Medical Journal*, November 18th) writes as follows: "The following methods of treatment are applicable to tuberculous and all the forms of simple meningitis, even including cerebrospinal fever. There is no disease in which antipyretic treatment requires to be more thoroughly and efficiently carried out. Of all the means at our disposal for this purpose I prefer a large ice-cap formed of Leiter's tubing, with a constant stream of cold water flowing through it, applied to the shaven scalp. The application of cold to the head not only lowers the general temperature, but also moderates the circulation within the cranium. This latter statement is perhaps opposed to the researches of Dr. Leonard Hill, who denies that there are any vasomotor nerves supplied to the cerebral vessels, and maintains that the cerebral circulation is kept up by the splanchnic area. This latter statement is no doubt in the main true, but it does not necessarily follow that there is no local regulative nervous mechanism of the cerebral circulation. We all know that a large dose of nitrite makes one feel as if the top of the head were coming off. I recollect once in a case of granular kidney an attack of hemiplegia which I ascribed to one-sided spasm of the vessels supplied to the motor cortex; the hemiplegia was removed by a few doses of nitro-glycerin. I highly appreciate the valuable work of Dr. Leonard Hill, but I am not bound to accept all his conclusions. However, supposing his views all ultimately established, we can still explain the beneficial action of the ice-cap by its effect upon the general circulation. In many cases this local application of cold is not sufficient to keep the general temperature down to a fairly normal level; in that event I apply cold compresses to the abdomen. The application of cold to the splanchnic area raises the general arterial pressure, but this has a beneficial effect on the cerebral circulation by heightening the velocity without necessarily augmenting the transudation from the vessels. The temperature is usually easily controlled in meningitis, but if there should be any hyperpyrexia it can be quickly reduced by swinging the patient in a hammock and running a small stream of cold or tepid water over the body. The cold to the head should be continued until the general temperature has been for some time subnormal, and if any pyrexia should afterward occur it should be immediately combated by resort to the ice-cap."

# MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

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PUBLISHERS

WM WOOD & CO., 51 Fifth Avenue.

New York, December 23, 1899.


## GENERAL PERITONITIS AND ITS TREATMENT.

THE subject of the treatment of general septic peritonitis is always one of interest, although we know that we are almost invariably fighting a losing battle. One of the commonest causes of this as well as other forms of peritonitis is disease of the vermiform appendix, so that we are thus able to speak properly of a form of appendicular inflammation with general peritonitis, characterized by a set of symptoms whose presence almost at once destroys hope in the mind of the surgeon. Cases are reported from time to time, of recoveries from this condition after operation with extensive peritoneal irrigation, usually with surgical salt solution and subsequent free drainage. The method is not entirely satisfactory even when successful, and the results are not always to be accepted without reserve as cured cases of general septic peritonitis, because it is often the case that a very considerable fraction of the peritoneum is not involved at all in the disease, in spite of clinical appearances, and may even have escaped contact with the irrigating fluid used at the operation. One of the most unsatisfactory parts of the question is that concerning safe and efficacious drainage. The rapidity with which peritoneal adhesions form around such a focus of irritation as that caused by a strand of gauze packing is well known, but the effect of this process upon the perviousness of the drain has perhaps not received the attention it deserves. The aim of the operator has always been to remove as much as possible of the inflammatory products by irrigation, and to provide then efficient drainage for a period of at least forty-eight hours. It has been recognized that it is not possible to disinfect the peritoneal cavity, but there has always been hope that the peritoneum would be left in a condition to cope with the remaining infectious matter, and would take care of any new septic products which might be formed. The peritoneum has been trusted to great lengths in this regard by some operators, and in some cases after free irrigation with salt solution and local cleansing of the site of infection, the abdomen filled with hot salt solution has been entirely closed. Successes have been reported after this method, though we hesitate to say in consequence of it, for the question of the actual extent of peritoneum involved is not always easy to settle, though this has an important bearing on the future of the case. If the peritonitis is actually general, the alexic function of the whole peritoneum is practically lost, and we should be justified in thinking that mere dilution of the poison would not prevent its entrance into the circulation. Furthermore, we must remember that by the time a true general peritonitis has developed, the human organism must already have absorbed a considerable quantity of toxins which have begun their harmful work on the nervous centres with great promptness. In cases in which, at the time of operation, although clinically having every evidence of general peritoneal involvement, we find, in consequence of the lack of the customary adhesions, coils of more or less uninvolved intestine, the possibilities of a favorable manifestation of the protecting power of the peritoneum are very considerable, and it is under such circumstances, we think, that most of the so-called cases of general peritonitis are cured.

We must remember that there are several elements in cases of general peritonitis which add to and in fact constitute the basis of the gravity of the disease, besides the condition of the peritoneal membrane itself. There is more to do in fighting this disease than simply to remove the inflammatory products in the peritoneal cavity, and to prevent their reaccumulation. Tympanites from intestinal paresis, with the consequent absorption of toxins from the putrefying intestinal contents, is a very serious element in the disease, dangerous and unsatisfactory to treat. If this condition is well developed, it would be impossible to put any quantity of salt solution into the abdominal cavity and then close the wound. The consensus of opinion at present in regard to the disease under consideration seems to be that it is almost impossible to save a case of general peritonitis, and that our chances of success by what are now commonly accepted methods of treatment are inversely proportional to the extent of peritoneum involved. Surgeons are apparently pretty well agreed that it is best not to resort to general abdominal irrigation, if possible, and that in any case the cleansing of the peritoneum shall first be undertaken carefully and methodically from the point of infection outward. If we can ever have an apparatus to supply hot salt solution continuously, and thus establish the same system that has been used in joints, we might save some otherwise hopeless cases of general peritoneal inflammation; but, until we can, the weight of the evidence seems to be that there must be some provision for drainage.

## WHY IS THE NEGRO BLACK?

IN *Pediatrics* about a year ago a vehement discussion was raised by the publication in the editorial columns of that paper of the statement, made on the authority of a French physician, that negro babies when born were of a pinkish hue; in fact, differed little if at all in color from infants born of white parents. This expression of opinion was strongly rebutted by physicians in the South, who with unanimity declared that

they had never seen a baby, born of black parents, white at birth. *The Lancet* in Great Britain took the matter up, as well as many medical journals on this side, and although their correspondents were all of one mind as to the negro progeny when born not being white, yet, curious to say, there was a considerable divergence of views with regard to the exact tint. The truth is, that all newly born negro infants are not of quite the same color, but vary to a certain extent. However, the assertion of the French physician that they are of a delicate pinkish hue was totally disproved.

Anthropologists and men of science have for long wrestled with the problem with respect to the cause of the color of the black man. Men of religion hold that it is owing to the curse of his father falling upon the descendants of Ham. Some think that the negro is a distinct race whose color has been the same since the world was first peopled, while again others contend that the human people were all originally of the same color, and that the change has been effected by the influence of the climate of the countries in which they have lived.

The question is dealt with in an interesting manner by a writer in a journal named *The Family Doctor*, who says: "Though children in tropical climates may be born apparently white, of parents whom the solar heat has darkened in hue, and though we have not the means of ascertaining that white nations exposed in tropical climates for ages do become darker, still, in conformity with the well-known law of the transmission of hereditary mental qualities, parents so blackened can communicate a slight, though imperceptible tinge to their offspring, who will thus enter upon existence with a larger share of black than their parents, and if equally exposed themselves will convey more to the next generation. Thus the black tribes of Africa may have become so through a long succession of ages, while the more recently peopled countries of tropical America exhibit the process in a comparatively early stage. It is needless to present, in opposition to this theory, that no change has been observable since the discovery of America, for the ages required for the process must have been analogous to those required for geological phenomena, and are not to be squared with our usual ideas of time. All the variations in the external appearance of man, however, cannot be referred to the influence of the solar heat, though, before mentioning other causes, we may point out another clear instance of its action. In the cases of the aborigines of Hindostan, who are somewhat browned in complexion, the action of the climate is clearly observable, which is proved by the circumstance of the female inhabitants of the harem, derived from the same stock, being generally fair in hue. This is unquestionably in consequence of their secluded life, which prevents that exposure of person which their relations of the other sex necessarily undergo. And indeed, were color the only point to be considered, the doctrine of the action of climate might be held to be the best means of accounting for the wide varieties of the human species. . . . Whatever may be the immediate or remote causes of the dark complexion of the negro, philosophical inquiry has shown us that to him it is a provision of nature, mercy, and benevolence. . . . The black color of natives of tropical regions may justly, then, be considered as a wise experience provided by Omnipotence for cooling the fever of the blood under the influence of the scorching sun."

This theory is at least as plausible as any other, but taking the fact into consideration that the problem as to why the negro is black is impossible of definite solution, a discussion of the subject is, although interesting, perhaps somewhat useless.

## THE LIABILITIES FOR THE TREATMENT OF PATIENTS IN PAY HOSPITALS.

In the suit of Ward against the St. Vincent's Hospital, in this city, previously noted in the MEDICAL RECORD (August 12, 1899), to recover damages for burns due to the careless use of a hot-water bag by a nurse, the jury before Judge Leventritt failed to agree on a verdict. It will be recollected that this case was the subject of a decision in the appellate division of the supreme court several months ago regarding the liabilities of hospitals in their treatment of pay patients.

The following is the text of the ruling made at that time. "Though the defendant is called a charity hospital, it has its pay side, on which side it is in the habit of furnishing private rooms and nurses to well-to-do persons for a full price, thus entering into an express contract. For the breach of that contract the plaintiff is entitled to the same damages as though the action had been for negligence pure and simple, and she is entitled to an adequate compensation for her injuries. The person furnished (Miss Kinney) was not a trained nurse, but a pupil in the defendant's training-school, having studied only nine months of the two years required for the course. It stands to reason that such a misfortune as happened to Miss Ward would have been less likely to occur had she been in the hands of a fully trained nurse. It is for the jury to say whether, in furnishing this careless pupil, of limited experience, the defendant fulfilled its contract obligation to the plaintiff; and if it did not, and injury resulted from the breach of the contract, to award the adequate compensation for such injury."

The principle upon which such an opinion was rendered was based upon the assumption that whenever there is a question of money in a given transaction, the damages are necessarily decided by a strictly pecuniary standard. While this must be admitted in all fairness and on strict business principles, an exactly opposite condition applies to exclusively charitable institutions. When gratuitous service is rendered, the recipient, who is the only person benefited thereby, must take them at his own risk. Pure charity simply accepts the results from both points of view without bargaining to control them.

While we congratulate the hospital in question on

its escape from heavy damages by reason of disagreement of the jury, there is no assurance in the future that the case in question will in any sense govern other similar ones that may come before the courts.

In the last trial particular stress was laid upon the charity side of the hospital's work, which was eminently proper so far as it went, although it was made equally evident that the money element in the transaction implied a pecuniary penalty for breach of contract. It was not a question of proper motive on the part of any of the persons concerned, but simply an implied accountability for a preventable accident. It was also contended that the contracting party was responsible for the acts of all helpers under its control. Fortunately for all similar institutions, this is still an open question, and will tend at least to discourage many annoying suits against them which, for the most part, are founded on trumped-up charges, and are abetted by designing sharpers, arrant frauds, and shystering lawyers. No matter in what light the present verdict may be viewed, the lesson is plain enough to all. The safe side is evidently the strong side. It should be the aim to avoid all cause for complaint in any and every direction. It is not what we may escape, but what we may prevent.

## News of the Week.

**Marine-Hospital Service Examinations.**—A board of officers will be convened at the Service Building, 378 Washington Street, New York City, Wednesday, February 7, 1900, for the purpose of examining candidates for admission to the grade of assistant surgeon in the United States Marine-Hospital Service. Candidates must be between twenty-one and thirty years of age, graduates of a respectable medical college, and must furnish testimonials from responsible persons as to character. The following is the usual order of the examination: 1, physical, 2, written; 3, oral; 4, clinical. In addition to the physical examination candidates are required to certify that they believe themselves free from any ailment which would disqualify for service in any climate. The examinations are chiefly in writing, and begin with a short autobiography of the candidate. The remainder of the written exercise consists in examination on the various branches of medicine, surgery, and hygiene. The oral examination includes subjects of preliminary education, history, literature, and natural sciences. The clinical examination is conducted at a hospital, and when practicable candidates are required to perform surgical operations on a cadaver. Successful candidates will be numbered according to their attainments on examination, and will be commissioned in the same order as vacancies occur. Upon appointment, the young officers are, as a rule, first assigned to duty at one of the large marine hospitals, as at Boston, New York, New Orleans, Chicago, or San Francisco. After five years' service, assistant surgeons are entitled to examinations for promotion to the grade of passed assistant surgeon. Promotion to the grade of surgeon is made according to seniority, and after due examination as vacancies occur in that grade. Assistant surgeons receive $1,600, passed assistant surgeons $2,000, and surgeons $2,500 a year. When quarters are not provided, commutation at the rate of $30, $40, or $50 a month, according to grade, is allowed. All grades above that of assistant surgeon receive longevity pay, ten per cent. in addition to the regular salary for every five years' service up to forty per cent. after twenty years' service. The tenure of office is permanent. Officers travelling under orders are allowed actual expenses. For further information, or for invitation to appear before the board of examiners, address the Supervising Surgeon-General, United States Marine-Hospital Service, Washington, D. C.

**The Antivisection Bill Again.**—Dr. W. W. Keen, of Philadelphia, as president of the American Medical Association has issued the following appeal: "To the members of the medical profession in the United States: The cause of humanity and of scientific progress is seriously menaced. Senator Gallinger has again introduced into Congress the bill 'for the Further Prevention of Cruelty to Animals in the District of Columbia,' which he has so strenuously and misguidedly advocated in the last two Congresses. Its present number is 'Senate Bill No. 34.' Twice the committee on the District of Columbia has also unfortunately and misguidedly reported the bill with a favorable consideration. The bill is speciously drawn to seem as if it were intended only in the interest of prevention of cruelty to animals. The real object of the bill is twofold: First, to prohibit vivisection, and, secondly, to aid the passage of similar bills in all the State legislatures. I need hardly point out to you that this would seriously interfere with or even absolutely stop the experimental work of the Bureau of Animal Industry and the three medical departments of the government, the army, the navy, and the Marine-Hospital service. The animals themselves might well cry out to be saved from their friends. No more humane work can be done than to discover the means of the prevention of diseases which have ravaged our flocks and herds. All those who raise or own animals, such as horses, cattle, sheep, pigs, chickens, etc., are vitally interested in the preservation of their health and the prevention of disease. The inestimable value of these scientific researches as to the prevention and cure of disease among human beings it is superfluous for me to point out. Modern surgery and the antitoxin treatment of diphtheria alone would justify all the vivisection ever done. As my attention has been called officially to the introduction of the bill, I take the opportunity of appealing to the entire profession of the country to exert themselves to the utmost to defeat this most cruel and inhumane effort to promote human and animal misery and death and to restrict scientific research. It is of the utmost importance that every physician who shall read this appeal shall immediately communicate especially with the Senators from his State, shall also invoke the aid of the Representatives from his or other districts in his State, and

by vigorous personal efforts shall aid in defeating the bill. It is especially requested also that all of the national, State, and county societies at their next meeting take action looking toward the same end. If regular meetings are not soon to be held, special meetings should be called. Correspondence is invited from all those who can give any aid. The committee on the District of Columbia consists of Senator James McMillan (Michigan), chairman, and Senators J. H. Gallinger (New Hampshire), H. C. Hansborough (North Dakota), Redfield Proctor (Vermont), J. C. Pritchard (North Carolina), Lucien Baker (Kansas), C. P. Wetmore (Rhode Island), C. J. Faulkner (West Virginia), Thomas S. Martin (Virginia), William M. Stewart (Nevada), and Richard Kenney (Delaware). Personal letters may be addressed to them or to other Senators. Petitions should be addressed to the Senate of the United States."

**Drs. William Osler and Howard Kelly,** of Baltimore, have been elected honorary members of the Royal Academy of Medicine of Ireland.

**Glanders in New York.**—There have been a number of cases of glanders in this city during the past month, but the health board officials have been watching them carefully, and it is believed that there is no danger of an epidemic. The disease made its appearance about four weeks ago in a stable on St. Nicholas Avenue, where fifteen horses developed symptoms of the disorder. All were promptly killed and their carcasses burned, together with their stalls and bedding.

**Electrical Executions.**—At a recent meeting of the Society of Medical Jurisprudence, in a paper read by Roger M. Sherman on "The Law and Science of Capital Punishment by Electricity," it was contended that death by the method now used in this State has not been proved as yet to be instantaneous, and that, if not instantaneous, it was cruel. The speaker believed that the dynamo would eventually give way to the axe.

**A Suit for Medical Services.**—About a year ago a wealthy resident of Cortland attempted suicide in the village of McLean, but failed to accomplish his object, and repenting called in a physician. The latter rendered all necessary services, both medical and surgical, and saved the man's life. Later the physician sued his patient for $10,000, claiming that the man's life, which he had saved, was worth that amount. The claim of $10,000 was not allowed, but the plaintiff was awarded $900.

**An Alleged Grave Robbery.**—A prominent physician in New Haven, and a member of the faculty of the Yale Medical School, was charged recently with robbing a grave. A dispensary patient, a girl, thirteen years old, died, and, the case having been a peculiar and puzzling one, an autopsy was requested. The parents would not consent, however, and even refused an offer of a considerable sum of money for permission. It is alleged that the physician then hired an undertaker to disinter the body and take it to his warerooms, where the autopsy was to have been performed, the body then being returned to the grave. The father's suspicions had been aroused, however, and he set a watch on the grave, with the result of detecting the removal of the body.

**Medical Matters in the South African War.**—In the nine weeks since the Boer ultimatum was delivered there have been twelve engagements, with losses to the British in killed, wounded, prisoners, and missing, but not including deaths from disease, of a total of 7,630. Over three thousand of this number occurred during last week in the three disastrous battles of Generals Gatacre, Methuen, and Buller. A son of General Lord Roberts was wounded in the last engagement, and was operated upon by Sir William MacCormac, but died of his injuries. Typhoid fever prevails at Ladysmith, thirty-two cases of the disease being reported by General White on December 12th. Nearly all of the officers and about seventy per cent. of the men were inoculated against typhoid fever before leaving England or during the voyage. The London correspondent of the New York *Times* complains that no preparations have been made in England for the care of the returning wounded and invalided soldiers. "Already," he says, "the wounded from our hosts in the field are streaming back again in miserable plight, and no preparation has been made for their reception. Convalescent hospitals that should have been ready are not ready, nor beginning to be ready. The great national fund of upward of £400,000 collected for the families of the soldiers and for the sick and wounded is being so twisted round with red tape that complaints are already pouring in to the newspapers about its uselessness and inefficiency."—On last Saturday the Duke of Connaught presented a flag, the gift of the Queen, to the hospital ship *Maine*. In making the presentation the Duke said the Queen gave the flag as a mark of her appreciation of the charity shown by the American women. Never before, he said, had a ship sailed with the combined flags—the Union Jack and the Stars and Stripes.

**The Plague.**—The laymen on the board of health of New York have receded from the ridiculous stand which they first took, and have consented to the landing of the coffee from Santos arriving recently at this port. A ship with coffee has recently arrived at New Orleans from Santos. There was no sickness on the vessel during the voyage, and it is probable that the coffee will be landed after having been aired for two weeks. Mobile has given warning that no ships from a plague-infected port will be permitted to enter the bay, but will be sent to the national quarantine station either at Ship Island or the Dry Tortugas. The captain of the *Willowdene*, which brought the coffee to New Orleans, reports that on November 10th, when he left Santos, there were sixteen persons ill with the plague in the hospital. The Brazilian minister at Washington has received a despatch from his government announcing that the plague has visibly diminished in Santos since the middle of November. Only two cases were reported during the first two weeks of December. It is stated in the *Brazil Medico* that the

plague reached Santos about the middle of July, the first signs of its presence being an extraordinary mortality among the rats in one of the storehouses on the docks. Another epidemic among the rats was noted in the latter part of September, and the first case of the disease in man was discovered soon afterward in a house in the immediate vicinity of the storehouses. On October 18th, the existence of the plague in Santos was officially announced. In Mauritius during the first two weeks of December there were twenty-three new cases of plague and sixteen deaths. The total number of deaths from the disease thus far has been twenty-one. The American minister to China reports that the disease in Niu Chwang is diminishing, and it is hoped that it will soon be extinct, and that all danger of a recrudescence in the spring will be averted. The Japanese health authorities stamped out the threatened epidemic at Kobe very promptly and effectually, and the disease did not spread beyond the seven patients whose illness first revealed the presence of the plague in that city. The Peninsular and Oriental Line steamship *Ballarat*, from Calcutta, November 15th, for London, arrived at Plymouth on December 16th, with a native Indian fireman on board suffering with the plague. In Formosa during the past twelve months there have been 2,383 cases of the disease with 1,906 deaths, a mortality of nearly eighty-six per cent.

**The Society of Medical Jurisprudence.**—At the annual meeting of this society last week, the following were elected as officers of the society for the ensuing year: *President*, Frank Ferguson, M.D.; *Vice-President*, Theodore Sutro; *Treasurer*, D. McLean Shaw; *Recording Secretary*, John C. West; *Corresponding Secretary*, Alfred E. Ommen.

**The Czar's Physicians.**—A French journal states that there are no fewer than twenty-five medical men attached to the Russian court. There is first a physician-in-chief, and then come the physicians-in-ordinary and the honorary physicians. The surgeons-in-ordinary number three, and there are four honorary surgeons. Of ophthalmologists there are two, and other specialists abound in proportion. The Czarina has a physician, a surgeon, and three specialists. In addition to this goodly array there are a chiropodist-in-ordinary and an honorary chiropodist. The cynical may find here a satisfactory explanation of the alleged wretched health of this poor man.

**Proposed Filtration of the New York Water Supply.**—Sanitary Superintendent Roberts has recently made a report to the board of health concerning the water supply of Manhattan Borough. He says that it is free from all sewage contamination, and repeated and careful examinations have failed to detect the presence of any pathogenic micro-organisms. The water is, however, often offensive in appearance, owing to the fact that all of the water in Croton Lake comes from surface drainage over a peaty soil, and storms bring down a mass of soil and vegetable matter which gets into the aqueduct in the freshet season. As a remedy for this, and also as a protection against possible contamination of the supply with pathogenic material, Dr. Roberts recommends the establishment of a system of filtration. The experience of Hamburg, Berlin, and other cities may be cited in justification of the enormous cost of such an undertaking.

**New York Polyclinic.**—Dr. M. Manges has been appointed professor of general medicine at the New York Polyclinic.

**A Hospital for Somerville.**—A number of the citizens of Somerville, N. J., have been actively employed for several months in raising funds for a hospital in that place, and it is now announced that enough money has been subscribed to insure the erection of a building. It is said that ground for the hospital will soon be broken.

**Early Recruits for the International Congress.**—The Chicago *Tribune* announces that more than four hundred doctors from Illinois, Iowa, and Missouri are arranging to sail from New York on the steamship *City of Rome* on June 30, 1900, their main object being to attend the meetings of the Thirteenth International Medical Congress at Paris in August.

**A Congress of Scientific Societies.**—The American Association for the Advancement of Science and nine allied societies will meet in annual session at New Haven on December 28th and 29th. The other societies are the American Society of Naturalists, the Association of American Anatomists, the American Morphological Society, the American Physiological Society, the American Psychological Society, the American Folk-Lore Society, the Society for Plant Morphology and Physiology, the American Chemical Society, and the Archæological Institute of America. The discussions of the American Morphological Society will take place in the Peabody Museum. The American Anatomists will meet at the Yale Medical School. The Physiological Society will meet in the Yale Biological Laboratory. The Psychological Society will meet in the Yale Psychological Laboratory. During one of the sessions of the American Society of Naturalists there will be a general discussion on "The Position that Universities Ought to Take in Regard to Investigation." In this discussion Professor Dwight of the Harvard Medical School, Prof. Russell H. Chittenden of Yale, Prof. William B. Scott of Princeton, and Prof. Joseph Jastrow of the University of Wisconsin will speak. Professor Goodwin of Harvard will deliver an address before the Archæological Institute on "The Hero Physician."

**Women Dentists.**—The editor of the *Medical Press*, commenting upon the suggestion of a woman's paper that dentistry would prove to be a lucrative profession for women, the opinion being based upon the fact that there is at the present time a woman who is successfully practising as a dentist in London, says that he would not have thought that dentistry would have commended itself much to woman as a professional occupation. Regarding the fact that there is one woman dentist in London, he says that "of course the old argument will not fail to operate here, that 'one

swallow does not make a summer,' and whether women would or would not prove to be good dentists could be determined only by actual experience. Meanwhile, there would probably be few who would care to make the experiment." Our contemporary might study the subject to advantage here, for there are more than a dozen women dentists in the borough of Manhattan.

**Dr. Edmund L. Cocks** has been appointed by the commissioner of public charities visiting dermatologist to the Randall's Island Hospital.

**The Mutual Aid Association of the Philadelphia County Medical Society** is named as legatee of one-half the residual estate of the late Dr. Albert Fricke. The whole is estimated at $32,500.

**Decreasing Population of France.**—According to the vital statistics for 1898, just published, there were 843,933 births registered in France during that year, a decrease of 15,174. The deaths for the same period numbered 810,073, an increase of 59,054 as compared with 1897.

**Practitioners' Society of Dallas, Texas.**—On December 1st the above-named society was organized at the Hermitage Hospital, and the following officers were elected: *President*, Dr. Lawrence Ashton; *Vice-President*, Dr. J. B. Titterington; *Secretary*, Dr. C. L. Johnson.

**Presbyterian Hospital, Philadelphia.**—At the formal opening of the Thomas Hoge ward of the Presbyterian Hospital, Dr. S. Weir Mitchell delivered an address, in the course of which he said: "All hospitals should be so managed that no man or woman should be allowed to come in and accept what the hospital can give without being questioned as to their being able to give something toward what they are to get."

**An Aged Practitioner.**—Dr. Charles F. H. Willgohs, of Doylestown, Ohio, celebrated his ninety-sixth birthday recently, and is still hale and hearty and thinks he has good reason to hope for the completion of a century. Most of the male members of his family have lived to the age of ninety or one hundred years, and his grandfather lived until he was one hundred and six. He was born in Kiel on November 20, 1803.

**The Irresponsibility of Prescribing Druggists.**—Justice McLean, in the supreme court, recently dismissed the complaint in a suit brought by a butcher against a firm of druggists on Eighth Avenue, to recover $10,000 damages, because one of the firm's clerks treated his injured finger and made it worse. Justice McLean held that druggists and drug clerks have no license to practise medicine and surgery, and that the complainant sought advice from the clerk in this case at his own risk.

**Widener Industrial Home for Crippled Children.**—Mr. P. A. B. Widener, the railway magnate and capitalist, has announced the purchase of a tract of land of thirty-six acres in the outskirts of Philadelphia, upon which he contemplates erecting and endowing a home, hospital, and school for crippled children at an estimated total cost of $2,000,000. The object of the institution will be not only to give proper medical and surgical attention to its charges, but also to furnish elementary and grammar-school training, and technical training for those more advanced in years, to qualify the patients, when discharged, to earn their own living. Special attention will be given to instruction in those trades that are adapted to the feeble-minded, as chronic cases will also be cared for. There will be twelve buildings in all, erected in Colonial style, of red brick and white marble.

**Navy Department,** Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending December 16, 1899. December 8th.—Assistant Surgeon W. L. Bell detached from the *Philadelphia* and ordered to the *Independence*. December 13th.—Assistant Surgeon W. M. Garton, order of December 6th modified, detached from the Washington navy yard and ordered to the *New York* immediately.

**Obituary Notes.**—Dr. Samuel Ketch, of this city, died very suddenly on December 14th, of disease of the heart. He was born in New York, in 1851, and was graduated from the Bellevue Hospital Medical College in the class of 1875. Dr. Ketch was an orthopedic surgeon of repute. He was for many years one of the surgeons to the New York Orthopedic Dispensary, and was also orthopedic surgeon to the Montefiore Home. He was a prominent member of the American Orthopedic Association, of which he was once the president.

Immediately after the stated meeting of the Orthopedic Section of the New York Academy of Medicine, held on December 15, 1899, had been called to order, it was on motion adjourned out of respect to the memory of Dr. Samuel Ketch, and a committee was appointed by the chair to express the sentiments of the section. The committee reported as follows: "The Orthopedic Section of the New York Academy of Medicine desires to express its profound grief at the sudden death of Dr. Samuel Ketch, one of its most useful and honored members. An original member of the Orthopedic Society, since merged in the Orthopedic Section of the Academy, he served as its secretary in 1889, and as its chairman in 1891, presented several valuable original contributions, and was at all times prominent in everything pertaining to its best interests and progress. Identified with the practice of orthopedic surgery for nearly twenty-five years, and in every way devoted to the advancement of his chosen work, his life was one of consistent uprightness, and honest and successful efforts."

(Signed) Henry Ling Taylor, Newton M. Shaffer, Reginald H. Sayre, *Committee.*

Dr. Emil Fischer, of Philadelphia, died in that city on December 13th, of chronic gastritis. He was born in Germany, but came to this country with his parents in early life, and was graduated from the Jefferson Medical College in the class of 1855. He was one of the founders of the German Hospital in Philadelphia.

# Society Reports.

## THE PRACTITIONERS' SOCIETY OF NEW YORK.

*One Hundred and Fiftieth Regular Meeting, Held on Friday, November 10, 1899.*

A. Alexander Smith, M.D., President, in the Chair.

**History of a Case of Malarial Fever of Pernicious Type which Proved Fatal in Less than Forty-Eight Hours after Admission to Bellevue Hospital.**—Dr. A. Alexander Smith reported this case, as follows: S. J. P——, male, aged forty-four years, married, a native of the United States, was admitted to Bellevue Hospital on October 11, 1899, at 11:55 P.M. His occupation was that of a farmer, his habits were good, and his family history was negative. He had lived in the northern part of the United States until 1886, when he went south to rid himself of bronchitis, from which he had suffered. Since then he had lived in the southern part of the United States, chiefly in Florida and South Carolina, until three months before his admission to the hospital, when he came to New York. In 1895 he suffered from an attack of extreme nervousness and exhaustion which continued about three months. He lost flesh during this time, but was not compelled to go to bed. During his illness he vomited, and suffered severely from diarrhœa. He had no chills. In the summer of 1898 he suffered from an attack of malaria lasting ten weeks. He had a chill every evening, followed by high fever and thirst. His medication during this attack was crushed ice and calomel. After he ceased having chills he received a small quantity of quinine in small doses, about a drachm in all, as near as he could estimate. After this attack he gained strength and remained in fair health until his present illness. Five weeks before his admission he again began to suffer from chills. The paroxysms occurred every day and were followed by high fever, thirst, drowsiness, and headache. He had continuous headache and suffered much from pain in his back and the larger muscles of his body, especially the calves of the legs. One week before admission he became so weak that he was obliged to remain in bed. That night, after the chill, he became delirious, and complained more than usual of the headache and the pains in his muscles. He had been delirious every night since then, but in the morning, although his headache was severe, his mind was clear. During the three days previous to his admission to the hospital he suffered almost continuous nausea and vomited repeatedly, the vomiting occurring most frequently when his fever was high. During his illness his bowels had moved about once in two or three days, the discharges being of a dark fluid consistency and of very foul odor. Upon the patient's admission he was semi-comatose; he could be partially aroused by vigorous shaking, but could not speak intelligently. He was poorly nourished and very anæmic. His respirations were sighing in character, though deep and quite regular. The pulse was regular, but weak. The heart was normal in size; first sound weak but clear; there was a systolic murmur at the base. A few moist râles were heard over the posterior part of both lungs. The spleen was large on percussion, and was distinctly palpable, hard, and somewhat tender to the touch. Upon the morning following his admission the patient regained consciousness, could talk rationally, and gave the above history. At 8 P.M. he began another paroxysm. At ten o'clock his temperature was 104.2° F., pulse, 132. When he was admitted his temperature was 104° F.; his pulse, 110. Two hours later his temperature was 103.4° F.; his pulse, 114. At five o'clock the next morning his temperature was 98.5° F.; his pulse, 88. His temperature continued normal until the evening, when he began another paroxysm; with this, his temperature went up rapidly, and he soon became unconscious. Toward morning the temperature subsided and with it the alarming symptoms disappeared. At 9 A.M. of the third day his temperature was normal; his pulse, 100. At 6:30 P.M. on the third day, notwithstanding the administration of quinine hypodermatically, he began another paroxysm and was completely unconscious in half an hour. He died five hours after the beginning of this third paroxysm, at 11:30 P.M. Examination of the blood showed many intra- and extra-corpuscular plasmodia malariæ. Some were crescentic. There were much free pigment and many leucocytes of various sizes. Many of the leucocytes were pigmented. Thirteen plasmodia were found in a single field. At the autopsy the spleen was found to be greatly enlarged, weighing fifteen ounces; it was of a dark chocolate color, and soft and mushy in consistence. The gray matter of the brain was pinkish in color, and the ventricles were somewhat dilated. The pia over the lateral hemispheres was markedly œdematous and opaque; over the cerebellar lobes it was pinkish in color, and dotted with numerous petechial hemorrhages. Both kidneys showed the lesions of interstitial nephritis. An examination of the remaining organs of the body proved practically negative.

Dr. W. N. Berkeley, who had made a microscopical examination of sections of the various organs in the case reported by Dr. Smith, stated that sections of the liver showed that the cells of that organ were extensively degenerated and disorganized, the nuclei frequently failing to stain. There were also infected red cells, and large numbers of heavily pigmented leucocytes sticking to the walls of the capillaries. A smear from the spleen showed immense numbers of intra- and extra-cellular parasites; also numerous ovoids, crescents, and segmenting organisms, and large quantities of pigment; the last sometimes free, sometimes enclosed in the leucocytes. The spleen tissue itself showed a large increase in the supply of red cells, many of them infected. A large number of leucocytes of all kinds and of plasma-cells were also present, besides other extremely large cells (macrophagi) which had taken up red cells, lymphocytes, parasites, and pigment to such a degree that their nuclei, if present, were entirely concealed. Hyaline thrombosis was frequent. The general impression gained from an examination of the spleen was that it had been simply overwhelmed by the germ and its toxins. The meninges of the brain, particularly in the cerebellar region, were intensely injected, showing that a meningitis had been well under way. The pancreas was fairly normal in appearance, excepting that it contained localized foci of necrosis, in which the cellular nuclei were much disintegrated. All the organs, in fact, showed that they were overwhelmed by the intensity of the infection. In the bone marrow it was remarkable that but few segmenting parasites could be found in comparison with the immense numbers present in the spleen. In connection with his remarks, Dr. Berkeley showed a number of microscopical sections of the liver, spleen, pancreas, and brain, with smears from the spleen and bone marrow.

Dr. H. M. Biggs said that the wife of the patient whose history Dr. Smith had reported had also suffered from malarial fever, apparently of the same type as that of her husband. She had only a single paroxysm, however, with high temperature, but the evidences of toxæmia were much less marked than in her husband's

case. His resistance to the poison had probably been lessened by the long duration of his illness.

Dr. A. A. Smith said that the only paroxysm which the man's wife had, began while she was at the hospital, visiting her husband. It was noticed that her cheeks were flushed, and it was then ascertained that she had a high fever.

Dr. E. G. Janeway referred to several cases of malarial fever of the pernicious type which he had seen occur among Italian laborers at the time of the construction of the West Shore Railroad. He said this was largely due to their manner of living and surroundings, and it went to show that this type of malarial fever might occur, under certain circumstances, even in the vicinity of New York.

Dr. Smith, in reply to a question by Dr. Brannan as to what form of plasmodium had been found in the case under discussion, said that nearly every variety had been found, excepting the rosettes and the pigtails. The small round and crescent forms were found in great abundance, especially in the spleen and to a lesser degree in the liver. Large deposits of free pig ment were also found in these organs. The man died during a paroxysm, apparently from toxæmia. There were no cerebral symptoms, excepting delirium and intense headache. During his stay at the hospital, he had received only a single dose of quinine, which was given hypodermatically. Through a misunderstanding, quinine was not administered until just previous to the man's death. Fifteen grains of the drug were given, in combination with urea, with the idea of doubling or tripling it on the following day, but the man died too quickly. The dose given apparently produced no effect whatever. The combination of quinine with urea had been found less irritating when given by the needle than when the quinine was given alone.

Dr. Walter B. James said the case reported by Dr. Smith was a most interesting one, and showed to what an enormous extent this micro-organism could exist in the human body. The speaker said he had often marvelled, in studying a severe case of malaria, at finding the patient comparatively comfortable and his life not endangered, in spite of the presence of large numbers of these organisms in the blood. He said that he had seen quite a number of cases of pernicious malaria which resulted fatally. The sections exhibited by Dr. Berkeley, however, showed more of the organisms than he had ever seen before. It had always seemed to him that the difference between the pernicious and the non-pernicious type of malaria was simply one of degree. The organism in the former was apparently similar to that found in the milder cases, but the system was overwhelmed by the large number of the organisms.

Dr. Francis P. Kinnicutt said that in the autumn of 1898 many of the soldiers who returned from Cuba suffered from malarial fever of a severe type, and it was found necessary to give quinine in enormous doses; not infrequently from forty to sixty grains were given hypodermically in the course of twenty-four hours with excellent results. He said that he thought lives were saved at that time by giving the drug in such large doses. Some of those patients who were suffering from pernicious malarial fever were in a state of coma, and their condition was apparently hopeless, but after the injection of heroic doses of quinine they recovered. In reply to a question, Dr. Kinnicutt said there was very little local irritation after these injections.

**Demonstration of Preparations of Mosquitoes, Illustrating their Supposed Relation to Malaria.** - This paper was read by Dr. W. N. Berkeley (by invitation; see page 917).

Dr. Beverley Robinson said that at the recent meeting of the New York State Medical Association Professor Osler read a paper in which he referred to malarial fever as we see it in the North, and laid down the two following propositions in regard to its diagnosis: (1) That intermittent fever which resisted quinine was not of malarial origin: (2) In these localities a continued fever was not due to malarial infection. Dr. Robinson said that individually he begged to protest against the absolute manner in which these propositions were laid down, and their unqualified acceptance by the profession. The speaker said he had seen cases of undoubted malarial fever, in which the diagnosis was based upon both clinical observation and the use of the microscope, which resisted the action of quinine intelligently administered, and in which the aid of other drugs had to be invoked He had also seen cases of continuous fever which proved to be of malarial origin.

Dr. E. G. Janeway said that in former years, before we had the assistance of the microscope, except by disclosing free pigment or pigmented leucocytes, it was often very difficult to decide between malarial and other types of fever. The administration of quinine did not always afford us a prompt and certain method of diagnosticating or excluding malaria in these doubtful cases; this might be due to the preparation of quinine employed, or to its method of administration, or to some idiosyncrasy of the individual. The speaker said that in a case which came under his observation he had been obliged to give gr. x. of quinine every two hours for twenty-four hours in order to check an intermittent fever which had lasted for some time, and which had remained unaffected by quinine taken in the ordinary way. In the case he referred to, the fever recurred every day, and in order to check the attacks gr. cxx. of quinine were given in solution within twenty-four hours. When, in a case of malaria, we failed to get any effect from the quinine, the possibility of substitution or an inferior preparation of the drug should not be lost sight of. Dr. Janeway said he was inclined to the opinion that the Peruvian quinine, which was generally used in former years, but was now very scarce, was more potent than the East Indian drug, which was obtained from the second growth of the bark.

Dr. Kinnicutt said that, speaking largely from memory, he could not recall a single case of malarial fever, positively proven to be such by the discovery of the plasmodium in the blood, which failed to yield to quinine, providing the drug was given sufficiently early in the attack. He had seen patients die of malaria, but in those cases the quinine was given too late.

Dr. James inquired whether Dr. Kinnicutt included cases of chronic malarial poisoning, with the presence of a large number of crescents in the blood.

Dr. Kinnicutt said he had excluded chronic cases by his remark, "providing the drug was given sufficiently early in the attack." He referred only to acute cases, as they were seen in hospital or private practice. When the history extended back for a year or two the quinine often lost much of its potency.

Dr. James said he had seen cases of malaria of the pernicious type which were early and vigorously treated with quinine, given in as large doses as was deemed advisable, but in spite of this they terminated fatally. No complicating lesions were found. He recalled one such case at the New York Hospital; the diagnosis of malaria was undoubted, the blood being loaded with plasmodia, principally of the annular and æstivo-autumnal types. Quinine was immediately administered, both by mouth and hypodermatically, but in spite of this the man died. The autopsy disclosed no lesions other than those belonging to malaria. Dr. James said he was under the impression that in tropical countries malaria often failed to yield to quinine, because the poisoning was so intense.

Dr. J. W. Brannan said the cases of fatal malaria cited by Dr. James, in which the patients were in an almost moribund condition when they were brought to the hospital, or the type of malaria seen in tropical countries, could hardly be included in the class referred to by Dr. Osler in his recent paper on the subject. Dr. Osler referred to malarial fever as we see it in the North.

Dr. Robinson said he just happened to recall a case which illustrated one of the points under discussion. The patient was a young lady who lived in the neighborhood of Poughkeepsie; she had been suffering from malaria, and the local physician who treated her had dosed her with quinine continuously and to such an extent that Dr. James, who had seen her several times in consultation, forbade its further use. Subsequently her fever returned, and Dr. Robinson was asked to see her. A change of climate was ordered, and she went to the mountains, where she promptly recovered. The only medicine she received there was the compound tincture of cinchona.

Dr. James said he recalled the case to which Dr. Robinson referred. When he saw the patient, she was suffering from chronic cinchonism, not from malaria. He said it had been his experience in many cases that while it was easy to check the malarial paroxysms, it was often very difficult to rid the system permanently of the malarial poison.

Dr. Janeway said that, in former years, all cases of fever of doubtful or unknown origin were apt to be regarded as malarial. In true malaria, quinine, properly administered in sufficient doses, usually produced its effect. The speaker said that in obstinate cases he usually combined the quinine with opium and capsicum.

Dr. Kinnicutt said it was the experience of many that after severe malarial infection the attacks of chills and fever recurred for a certain number of months, and then gradually disappeared. A certain degree of immunity was no doubt conferred by a change of climate. Many of the patients who were brought from Cuba last year suffering from malaria, after a course of treatment at the hospital remained free from the chills and fever for a month or longer; then the paroxysms recurred and the patients were obliged to return for treatment. These recurrences usually became milder in character as time went on.

Dr. James inquired whether Dr. Kinnicutt would classify such cases as he had just referred to as cases of acute malaria which were not cured by quinine.

Dr. Kinnicutt said his assertion had been that he had never seen an attack of acute malaria which had failed to yield to quinine: he did not say that it always cured it.

Dr. Andrew H. Smith said that in former years we heard much about remittent fever, and those cases were generally regarded as malarial in origin; there were no distinct intermissions, but typical remissions. Of late, such cases had almost disappeared. Under the use of large doses of quinine, the type of fever first became intermittent, and finally was overcome entirely.

Dr. Smith referred to the relative ease with which certain patients became cinchonized, and raised the question whether there was not some relation between the dose required to produce cinchonism in a given subject and the power of the drug over the plasmodium in the same subject. He also suggested that there was probably a certain quantity of synthetical quinine on the market.

Dr. Janeway said that most of the cases which were formerly regarded as remittent fever were undoubtedly typhoid. In the South, the æstivo-autumnal organism produced an irregular type of fever which resembled typhoid, but we rarely saw it in this climate.

Dr. Andrew H. Smith said that during his service in the army he was stationed on Staten Island for some time, and there he frequently observed a type of continued fever which had periodical remissions and which yielded to quinine. This type of fever, which had been described in various text-books, did not follow the course of typhoid.

Dr. Kinnicutt thought it possible that the poison of malaria varied in intensity and produced different manifestations at different times. In certain parts of New England where malaria had never before been known, it had recently become quite common, not only along the river courses, but even in the interior. The State of Massachusetts was now engaged upon some investigations in order to learn the possible or probable cause of these outbreaks.

Dr. Andrew H. Smith said that the appearance and disappearance of malaria in certain sections were often due to the water connections of such districts. When the Erie Canal was built, a section of it, near Cohoes, was above the level of the surrounding country. As a result, there was a constant leakage on both sides of the canal, the water covering the surface of the ground for a considerable distance. Soon afterward there developed in this section a most virulent form of fever and ague, generally of the tertian type. In another section of the country where malaria had been previously unknown, the disease became very prevalent after a dam was swept away and a large mill-pond was exposed to the action of the sun.

Dr. H. M. Biggs said that probably some of the cases of intermittent and remittent fever which were in former years looked upon as malarial in character were neither malarial nor typhoid, but were examples of what we now regard as septicæmia. Cases of septic infection, with the intermittent or remittent type of temperature, were not made out in the older days. The speaker said he did not refer to cases of septicæmia connected with a history of surgical infection, but those in which the source of infection was obscure, as many cases of infectious endocarditis. He referred as an example to a case now under his observation in which an irregular temperature had been running for more than four weeks, which was certainly of septic origin.

Dr. Janeway said that cases of so-called remittent fever, as seen in this city, had almost invariably, in his experience, proved to be cases of typhoid. This was much the same twenty-five years ago. During the Civil War the so-called Chickahominy fever usually proved to be typhoid. The great mistake was that of calling many of these cases typho-malaria; this term should never have been allowed a place in medical nomenclature. Cases of remittent fever, as seen in New York, almost invariably proved to be either typhoid, or sepsis, or tuberculosis. He said he was recently called to see a young man who had come here from the South. He was said to have suffered from remittent fever while at home. His temperature had been irregular, running up to 104° F. He had recovered, but on coming to New York had had another attack with fever; the spleen was enlarged; no malarial organisms were found in the blood. He had come from a place in the South where one of our military camps had been located last winter. At the time he was sick in the South, his brother, who had arrived from the same place some days before his illness, was taken down with an attack of typhoid fever. The probability was, Dr. Janeway said, that both the brothers were suffering from typhoid, which had been proven by the eruption, Widal reaction, absence of plasmodia, and course of fever—evidently a relapse of typhoid.

Dr. Robinson asked if there was any such thing as a simple continuous fever, which disappeared in the

course of a week or ten days, and which was neither typhoid nor malaria. A case of this kind, apparently, had recently been under his observation. The patient was a young man who was suffering from a continuous fever, which was first regarded as suspicious of typhoid. No malarial organisms were found in the blood, and no evidences of leucocytosis. The fever gradually abated, and disappeared entirely within a week or ten days. French writers laid great stress upon "bluish spots (*taches bleuâtres*) from three to eight lines in diameter, not elevated and not disappearing on pressure" (Flint), to differentiate simple fever and typhoid fever. These spots appeared upon the abdomen and the upper portion of the thighs. They might occur occasionally in typhoid fever, and apparently were quite characteristic abroad in cases of simple fever (Valleix: "Guide du médecin praticien," vol. i., p. 8).

Dr. Janeway said a case like the one reported by Dr. Robinson might be accounted for on the basis of a grippe febricula, or a typhoid febricula. The latter was sometimes seen in connection with epidemics of true typhoid fever, and ran its course in from three to ten days.

## THE NEW YORK PATHOLOGICAL SOCIETY.

*Stated Meeting, November 8, 1899.*

T. Mitchell Prudden, M.D., President.

**A Case of Hemorrhagic Infarction of the Small Intestine.**—Dr. Leon T. Le Wald presented this specimen. At the autopsy a thrombus had been found in the superior mesenteric artery. It had evidently caused a hemorrhagic infarction and necrosis of the intestine, followed by perforation, general peritonitis, and death. The patient had been admitted to the hospital about twelve days before death, so that the infarction had evidently occurred while in the hospital. It had not been diagnosed during life. The man had been a heavy drinker. He had been well and working up to three months previous to coming to hospital. He had then begun to suffer from shortness of breath on exertion. For the past two months there had been increasing shortness of breath with attacks of orthopnœa and moderate whitish expectoration—never bloody. About three weeks before admission his feet had become swollen, and had remained so since that time. The urine had diminished in quantity. He was poorly nourished, and the skin presented a yellowish appearance. The chest was barrel-shaped, and the percussion note was of a wooden quality, the expiration being prolonged and of low pitch. The cardiac dulness was indistinct. No murmurs could be heard. The pulse was rapid, small, and of high tension, and there was considerable thickening of the arteries. The liver extended just below the free border of the ribs. The extremities were slightly œdematous. Two days later, or on February 25th, it had been noted that there were less dyspnœa and a better pulse. He had been treated for chronic nephritis. On February 26th he had expectorated some bloody fluid, and yet two days later he had been much better. Over the sternum a soft, blowing diastolic murmur was heard at this time, and the pulse was large, full, quick, and soft. On March 8th it was noted that the patient had been markedly worse for three days, and had complained of cramp-like pain in the epigastrium. Over the base of the right lung were heard numerous crepitant râles; over the left lung, increased dulness. A soft, blowing diastolic murmur continued to be heard over the sternum. The pulse was small and wiry. He was vomiting frequently. On admission his temperature had been 99.3° F. On March 5th, or at the time when he had complained of the epigastric pain, his temperature had been normal. Two days later it had risen to 103°. On March 9th he had died. At the autopsy, the lungs had been found congested, and at the base of the right lung was a large hemorrhagic infarction. The heart was enlarged and dilated. There was extensive atheroma of the aorta, with calcification. The kidneys were enlarged, each weighing eight ounces. The capsules were adherent, and their surfaces were granular. There was an infarction in the right kidney. The liver weighed only three pounds ten ounces. Its surface was smooth. On section it was of a pale yellowish color, and the lobules were indistinct. The spleen was small, weighing four ounces, and on section showed an increase in connective tissue. The intestines were matted together by fibrinous adhesions, and there was a large mass of intestinal coils in the umbilical region. On separating these adhesions a perforation had been found in a coil of the ileum, about three feet above the junction of the ileum with the cæcum. The intestine for a distance of five inches on either side of the perforation was dark and gangrenous, and on opening the bowel the mucous membrane in this region was found softened, and the walls were dark, and infiltrated with blood. The corresponding mesentery was in a similar condition. On opening the superior mesenteric artery a firm thrombus had been found in one of the branches of the artery corresponding to the blood supply of the necrosed part of the intestine. The speaker said that the fact that there were infarctions of the lung, kidney, and intestine would point to an embolic process followed by thrombosis. Fatal cases of this kind had not been very numerous. In one reported case in the *Glasgow Journal* the symptoms had been very similar—shortness of breath, dropsy of the extremities, and a few small hemorrhages from the lung, and severe colicky pains in the abdomen, with bloody vomiting a few days before death. This case had also presented a hemorrhagic infarction of the intestine, although there was no perforation. The clinical diagnosis was difficult, but the sharp pain in the abdomen and the absence of the usual signs of strangulation were significant.

Dr. E. Hodenpyl referred to a case of thrombosis of the superior mesenteric vein recently seen at autopsy, in which the symptoms had been quite different. The patient, a man aged thirty-five years, had been seized four days before death with rather severe colicky pain in the abdomen. There had been no disorder of the bowel. The man had not seemed to be very sick at first, but had come to the hospital in an ambulance from a long distance, and on reaching the hospital had been in collapse. The autopsy showed a total thrombosis of the superior mesenteric vein, including all of its branches. There was a little atheroma of the aorta, but no history of syphilis could be obtained. The mesentery itself had been œdematous. With the exception of a moderate amount of phlebitis of the vein there was no clew to the origin of the process. There had been no elevation of temperature.

**Report of a Chemical Examination of a Knife-Grinder's Lung.**—Dr. Eugene Hodenpyl said that the subject of this report was a knife-grinder, thirty-five years of age, who had died of pernicious anæmia. The history was that he had worked at his trade for fifteen years. For the first ten years, he was employed as a grinder and worked in a large room with some forty others; for the past five years he had worked in a very small and ill ventilated room at the same occupation with some seven others similarly employed. The lungs presented a maximum degree of pigmentation, and it had, therefore, occurred to the speaker that it might be instructive to determine the amount of carbon contained in the lungs, and, if possible, the amount of

emery and iron also. Such an investigation seemed especially desirable, since the speaker had been at the time studying the literature of "Staubinhalation" without finding a single case in which the amount of carbon had been determined in similar cases of anthracosis, and, moreover, upon inquiring among his colleagues, he had found that none had the slightest idea as to the amount of carbon which might reasonably be expected to be obtained from such a lung. There were many reports in literature, notably those by Arnold, in which gold and silver had been extracted from the lungs of artisans working with these metals, but no case had been observed in which the amount of carbon, emery, and iron had been determined in the lungs of knife-grinders. The technique employed was to digest the lung, which weighed 900 gm., and then obtain the charcoal, emery, and iron by precipitation. The lung was cut into small pieces, placed in a little water, to which was added two ounces of Johnson's preparation of papoid and enough hydrochloric acid to give a reaction of free acid in the solution. This mixture was kept at a temperature of 40° C. for ten days, when the lung became completely liquefied. It was then necessary, on account of the viscidity of the mass, to add large quantities of water, in order to secure precipitation. About sixty gallons of water were added, and this mixture was allowed to stand in a number of tall jars for many days until precipitation was complete. The precipitate was then repeatedly washed in water until it was believed that all of the substance soluble in water had been removed. It was then evaporated to dryness and powdered. At this juncture, Mr. Allan C. Eustis and Mr. A. N. Richards, assistants in the department of physiological chemistry of the College of Physicians and Surgeons, New York, kindly undertook the chemical examination, and the speaker took this opportunity of extending his thanks to these gentlemen for the very complete analysis which they had made.

Analysis of lung taken from the body of a knife-grinder:

Total weight of lung dried and powdered, 48.1009 gm. Total solids, 44.7986 gm.; water, 3.3023 gm.

Soluble in ether, 14.6017 gm.; insoluble in ether, 30.1969 gm.

Composition of the portion which was soluble in ether: Free fatty acids, 7.498 gm.; neutral fats, 4.044 gm., cholesterin, 3.037 gm. (lecithins?).

Composition of portion insoluble in ether: Proteids, melanins, etc. (total nitrogen × 6.25), 15.4759 gm.; charcoal (total carbon — proteid carbon), 7.1989 gm.; ash, 4.29095 gm.

Composition of ash: $K_2O$, 0.2167 gm.; $Na_2O$, 0.3523 gm.; CaO, 0.0965 gm.; $Fe_2O_3$, 0.0879 gm.; $Al_2O_3$, 1.4628 gm., $SO_3$, 0.0704 gm.; $P_2O_5$, 0.9565 gm.; $SiO_2$, 1.20434 gm.

Dr. Hodenpyl said that, on first receiving this report, he had been somewhat disappointed that the amount of carbon was not greater, but since then he had made some simple experiments which demonstrated that, after all, 7 gm. + of this particular charcoal was really an enormous amount to be obtained in a lung. It is to be remembered that this charcoal was in an exceedingly fine state of subdivision. Thus, on mixing 0.1 gm. of very finely powdered animal charcoal in 500 cc. of water, the fluid was only very slightly darkened. One-tenth of a gram of the precipitate from the lung, dissolved in 500 cc. of water, made the fluid almost jet black in color, even though of this 0.1 gm. represented only about $\frac{1}{4\frac{1}{0}}$ gm. of carbon. Again, it will be seen that about one-fourth part of the ash was in the form of an oxide of iron. The amount of emery was represented by oxide of aluminium and oxide of silicon. These two together made up about 2.5+ gm., so that considerably over one-half of the ash was in the form of emery, and the emery and iron together made up more than three-fourths of the total amount of the ash.

Dr. Prudden remarked that more than a barrel of water had been made as black as ink by the pigment contained in the lungs of this person. The investigation had an obvious and important bearing on infection through the lung, because it showed how many particles might pass all the safeguards which the air passages present.

**Three Cases of Duodenal Ulcer, Two with Symptoms of Acute Appendicitis.**—Dr. Harlow Brooks made this report.

Case I.—This was a female child, twelve years of age, in good general health up to a few days before death. She had been constipated at that time, and a calomel purge had been given. When it had operated she had begun to suffer from severe pain, and had died a few hours after. At the autopsy, on opening the abdomen the omentum was natural, but the transverse portion of the colon was distended with gas. In the right hypochondrium was a mass of adhesions, partly recent, involving the hepatic flexure of the colon, gall bladder, duodenum, and pyloric end of the stomach. The common bile duct was occluded by adhesions. The surrounding peritonitis was quite sharply localized. On the internal wall of the second portion of the duodenum was a mass of old adhesions, and opposite this the wall of the duodenum was sacculated and of a purple color. The duodenum contained 2 c.c. of normal chyme. An area of the mucous membrane, one and one-half inches in diameter, was the seat of an erosion. This ulcer was not punched out, and microscopically it gave no evidence of tuberculosis or of anything else indicative of its origin. No other lesion of the digestive tract was found. The parents had been healthy.

Case II.—This was a Russian, about thirty-eight years of age, who had entered Trinity Hospital with a supposed abscess of the lung. He had been operated on for this, and a large quantity of pus, devoid of odor, had been opened up. Two weeks later an abscess had formed in the groin, and had been incised. Later on there had been symptoms strongly indicative of appendicitis, and the abdomen had been opened. The abdominal cavity contained about one litre of thick, creamy odorless pus which bacteriologically contained streptococci. At the autopsy, all the operation wounds were in a healthy condition. There was a sacculated empyema in the pleural cavity, and connected with the pus pocket found in the abdominal cavity. There were many areas of old peritoneal adhesions. The spleen was almost bifurcated by an infarction. The main pus pocket had been bounded by the spleen, the posterior surface of the pancreas and duodenum, and the posterior abdominal wall. A well-defined abscess cavity occupied almost the entire head of the pancreas, and this had undoubtedly been the original focus. The mucous membrane of the duodenum showed a characteristic punched-out ulcer situated near the pyloric ring, the base had been healed over. A similar lesion was located in the wall of the stomach also near the pylorus, but this was completely perforated. There was no inflammatory action around the ulcers. The liver showed marked interstitial cirrhosis and several gummata of considerable size.

Case III.—In this case a man, twenty-nine years of age, had been admitted to the J. Hood Wright Memorial Hospital to the service of Dr. Le Boutillier. For the past three years the patient had had nausea and vomiting in the morning. For two months previous to admission he had been passing a large quantity of dark, irritating urine. He had been told several times that he had had syphilis. Just before coming to hospital he

had been on a long drunk. He then developed pain about the umbilicus and vomited clear fluid. On the day previous to entrance he had had a sudden chill. On inquiry it was learned that he had had a somewhat similar, but less severe attack some years ago. There were moderate distention of the abdomen, and tenderness with moderate rigidity of the left rectus muscle. The diagnosis of general peritonitis, probably originating from appendicitis, had been made by both his attending physician and the hospital staff, and accordingly the abdomen had been opened. About one litre of fluid containing shreds of fibrin had escaped. The vermiform appendix was swollen and congested. It was amputated, and the stump inverted. The patient died after about thirty hours. Though the external coat of the appendix was eroded, no perforation could be detected, and nothing to account for the peritonitis. At the autopsy, eight hours after death, both œsophagus and trachea showed many tiny healed ulcerative patches. There was general fibroid enlargement of the lymph nodes. The abdominal cavity contained 500 c.c. of slightly turbid fluid, and the entire peritoneum was covered with an even fibrous covering. There was absolutely no odor to the exudate. There had been natural reaction near the field of operation, and the wound and stump of the appendix appeared healthy. Near the cardiac extremity of the stomach were numerous areas of submucous hemorrhage. On the superior anterior surface of the duodenum near the pylorus was a conical perforation with apex extending out to the peritoneum. The ulcer was nearly 1 cm. deep. There were no evidences of acute inflammatory action about the perforation, and the appearance was that of a recent ulcer produced by mechanical means. Sections of the appendix when examined microscopically showed an inflammatory exudate on the outer surface, but in none had it extended through to the endothelium. There was extensive degeneration of the glandular tissue including the glands of Brunner, due to post-mortem digestion or possibly to early post-mortem change.

Ulcers of the duodenum, the speaker said, were very rare. Perry and Shaw, in 17,652 autopsies, had found only fifty cases of duodenal ulcer. It was more common in males. Excluding the cases following burns there were but eight women to forty men. This disproportion between the sexes had never been explained. The ulcers following burns were of a different type from the duodenal peptic ulcers present in these cases. These ulcers probably followed sharply localized nutritional disturbance in the wall of the gut. They occurred most frequently when there was hyperacidity of the gastric juice. This would seem to be confirmed by the fact that they were rarely found below the first portion of the duodenum. The predisposing causes were not yet known. Perry and Shaw had found twenty-five cases associated with tuberculosis. None of the authorities seemed to consider syphilis one of the causes, yet, in his opinion, this was a very probable cause. It should be noted that two of his subjects were syphilitic. The fact that the symptoms had simulated appendicitis was of clinical interest. It was well to remember that the pus associated with a peritonitis set up by the perforation of a duodenal ulcer was devoid of odor, in marked contrast with the usual condition found in cases of appendicitis. The aspiration of a few drops of pus prior to operation might give assistance in deciding on the true condition present.

Dr. Van Gieson introduced the subsequent speakers, Mr. Frank and Mr. Weil, on the subject of "Neuron Retraction," and remarked that this theory had been one of the guiding principles of the researches at the Pathological Institute of the New York State Hospitals for the past three years. In endeavoring to make clear what was meant by neuron retraction it would be necessary to recall briefly the relation between mind and body, between psychomotor manifestations and physiological and pathological processes in the nervous system. The relation between these two sets of phenomena was not, as is too frequently supposed, one of succession, but of coexistence. Dynamic processes in the nervous system were not transmutable into psychomotor manifestations. In each domain—in mind and its physical substratum—there were indeed uniformities of succession; but between these two the relation was not that of antecedent and consequent, but of parallelism. The terms neuron retraction and expansion should be applied to pathological processes in the neuron giving rise to catalysis and synthesis of neuron aggregates functionally associated. Concomitant with these physical processes of retraction and expansion of the neurons were psychopathic phenomena which might be termed dissociations and reassociations of consciousness. Correlative with catalysis of neuron aggregates occurring through retraction were the psychopathic waking states; concomitant with the reverse process of neuron expansion inducing synthesis of the neuron aggregates were the psychopathic sleeping states. The processes of retraction and expansion of the neuron were not universal for the whole nervous system. In the lower parts of the nervous system there was no such thing as neuron retraction and expansion; the neuron aggregates were firmly united, and in fact concrescent. It was rather singular to witness the division of investigators in psychiatry and neurology into two hostile camps, the one faction believing that retraction was universal for the whole nervous system, and the other, because some of its objectively minded disciples had demonstrated anatomically annectant neurons in an invertebrate or in some one place in the human nervous system, fell headlong into the belief that the whole nervous system was composed of concrescent neurons, and, what was still worse, that our mental life must be bound to the fixed and unassimilative type of pulses of consciousness. Neither of these views was right. The theory which recognized each of these views seemed to be the only tenable one. The speaker asked to be accorded the privilege of stating that the Institute where Mr. Weil and Mr. Frank had conducted their investigation was one of the first to recognize this theory, and had fully two years ago declared and insisted on the standpoint that the human nervous system was composed of both free, retractile neurons in the higher cortical spheres, and of concrescent neurons in the lower parts. The speaker desired to correct the apparent misunderstanding that the theory of neuron retraction in the above-mentioned institute postulated universal retractility for the whole nervous system. The scope of these introductory remarks hardly permitted of discussion of the process equivalent to retraction in the fixed and annectant neuron aggregates. There was, however, quite an analogous process. In annectant neurons this process could not be termed retraction, but was disaggregation. The breaches of continuity and their restitution had also parallel psychomotor manifestations which constituted respectively neuropathic waking and sleeping states, and were described in a paper entitled "Neuron Energy and Its Psychomotor Manifestations." The paper about to be presented was one of three correlated branches of investigation of neuron retraction pursued at the Institute, in which the subjectmatter was examined from both the inductive and deductive standpoints. In the paper of Mr. Weil and Mr. Frank, the psychomotor phenomena concomitant with neuron retraction were entirely discarded and the question was considered from a purely morphological and inductive point of view. In this paper the

morphological evidence of neuron retraction as furnished by the Golgi methods was shown to be wholly untrustworthy. In a second paper the argument used was to examine the cytological structure of the neuron, to study its analogy with the structure of other cells endowed with distinct motility, and also to consider in general terms some of the phenomena of psychomotor dissociations. In the third paper the argument was largely deductive. Neuron retraction and expansion were assumed. This was taken as a postulate and was verified by the study of abnormal psychomotor phenomena, especially the psychopathies. This last line of argument furnished the only cogent course of reasoning to prove the retraction theory. The theory could be substantiated only by the study of the phenomena of abnormal mental life by the deductive method, and those who attempted to investigate the question from an entirely inductive and morphological basis could hardly have a broad, intelligent conception of the nature of the problem. We had as yet no actual demonstration of neuron retraction, nor were we likely to have for some time to come. In fact, this was not absolutely essential for the establishment of the theory if neuron retraction was assumed, and if psychopathic phenomena and much in the course of the phylogenetic and ontogenetic evolution of consciousness were explained by this theory, and indeed verified the theory, it was perfectly justifiable to accept it. The great weight of proof of the retraction theory rested not on morphological and physiological basis, but on the study of the living phenomena of mental life. It was this line of study from the psychological and psychopathological standpoint that had led us to accept and rely on the retraction theory as a great and powerful guiding principle of our investigations. Those who opposed the retraction theory because it was not proven by tangible and actual objective demonstration might equally well be sceptical of the theory of molecules and atoms and the whole fundaments of physical sciences. No one had ever seen an atom or a molecule, or had been able to receive any perceptual recognition of them. These things were entirely conceptual and inventions of the imagination. But these conceptions of atoms and molecules were so universally verified by the phenomena of the physical world that no chemist or physicist hesitated to accept the atomic theory. Neuron retraction and expansion were far too subtle processes for objective demonstration, at the present time at any rate. We ought to bear in mind that the study of living phenomena was just as cogent and important in substantiating theories as laboratory work with lenses, test tubes, and crucibles. The speaker did not want to minimize the objective demonstration of pathophysiological processes in the laboratory. This had been and always would be of incalculable benefit, and rested our theories on a surer footing. But it was quite fitting with one of the greatest and most profound problems in mental and nervous life before us, to remember that the study of the living phenomena might give us a key and a grasp on the question when laboratory study of dead tissues would signally fail. Those who could combine both points of view had indeed the coign of vantage. The history of medicine showed that reflective clinicians again and again had in general terms foreshadowed theories of pathophysiological processes long in advance of their detailed elucidation in the laboratory, and he felt sure that the retraction theory would be established by the explanation of the living phenomena of consciousness in advance of the demonstration of the physical pathway beside which they travelled.

**The Inadequacy of the Evidence of Neuron Retraction as Furnished by Methods of the Golgi Type.**—The following paper, by Messrs. R. Frank and R. Weil, contained a brief statement of the results of work done by the authors during the past three years in the Pathological Institute of the New York State Hospitals in connection with the theory of retraction. All the histological evidence which had hitherto been advanced in support of the theory had been based upon the Golgi method; the object of the present research was an experimental investigation of the adequacy of that method as a criterion of histological changes in the nerve cell or its processes. The literature of the subject was extensive and would not be detailed in this place, a complete *résumé* being furnished by W. Ford Robertson in the last number of the English magazine *Brain*. In brief, neuron retractility was by the majority of observers regarded as a function of the protoplasmic processes, and was best manifested by the pyramid cells of the cerebrum and the Purkinjé cells of the cerebellum. Two changes were said to occur: First, the appearance of localized swellings, or "varicosities," along the course of the dendrites; and, second, the disappearance of the gemmules, or dendritic spines, at the site of these swellings. The two phenomena were supposed, except by Lugaro, to be correlated; the spinous processes were withdrawn into the body of the dendrite, and, by so doing, a localized swelling was produced. Human and experimental material of the greatest diversity had been investigated—of the former, brains of diphtheria, typhoid, insolation, etc.; of the latter, brains of animals poisoned by arsenic, lead, morphine, strychnine, chloroform, tuberculosis, hydrophobia, experimental strumipriva, experimental uræmia, and other agents. The method employed had always been the rapid Golgi (or Cajal) method, except in the case of certain recent works of Lugaro's, which had employed Cox's modification of the corrosive method. Criticism of the conclusions above stated had not been lacking. Both gemmules and varicosities were by some authorities considered to be artifacts. By others, *e.g.*, Lugaro, while their occasional authenticity was admitted, they were partly attributed to post-mortem processes; Lugaro asserted that the only form of the Golgi method which did not exaggerate the true number of varicosities was the Cox modification.

In this investigation, four forms of the Golgi method were made use of, namely, the rapid, mixed, and slow modification of the bichromate-silver method, and the Cox modification of the corrosive method. The number of animals used was forty-three. There were five cases of human material, three adults and two fœtuses; one dog, and thirty-seven rabbits. Of the rabbits, ten were normal; of the remainder, two were poisoned by morphine, one by strychnine, four by chloroform, and the rest by the injection of hypertoxic urine or serum. Nine of the rabbits were treated uniformly according to four methods, the three bichromate-silver modifications and the Cox; two were treated according to the rapid Golgi method and the Cox; the rest, according to the rapid, mixed, or slow procedure alone. In all, three hundred and forty-two pieces were sectioned. The cerebral cortex alone was studied. The conclusions reached were the following:

(1) The same material, when treated by different methods, yielded different results. The nature of the differences in case of each kind of material was as follows: All material treated according to the slow method of Golgi showed an almost absolute freedom from varicosities; these structures occasionally occurred, but with a relative frequency which was perhaps not greater than a fraction of one per cent. The mixed method and the rapid method might be considered together; these two methods yielded practically

similar results, as regards the varicosities and the gemmules. The gemmules were almost invariably present and generally regular, provided the dendrites had taken the impregnation. The varicosities occurred in variable proportions, although their frequency regularly was greater, and almost always very much greater, than was the case in the slow method; in some sections almost every dendrite was varicose, in others hardly any. In the Cox method, a fair amount of varicoseness was generally present at any stage of fixation. Gemmules were almost universally present and regular.

(2) The above results were independent of the nature of the material, whether normal or toxic. Normal material, as well as toxic, was regularly free from varicosities when treated by the slow method. Normal material, as well as toxic, exhibited a variable amount of varicosity, when treated by any of the other three methods used. It varied within exactly the same limits as the abnormal, that every degree of varicoseness could be illustrated with equal freedom from either, and, finally, that it was impossible for an unprejudiced observer to differentiate or distinguish between the two kinds of material.

(3) The same material did not yield constantly identical results, when treated by one and the same method. Pieces from the same animal, when immersed in the same fluids of the slow, mixed, rapid, or Cox method, might illustrate the extremes of varicoseness produced by that method.

The above conclusions seemed to demonstrate that the varicosities were to be regarded as artifacts of the Golgi method.

Drawings of many of the preparations were illustrated by the projection lantern.

The thanks of the authors were due to Dr. Van Gieson for his courtesy as director of the Pathological Institute.

Dr. Joseph Collins said that he had been specially gratified with the paper and its very convincing arguments. The fact that varicosities had appeared on other cells than the pyramidal cells had always been a great stumbling-block to those who had put forward facts from morphological experiments. He hoped to be able, at some time, to controvert most of the statements made by Dr. Van Gieson. He would not think of accepting his definition of the retraction theory.

Dr. E. D. Fisher said that it was interesting to learn from these experiments that these varicosities were the results of the methods employed, and had no special significance. He had always noted that Dr. Van Gieson took special pains to show the true nature of many of these phenomena, whereas other observers had seemed disposed to theorize on insufficient grounds. Perhaps the most convincing argument offered was the statement that the same appearances were presented by material from both normal and abnormal animals. He agreed with Dr. Van Gieson that a theory, no matter if it proved ultimately false, was of great advantage in studying a subject like psychology.

Dr. Prudden said that he had been deeply interested in the paper because it demonstrated the great value of careful technical procedure. He did not conclude, however, as another speaker had seemed to do, that this work should be regarded as evidence against the retraction theory, but rather that this sort of evidence was not good evidence, and that the retraction theory still remained, in so far as this study goes, neither proved nor disproved.

Mr. Weil said that by a number of methods it was impossible to demonstrate the presence of gemmules, but it was perfectly possible to demonstrate them by other methods. He was of the opinion that the majority of workers with the Golgi method were coming to regard the gemmules as a legitimate product. They appeared regularly and only on the cortical cells.

Dr. Van Gieson said, in response to Dr. Collins, that when different degrees of conduction in pathological conditions were plainly evident in one and the same set of neurons, it was difficult to give any simpler explanation, and one more in accordance with our knowledge of the physiology and morphology of the neuron, than retraction.

## Correspondence.

### OUR LONDON LETTER.

(From our Special Correspondent.)

MEETING OF GENERAL MEDICAL COUNCIL: BRUDENELL CARTER AND VICTOR HORSLEY; MIDWIVES AND THE OBSTETRICAL SOCIETY'S SHAM DIPLOMA; ONE-PORTAL SYSTEM — APPENDICITIS — SENILE SCROFULA — EXCISION OF CÆCUM — OBSTRUCTION OF VENA CAVA — DEATH OF MR. WHEELER.

London, December 1, 1899.

The General Medical Council met on Tuesday and is still sitting. The president opened the proceedings with an address connecting last session with this, and indicating the work to be done. With constant complaints about the cost of the sittings and the increase of their length, this part of the performance might well be omitted, as I have previously remarked. The agenda ought to suffice and the members set at once to business. There is no need for an address and none for moving or seconding a vote of thanks for one, at the expense of a guinea a minute. As much might, however, be said of several other parts of the proceedings, and then—why, we should hardly know our talkative Council.

As soon as business was begun there was a lively, not to say desperate encounter between Mr. Brudenell Carter and Mr. Victor Horsley. Both these gentlemen are hard hitters, and neither is troubled with undue respect for the other. They have met before, and personalities have given piquancy to their logomachies. On this occasion Mr. Carter had the best of it. He had to complain of Mr. Horsley's statements about the representation of the Society of Apothecaries in the Council, and he showed that they were altogether erroneous. He proved this completely. Mr. Horsley had said in his public speeches that Mr. Carter did not represent the society, but only twenty-four tradesmen who knew no more of medicine than of bootmaking. Such and other disparaging descriptions he applied to the twenty-four gentlemen who appoint Mr. Carter, speaking of them as the master and wardens. Mr. Carter told the Council he was elected by the court of the society, a body of twenty-four, of whom the master and wardens were three. Moreover, every member of that court was a member of the College of Surgeons and a licentiate of the society, and some of them were university graduates and fellows or members of royal colleges. No more proof was needed that Mr. Horsley had made a serious blunder, but Mr. Carter went on to pile up the agony by trying to show that his opponent knew the facts, producing a letter dated 1896, saying "these twenty-four persons, most of whom are on the Medical Register."

Mr. Horsley then spoke. He began by acknowledging that Mr. Carter had established that his description of the electors was not justified, and apologized for having misrepresented them. He then endeavored to justify some of his statements, arguing especially that Mr. Carter did not represent the society because

he was elected by the court only, a body of twenty-four. But he might as well have objected to the representative of the College of Surgeons, who is appointed by the Council of twenty-four also. How could such an argument affect the body he was addressing, which is largely composed of such "representatives"? Here was no justification of his statements about the society, and he would have done better to have made his apology for his strange mistake without comment.

After this incident was closed the subject of death certificates came up, and it was agreed to ask the president of the Local Government Board to receive a deputation on the urgent need of legislation on the matter. Applications for restoration to the register were then considered.

On Wednesday the midwives question was once more brought up. Mr. Brown proposed that the Obstetrical Society be informed that the Council can no longer assent to their holding examinations and granting pseudo-diplomas to midwives. You may suppose that this might meet with general support, seeing that the Council once condemned the society and threatened action. But no—the Council afterward climbed down and let their obstetric friends carry on their illegal traffic in sham diplomas on altering the form of the certificates with which they flood the country. This pusillanimity of the Council has been most disastrous, and the echo of it was heard in this debate when a direct representative of the general practitioners declared he could not be a party to calling the eminent obstetricians to account, and further would dissociate himself from any imputation that these eminent men carried on their examinations for the sake of fees. It has never been said that these men did so for personal pecuniary gain. But it has been proved that their sale of diplomas to midwives of three months' instruction is a very profitable traffic for their society. There is no legal right in this traffic, and if these eminent men persist in lawlessness, they ought to bear the penalty.

Mr. Brown's motion was, of course, snuffed out, the previous question acting as the snuffers. Another motion of his in favor of union of the colleges and the Apothecaries Society, so as to form a single qualifying board for England, fared rather better. It was carried by eleven to eight, but eight significantly abstained from voting, and three were absent. This may be said, that the Council has before tried to bring about an amalgamation, but the obstructions were the colleges.

Yesterday much of the time of the Council was devoted to its judicial functions.

Appendicitis was the subject at the Medical Society on Monday. It was introduced in a paper by Dr. Caley, who treated of its prognosis in the light of two hundred hospital cases. Of these ninety-nine were simple, *i.e.*, localized non-suppurative, and all terminated favorably. Thirty-one were localized with suppuration, and twenty-nine of these resulted in recovery. Twenty-three were complicated with general peritonitis, and twenty of these were fatal. Forty-two were relapsing chronic cases, and all ended in recovery, thirty-seven of them having had the appendix removed. In the remaining five cases there were special complications, and three patients died. These statistics show a heavy mortality when there is general peritonitis, a low mortality when there is a localized abscess properly treated, and quite a favorable course in mild cases, which constitute the majority of all cases of the disease. The special points for consideration in reference to prognosis were (1) local symptoms with special reference to pain and vomiting; (2) general symptoms; (3) local signs on physical examination; (4) progress of the case. As to (1), persistent severe pain suggested a severe lesion and sudden increase of pain indicated an unfavorable turn. Persistent, severe vomiting is also grave. As to (2), temperature by itself is fallacious, but in conjunction with pulse and other symptoms is significant. Rapid pulse and bad general condition were ominous. As to the other points, the local signs were of great importance, and the progress of an acute case during the first twenty-four hours was perhaps most important of all. Recurrence is to be anticipated in quite one-third of the cases, and generally occurs within a year of the first attack. If chronic appendicitis remained, another acute attack should be regarded as sure to occur.

Mr. Owen said suddenness of attack was grave, and the sooner such cases were in the surgeon's hands the better. McBurney's point he found quite misleading. Dr. F. Smith said the chief thing to determine was whether suppuration had occurred, as in its absence temporizing was safe. Mr. Carless, on the contrary, said surgeons ought to anticipate suppuration instead of waiting for it, as they could thereby prevent peritonitis and remove the appendix, which was often not practicable when an abscess had formed. Mr. Moullin would intervene in all cases in which improvement did not take place in the first thirty-six hours, as by that time either suppuration had occurred or adhesions had begun, which would be sure to bring on relapse. Mr. Berry said he had become converted to expectancy. He had treated thirty-three acute cases by free incision and washing. Of them twenty-six resulted fatally. Out of forty-one patients treated by a limited incision through adhesions, only two died. He protested against washing out the abdomen, as a fatal practice. He said the incision should be just above and perpendicular to Poupart's ligament, as in the majority of cases that through the linea semilunaris would fail to open the abscess.

The president said he had seen many recoveries under common-sense medical treatment, but always called in a surgeon for his opinion.

Dr. Caley in reply remarked that early operation seemed to have much in its favor, but one could not usually get the cases early enough. He asked, too, whether an operation at an injudicious moment might not convert a local into a general infection.

Joint tuberculosis in the aged would seem to be more common than generally supposed, judging from some remarks made at the Clinical Society on Friday. A case was related by Mr. Marsh in a lady, aged seventy-one years, who in June, 1894, complained of pain and swelling in the left ankle. By October suppuration had taken place, and the joint was opened and drained. But pus burrowed up the leg in the sheaths of the flexor tendons, and wasting of muscles and general weakness ensued. In March, 1895, amputation through the lower third was performed and the patient improved. A year later periostitis of the left ulna went on to suppuration, and a sinus was left for three months. Nine months later, the patient being then seventy-three years old, the right ankle became affected. A further amputation was done in March, 1897, and healed in five weeks. In June an abscess formed over the site of the ulnar periostitis; it was opened, and slowly healed. She remained well for eighteen months; then at seventy-five years of age her right knee became affected, for which amputation in the lower third of the thigh was done four months later. No further trouble has occurred. The condition in all three joints was the same. The disease began apparently in the synovial membrane and led to destruction of the ligaments and cartilages, the bones being ulcerated in some spots. Mr. Marsh thought the older the patient the more rapid was the destruction of the joint attacked with tuberculosis.

Sir D. Powell said that in lung cases in the aged the tendency of the disease is to remain local, so that prognosis is more favorable than in the young, a remark with which Dr. Kidd concurred.

Mr. R. Johnson said that in the joints the disease was more virulent in the old than in the young, and asked for an explanation of the difference in virulence of carcinoma and tubercle in the aged, the growth of the former being slow but tubercle spreading rapidly. He also asked why the old were not oftener affected if the virulence depended on defective resistance.

Dr. Richards took a more hopeful view, as he had often had good results in his poor-law infirmary, owing, perhaps, to improved diet and rest. Out of five hundred post-mortems in the last two years in his infirmary, seventeen patients were aged over seventy years and died of acute tuberculosis; sixteen were between sixty and seventy years. About 6.6 per cent. of bodies examined post mortem (about half the number of deaths) were tuberculous.

Mr. Barker described a case in which he had excised the cæcum for malignant disease. He thought the disease rare, as he did the fact that it had caused obstruction. Some of the surgeons present did not consider it very rare, and mentioned cases they had had. On opening the abdomen in the middle line Mr. Barker found the small intestine greatly distended and opened it, when five pints of fetid liquid were evacuated. He was then able to feel a hard mass in the ileocæcal valve obstructing the bowel. It seemed dangerous to remove it at once, and he anastomosed the ileum to the hepatic flexure of the colon by suture, and closed the wound. Six weeks and three days later he made an incision over the cæcum and excised it with some of the ascending colon and six inches of ileum above the valve. The growth was carcinoma of the valve with excrescences projecting into the cæcum. The patient was present, looked well, and had resumed his work as a plumber. In the discussion the plan of operating in two stages seemed generally approved, and the suturing was preferred to the button. Mr. Hutchinson, Jr., said that on looking up the statistics of resection for gangrenous hernia he found the recoveries with the button were seven per cent., but with careful, direct suture four per cent.

Dr. Chapman brought the patient he showed last session with obstruction of the inferior vena cava, probably due to the pressure of a gumma. Under specific treatment there has been improvement, but the condition of the external veins is unaltered.

Mr. W. I. Wheeler, who was president of the Dublin Royal College of Surgeons in 1883, died on Saturday of typhoid. He began his active career as a resident in the City of Dublin Hospital, then became demonstrator in the school of the College of Surgeons. Afterward he entered the army and served in the Abyssinian war. On his return he became surgeon to his old hospital, and established his position as a leading surgeon in Dublin. He had been also an examiner in the college, and was a graduate of Dublin University, B.A. and M.Ch.

## ANOMALOUS PUPILLARY REACTION.

To the Editor of the Medical Record

Sir: In the last number of the Record there is a short report of a case of anomalous pupillary reaction in meningitis, by Dr. Seitz. I wish that if the doctor has any further details of the case he would report them at length, as the symptom is rare and interesting. De Schweinitz and Randall permit this statement on page 151 of the "American Text-Book": "A good deal of doubt has been cast upon this type of pupil reaction." It is what has been termed paradoxical pupil reaction. Knies tells us that it is of rare occurrence and that an explanation of the phenomenon cannot now be given. F. W. Higgins, M.D.

Cortland, N. Y., December 6, 1899.

## IS STATIC ELECTRIFICATION A SPECIFIC FOR ORGANIC AND STRUCTURAL NERVOUS DISORDERS?

To the Editor of the Medical Record.

Sir: The method of static electrification, the so-called wave current of which Dr. Morton speaks in a recent issue of the Medical Record (December 9th), has of course been in common use by others than himself for many a year. It certainly has the advantage over methods equally if not more efficient in simplicity of technique and ease of administration, but few will, I think, agree with him in making it a panacea almost for some of the most serious diseases, organic and structural, to which flesh is heir. Would that it might accomplish all that is claimed for it, but I fear it will not, and in my judgment it is quite as unfortunate to claim too much as too little. Some one has said that "originality is a thing we constantly clamor for and as constantly quarrel with." Dr. Morton has certainly not been backward in claiming not only originality, but entire originality, in the discovery of the static induced current, and although I would not quarrel with the originality, some of us have often felt like quarrelling a bit with his claim of originality.

I have in my possession an old, old book by one named Mauduyt, published in Paris in 1783, more than a hundred years ago, in which is given both in descriptive and illustrative detail what is now called the static induced current. Dr. Morton may have resurrected the method and improved it, but it is difficult to see how he could in any sense be said to have originated it. If he has ever given the slightest credit or in any way referred to the original source, it has not been my fortune to see it. A. D. Rockwell, M.D.

December 12, 1899.

## DANGERS IN THE HABITUAL USE OF ALCOHOL.

To the Editor of the Medical Record.

Sir: I have read with much interest Professor Atwater's report of the experiments which he has conducted at Middletown, Conn., under the auspices of the committee of fifty for the investigation of the drink problem. It has long been well known that the hydrocarbons, the oils, fats, saccharine substances, starch, and alcohol are heat-producing, and sources of energy in the human body. The recent experiments by Professor Atwater simply demonstrate that the human body can oxidize—use as fuel, creating energy—two and one-half ounces of alcohol in a day. It is urged that the alcohol can be more rapidly converted into energy than the hydrocarbons mentioned, ordinarily used as food, and may subserve a purpose in an emergency where rapid evolution of force is imperative. Unlike any other hydrocarbon used as food or as a beverage, alcohol has a peculiarly subtle effect upon the nervous system, forming a habit which becomes maniacal and uncontrollable in character before the habitué is at all aware of it. I am assured from observation extending through fifty years of professional life, that two and one-half ounces of alcohol or the equivalent in the finest brandies, whiskeys, wines, or ales, used daily for a period of time at all extended, will not fail to make an alcohol habitué of the most finely endowed man or woman in the world. The nervous system surely registers the abnormal impression no matter how carefully the two and a half ounces of alcohol may be taken. Once an habitué and under the control of the alcohol mania, the strongest man or woman becomes impotent to escape from the tyranny of its power.

In a neighboring town three years ago, fifteen pa-

tients were reported cured of the alcohol habit by the Keeley method of treatment: only two of these patients are sane to-day. Thirty-six years ago two of the noblest physicians, men of fine native and physical powers, commenced the use of two tablespoonfuls of the purest whiskey, to induce sleep when overworked. They were younger than myself. One gradually lost his standing and practice and died four years ago, filling a drunkard's grave; the other, possessing great native hardiness of constitution, lingers yet, a hopeless and helpless alcohol habitué, whom neither the Keeley cure, the entire medical pharmacopœia, nor the strongest moral aid has availed to save. It is far more difficult to treat traumatic injuries, fevers, influenza, pneumonia, and prevailing endemic diseases when the patient is a very moderate drinker, than to cure a total abstainer of equal vitality. I have been able to relieve permanently a number of persons, some of whom were women, who in the earlier stages of moderate drinking were struggling against the alcohol habit, unwittingly formed, and there is no work I regard with greater satisfaction.

I have always felt it imperative to enjoin upon these patients the necessity of total abstinence for life, as their only security, except in the direst medical extremity. Persons with a refined, sensitive, or diseased brain using habitually even the smallest amount of alcohol are in great danger. The most active and susceptible qualities of mental activity readily take on an unnatural excitation.

Two and one-half ounces of alcohol should never be used by any individual daily, except as a very temporary necessary expedient in an emergency or serious illness. It should then be conscientiously withdrawn by the attending physician, at the earliest moment when the necessity for its use has passed. Facts everywhere demonstrate that untold mischief results from the daily use of what is usually regarded as a small amount of the purest alcoholic liquors. I find many persons using no more and even less than two and one-half ounces of alcohol per day, or its equivalent, who are unconsciously habitués. The eyes and the skin of the cheeks, nose, ears, and neck show heightened coloring. This is far from being an indication of health. The use of an ordinary hand lens reveals a decided enlargement of the capillaries in these localities. If this vascular distention has taken place in the denser and less important structure of the skin, why must it not have occurred, even to a greater degree, in the far more numerous and more delicate capillaries of the cerebral tissues? The permanently heightened color indicates an advanced stage of the alcohol disease. The deceived victims, however, regard themselves as very temperate users of alcoholic stimulants, and no amount of argument can convince them that they are in any danger of becoming habitués. In such cases the observant practitioner cannot fail to discern evidences of serious organic changes in the cerebral, hepatic, and other tissues. The exhaustion that follows the burning out of the active fire kindled with a small amount of alcoholic stimulant is evidently in excess of the stimulation of the energies, as the nervous system after a little time imperatively requires increased stimulation.

Two and one-half ounces of absolute alcohol are equal in volume to five tablespoonfuls. This amount of alcohol is found in ten tablespoonfuls of the purest whiskey or brandy. I have recently secured the services of two eminent chemists who have analyzed six varieties of the finest wines, native and imported. I give the result of these analyses by volume in common measurements, each being somewhat less than the measure stated, to avoid fractional reckoning. Two of our finest California wines contain six tablespoonfuls of alcohol in a pint. One much-vaunted American wine has a little over eight tablespoonfuls of pure alcohol in one pint. One brand of port contains seven tablespoonfuls of alcohol to a pint. One French wine, imported and much advertised, contains five tablespoonfuls of alcohol to a pint. The lightest wine, a California brand, contains four tablespoonfuls of alcohol to a pint.

During a long and laborious professional life I have never taken of alcohol and its derivatives what would amount to a single pint of absolute alcohol. I have prescribed just as little of it as I could, and have never administered it to any of my children, even in severe illness, and they are now of adult age.

Alcohol and its derivatives are too thoughtlessly used and too carelessly prescribed by our profession, and any physician who has permitted his patients to become habitués through his counsel or neglect has not been a true friend to the unfortunate sufferers. Far better and more sure than the cure of the unfortunate is the preventive work which every physician, by every obligation to his fellow-men, is conscientiously bound to do.

I am positive that with our profession, more than with any other class of persons, lies the possibility of preventing the alcohol disease. By virtue of their sacred office physicians are, or ever should be, the protectors of the individual and the home, and the guardians of the public welfare.

C. A. Greene, M.D.

Castile, N. Y.

## SOME PRACTICAL OBSERVATIONS UPON THE PREVENTION OF APPENDICITIS.

To the Editor of the Medical Record.

Sir: The elaborate and exhaustive review of the history and literature of appendicitis, by Dr. Edebohls in the Medical Record of November 25, 1899, must be read with the close attention it so richly deserves. The appendix vermiformis is of such insignificant size that its existence was overlooked by anatomists until the sixteenth century. Physiologists have taken no notice of it yet. We are not told, and we do not know, what its functions are. They are remotely hinted at, as probably furnishing a lubricant for the fæces, but this has not been demonstrably proven. Not even Dr. Edebohls refers to them in his essay. But appendicitis, inflammation, or some other pathological condition of this mite of the intestinal canal is daily and universally heard of, seen, and treated by many, with unparalleled fatal results. There are other organs the physiology of which is unknown, such as the ductless thyroid and thymus glands, but the baneful results of their absence or removal are soon manifest.

But the removal of the healthy appendix vermiformis is easy and absolutely harmless; which leaves the question unanswered: "What is the vermiform appendix good for?"

It is authoritatively stated that fifty thousand deaths occur annually in the United States of America from appendicitis, whether under surgical or medical treatment is not known. This naked fact is appalling, and sufficient to stamp it as the most dangerous disease known, outranking variola, spinal meningitis, and perhaps pulmonary tuberculosis.

And yet appendicitis can be prevented by the removal of the appendix from healthy children. Why not perform appendicectomy on all children before school age? The technique of the operation is very easy in a healthy body, or one in which there is no pathological complication. Union by first intention is always attained under aseptic precaution. It is not more cruel or barbarous than compulsory vaccination,

or serum treatment, now so much in vogue. It is a prophylactic of absolutely certain results. It is true that such an act cannot probably be legally enforced, yet intelligent parents would rather choose this alternative than risk the dreadful ordeal of an appendicitis, especially when they have already had a sad experience of it in their own family. The removal of a healthy, not absolutely vital organ is largely practised on animals of the lower order with excellent results. The human body can always endure surgical operations better. With the judicious use of anæsthetics, the shock of such a simple surgical operation would be the least worthy of consideration, and a positive immunity from this dread disease would be assured.

The proposition will not meet with early or general acceptance, but it will be favorably thought of when no better remedy is found to improve the record of treatment of appendicitis.

It may not be improper to mention that some zoölogists and ethnologists believe that if appendicectomy is performed on all children for five or six generations, it is more than likely that the children of succeeding generations will be born without a vermiform appendix.

S. Pollak, M.D.

St Louis, Mo.

## THE WAR IN SOUTH AFRICA.

(From our Special Correspondent.)

THE RAPID HEALING OF MAUSER RIFLE WOUNDS—THE CARE OF THE WOUNDED—THE HOSPITAL DEPARTMENT OF THE BRITISH ARMY.

Durban, Natal, S. A., November 10, 1899.

We in Natal are now in the midst of war, and from a surgical standpoint no doubt your readers would be glad to hear of some matters connected with the all-absorbing topic.

I am sorry to say that by being accidentally shot through the thigh by one of my own men at revolver practice, I have been unable to proceed to the front, where I could have gleaned many interesting particulars. I am at present, however, partially recovered, and am acting as assistant surgeon at a convalescent hospital in the Legislative Building, Maritzburg.

Here most of our wounds are comparatively slight and nearly all are healed; most of these were received about fourteen days ago, and it is striking how quickly and cleanly they have healed. Those through the arm, leg, and foot, when not severing main arteries, are quite healed, and beyond a little stiffness the men complain of nothing. All the wounds so far seen by me have been inflicted by the Mauser bullet.

The British contingent from India brought with them a fully equipped field hospital with well-trained Indians as bearers and hospital assistants. The bearers are said to have shown great coolness and courage in going out under fire to carry in wounded.

The plan adopted by the medical department is that all wounded are sent from the front as soon as possible to Maritzburg, where several large public buildings have been made into hospitals. From here they are being dispatched in batches of a hundred or so to Durban, and thence straight away by ship, specially fitted, to Cape Town, where large convalescent hospitals are ready to receive them, the climate down there being dryer and healthier at this season than the subtropical climate of Durban during the rainy season.

The battle of Elandslaagte was a most unfortunate one for the wounded. The firing ceased only at dark, so that many of the wounded lay out all night in a cold rain, owing to the inability of the ambulance men to reach them Doubtless many died who might have been saved had aid reached them earlier.

## Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending December 16, 1899:

| | Cases | Deaths. |
|---|---|---|
| Tuberculosis | 171 | 154 |
| Typhoid fever | 91 | 9 |
| Scarlet fever | 167 | 11 |
| Measles | 482 | 13 |
| Diphtheria | 273 | 37 |
| Laryngeal diphtheria (croup) | 9 | 3 |
| Cerebro-spinal meningitis | 0 | 4 |
| Chicken-pox | 29 | 0 |
| Smallpox | 2 | 0 |

**Combination among Medical Men.**—Combination seems to be the order of the day; all trades combine, both employers and employed alike, but there are many who lift their hands in holy horror at the idea of a medical practitioners' combination. No, he has been the knockabout so long that any alteration in the present state is viewed with surprise and alarm. Combination in the profession does not necessarily mean a combative organization, but rather it has its object to bring about a clearer understanding between themselves and their patients. We may take it for granted that the more contented and better paid medical men are, the better will it be for those under their care.—Excerpt from an address of Dr. Luther Cooke on "Medical Politics."

**An Ancient Roman Hospital.**—Herr Reber gives an interesting description of the recently discovered ruins of a Roman military hospital (?) at Beeden in Aargau. The building had a base area of forty-five by forty metres, and was adorned with a pillared portico of which the foundations still remain. The main hall had an area of one hundred and twelve square metres and was apparently divided by thin walls into separate compartments, each for a single patient. There were fourteen ground-floor rooms, of which the largest measured twenty-seven metres by three. Scattered through these rooms was a large number of medical and surgical instruments and apparatus of various kinds, including one hundred and twenty probes of all shapes and sizes, cautery irons, ointment pots and spatulæ (one of the former containing an ointment of white lead and lard), a bronze catheter, hand scales, knives, needles, and numerous vessels, some with artistic ornamentation. One room seems to have been used as a dispensary, for not only were scales and instruments for rubbing up powders discovered, but also two metal labels inscribed Manna I and Manna S, apparently denoting whole and half (semis) powders of frankincense, then often used as a hæmostatic. The only reasons for calling the pace a military hospital seem to be the facts that a stationary camp long existed in the neighborhood, and that we have no definite knowledge of Roman hospitals other than those for soldiers and slaves. Herr Reber considers that the absence of any arms or military accoutrements and the presence of numerous brooches or fibulæ of delicate workmanship, such as would be worn by women, are opposed to this theory.—Janus, in *Medical Magazine*.

**Rag-Sorter's Disease.**—This is an affection observed among workers in paper factories and presenting symptoms which closely resemble internal anthrax. It is presumably a bacillary disease, and the bacillus proteus hominis capsulatus has been found in the internal organs.—"Handy Book of Medical Progress."

**Sanitary Matters in Japan.**—The *Allgemeine Wiener medizinische Zeitung* states that in Japan the bureau of public health is connected with the internal department. The country is divided into seven sanitary districts, and each community has a sanitary council consisting of police officers and two local members of the profession, druggists or veterinarians, who confer with the local officials in all matters affecting the public physical welfare.—*Sanitary Record.*

**Mismanagement during the Crimean War.**—Mr. Justin McCarthy, in his "History of Our Own Times," refers in these words to the situation in the Crimea brought about by the blunders of the commissariat department of the British government at that time: "The winter (1854–55) was gloomy at home as well as abroad. The news constantly arriving from the Crimea told only of devastation caused by foes far more formidable than the Russians—sickness, bad weather, bad management. . . . On shore the sufferings of the army were unspeakable. The tents were torn from pegs and torn away. . . . The hospitals for the sick and wounded at Scutari were in a wretchedly disorganized condition. . . . In some instances medical stores were left to decay at Varna, or were found lying useless in the holds of the vessels in Balaklava Bay, which were needed for the wounded at Scutari. . . . Great consignments of boots arrived, and were found to be all for the left foot. Mules for the conveyance of stores were contracted for and delivered, but delivered so that they came into the hands of the Russians and not of us. Shameful frauds were perpetrated in the instance of some of the contracts for preserved meat. 'One man's preserved meat,' exclaimed Punch with bitter humor, 'is another man's poison.'"

**Winter Clothing.**—With the coming of December every one thinks of winter clothing, and as a clothing we all believe in wool. Undoubtedly, as the saying goes, "there is nothing to beat it." A man clothed in wool is far nearer to the condition of the natural monkey with whom he is said to have such affinities than when dressed in any other garb, even than when got up in furs or in the homely sheepskin. The trouble is that wool is difficult to wash, and very difficult indeed to sterilize without deterioration, whereas cotton and linen can be made not only to look clean, but to be really clean by the simple process of putting it in a copper and boiling it. If one inquires how woollen underclothing is dealt with by the ordinary laundress, one finds that it is washed in warm water well lathered with soap, and rapidly dried, preferably upon some form of stretcher, the aim being not entirely cleanliness, but the avoidance of the shrinking which is apt to take place if it be left long in water, and of the "going hard" which occurs if the fabric is boiled. The process is definitely laborious, and one that the poor find too tedious and expensive to be indulged in more frequently than is absolutely necessary. Hence, no doubt, what a contemporary calls the "dreadful smell of humanity" which characterizes a British crowd, for Great Britain of all countries in the world is the one whose inhabitants most affect woollen cloth. —*Hospital.*

**Word Deafness.**—Cases of word deafness being so exceedingly rare, no case is yet known in which recovery has taken place, and it would in all probability be difficult to bring it about. Owing to the patient's ability to speak, to read, and to write, by means in the main of the nervous mechanisms contained in the left hemisphere, this side of the brain would still continue very fully to perform its functions. Moreover, the situation of the lesion might be such as to prevent functional relations becoming established between the left visual and the right auditory word centres, and this being so the right auditory word centre would remain in an isolated condition. If, as in such a case, this centre should be thus cut off from all functional relations either with its fellow or with the visual word centre of the left hemisphere, it seems evident that comprehension of speech could never be restored—that is, no process of functional compensation would be possible.—BASTIAN: "Aphasia and Other Defects of Speech."

**The Plague and Mice.**—Dr. Donga, provincial medical officer of health at Venice, says: "An evident and well-demonstrated connection exists between the plague of man and that of mice. The same specific agent is the cause of each. It is communicable from mouse to man and vice versa. Either one or the other may be the vehicle of contagion from place to place. Although the transference of infection from a sick man to a healthy man does occasionally occur, the mouse (or rat) seems to be the chief and almost necessary agent of the expidemic diffusion of plague."

**Childbirth with Savage and Civilized Women.**—The labors of savage women are known to be safe and easy. How does civilization render labor difficult? Dr. Reid holds that heredity is largely responsible; that women with small pelves tend to have daughters with a like peculiarity, and that the individual born with a large or small head has a tendency to transmit to his or her children a similar cranial formation. When a savage woman has a small pelvis or a large-headed child she generally dies in labor, and thus, generation after generation, narrow hips and large heads are eliminated, while the right proportion between head and pelvis is secured. In civilized countries many small-hipped and large-headed children are annually preserved. If these perished as they would among savages, the average difficulty of labor in the next generation would be appreciably ameliorated. But, as Dr. Purslow (Birmingham) pointed out, the difficulty of labor in civilized women was often due, partially at least, to deficient power of the expulsive muscles, the result of the use of corsets and the want of exercise. Posture may also to a certain extent be responsible Savage women almost invariably assume the squatting position. If Dr. Reid's deductions are as sound as they are logical, there will be a large and increasing field for the gynæcologist of the future.—*English Medical Review of Reviews.*

**The Conditions of Health of Ladysmith and Pietermaritzburg.**—The British Army Medical Report for 1897 gives some information regarding Ladysmith and Pietermaritzburg which has some points of interest, but the conditions have no doubt undergone considerable change since Ladysmith was occupied as a new military station in May of that year. It is described as an exposed camp about two miles west of the town. The soldiers were then under canvas and exposed to a good deal of discomfort, owing to dust storms in windy weather and the muddy and swampy state of the ground during wet days. Huts of wood and iron were then in process of construction and have since been completed There was at that time no proper drainage for the removal of surface water, and a pail system of conservancy was in operation, the contents being deposited about a mile north of the camp. The water was distributed by water carts filled at a large tank connected by iron pipes with the municipal reservoir (fed from the Klip River) situated near the camp. . . . It is mentioned that the health of the camp had not been satisfactory since the previous October, owing to the prevalence of continued fever and enteric fever, dysentery, and ague The possible importance of Ladysmith as a military station had no doubt attracted attention in 1897, although the part it

was destined to play could not then have been foreseen. Still it probably led to the introduction of some important sanitary changes. At Pietermaritzburg enteric fever was said to have been very prevalent, and the sanitary condition of the locality, especially in respect of the prevention of soil pollution, left much to be desired. The water supply is described as being scarce, but a new water tower was being erected in 1897 to remedy this. The hospital arrangements were said to be inadequate to the requirements; and as the available space in the hospital grounds was occupied by marquees, and the cavalry barracks were utilized as hospital wards, the accommodation afforded in permanent buildings seems to have been insufficient at that time. This, however, is not a matter of any great importance so long as there is plenty of accommodation available under canvas.—*London Lancet.*

**Alcoholism in Great Britain.**—Dr. St. Clair Shadwell, speaking on the English Inebriates Act, 1898, says: "We find that in England in 1891 there were registered as dying from chronic alcoholism, 857 males and 643 females; cirrhosis of the liver, males 2,289, females 1,552, giving a total of 5,896 deaths from alcoholism; nor have we in these figures included all the victims of inebriety, yet they show a larger number of deaths registered during the same year than from either enteric fever or diphtheria."

**Low Death Rate at Buffalo.**—The Buffalo death rate last year was 12.24. This reckoning is obtained on the basis of an estimated population of 370,000, the number of deaths from all causes during the year being 4,533. No city in the United States of equal size shows a death rate so low. It is noticeable that nearly all the lake cities were comparatively healthful. Cleveland with a population also estimated at 370,000 had a death rate of 13.62.—*Buffalo Medical Journal.*

**Casualties Resulting from the Shelling of Mafeking.**—It is good to observe that the inhabitants of Mafeking and Kimberley are keeping their spirits up, or rather were at the time this report was dispatched. The resident magistrate at Mafeking, writing on the 17th inst. to the premier of the Cape, reported that the Boers had shelled the town for four hours, the result being that a dog was killed, while from Kimberley a few days later the news came that after a heavy bombardment the only damage done was the breaking of a cooking-pot.

**The Grape Cure.**—No. 35, *Gazeta Medica Lombarda*, contains an account of the grape cure, taken partly from the *Journal de la Santé*. This method of treatment is recommended by Dujardin-Beaumetz and others for cases of dyspepsia, especially when accompanied by constipation and in the gouty. It is also valuable in chronic diarrhœa of dysenteric origin, and Tissot tells a story of a regiment of soldiers decimated by dysentery which vanished in a marvellous manner on encamping among vineyards full of ripe grapes. Chronic cystitis is benefited by the alkaline carbonates developed by the vegetable acids of the fruit, but in such cases care must be taken that the grapes are not sour. Cardiac affections are relieved by the laxative and diuretic action, while almost all patients are benefited by the fresh air, exercise, and early rising which the rules of the "cure" involve. Grapes grown on volcanic soil are said to have a more markedly stimulant and diuretic action than others. As to the amount Dujardin-Beaumetz recommends patients to take as much as they possibly can without exciting disgust, while others advise a gradual increase to a daily maximum of four kilos. The duration of the cure is one to three months.—*Medical Magazine.*

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended December 15, 1899:

| | | Cases. | Deaths. |
|---|---|---|---|
| **Smallpox—United States.** | | | |
| District of Columbia, Washington | December 2d to 9th | 2 | . |
| Kansas, Arkansas City | November 27th to December 2d | 14 | 1 |
| Columbus | November 27th to December 2d | 1 | |
| Lawrence | November 27th to December 2d | 6 | |
| Peoria | November 27th to December 2d | 1 | |
| St. Mary's | November 27th to December 2d | 2 | 1 |
| Wellington | November 27th to December 2d | 2 | |
| Louisiana, New Orleans | December 2d to 9th | 7 | |
| Massachusetts, Chelsea | December 2d to 9th | 3 | |
| South Carolina, Greenville | December 2d to 9th | 4 | |
| Virginia, Portsmouth | December 2d to 9th | 19 | |
| **Smallpox—Foreign.** | | | |
| Belgium, Antwerp | November 11th to 18th | 3 | |
| Bohemia, Prague | November 11th to 18th | 19 | |
| Brazil, Ceara | October 1st to 31st | .. | 1 |
| Canada, Kamouraska | November 27th to December 4th | 63 | |
| Cuba, Casilda | November 27th to December 4th | 5 | |
| Egypt, Cairo | October 28th to November 4th | .. | 1 |
| England, London | November 18th to 25th | 1 | |
| Greece, Athens | November 11th to 18th | 3 | 1 |
| Mexico, Chihuahua | November 25th to December 2d | .. | 8 |
| Vera Cruz | November 23d to December 7th | .. | 2 |
| Russia, Moscow | November 4th to 18th | .. | 2 |
| St. Petersburg | November 11th to 18th | 17 | 3 |
| Spain, Corunna | November 18th to 25th | .. | 1 |
| **Yellow Fever—United States.** | | | |
| Florida, Key West | November 26th to 30th | 4 | |
| Louisiana, New Orleans | December 2d to 9th | 1 | |
| **Yellow Fever—Foreign.** | | | |
| Colombia, Barranquilla | October 22d to November 18th | 2 | 2 |
| Panama | November 25th to December 5th | 10 | 5 |
| Cuba, Havana | December 1st to 7th | 6 | 1 |
| Matanzas | November 26th to December 3d | 1 | |
| **Cholera.** | | | |
| Turkey (in Asia), Amara | November 13th | | Present. |
| Bassôrah | November 23d | | Spreading. |
| Fao | November 17th | | Present. |
| Shabra | November 18th | | Present. |
| **Plague.** | | | |
| Brazil, Santos | October 18th to November 18th | 2 | 11 |
| China, Hong Kong | October 14th to 28th | 2 | 2 |
| Japan, Osaka and Hiogo | November 4th to 11th | 3 | 3 |
| Madagascar, Tamatave | October 16th to 29th | 11 | 8 |
| Portugal, Oporto | November 1st to 20th | 41 | |

## Books Received.

*While the* MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

OPERATIVE SURGERY. By Joseph D. Bryant, M.D. 8vo, 587 pages. Illustrated. D. Appleton & Co. New York.

REFRACTION AND HOW TO REFRACT. By James Thorington, A.M., M.D. 12mo, 301 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia, Pa.

A PRACTICAL TREATISE ON MEDICAL DIAGNOSIS. By John H. Musser, M.D. 8vo, 1082 pages. Illustrated. Lea Brothers & Co., Philadelphia and New York.

OBSTIPATION. By Thomas Charles Martin, Ph.D., M.D. 12mo, 161 pages. Illustrated. The Philadelphia Medical Publishing Company.

A MANUAL OF MODERN GASTRIC METHODS By A. Lockhart Gillespie, M.D., F.R.C.P.E., F.R.S.E. 12mo, 175 pages. Illustrated. William Wood and Company, New York.

BACTERIOLOGY. By William Hallock Park, M.D. 8vo, 693 pages. Illustrated. Lea Brothers & Co., Philadelphia and New York.

TRANSACTIONS OF THE CLINICAL SOCIETY OF LONDON. 8vo, 296 pages. Illustrated. Longmans, Green & Co., London.

CHIRURGIE DU RECTUM. Par E. Quenu et H. Hartmann. 8vo, 375 pages. Illustrated. G. Steinheil, Paris.

THE TREATMENT OF SKIN CANCERS. By W. S. Gottheil, M.D. 8vo, 67 pages. Illustrated. International Journal of Surgery Company, New York.

THIRTIETH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF MASSACHUSETTS. 8vo, 878 pages. Wright & Potter Printing Company, Boston

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 56, No. 27. Whole No. 1521. NEW YORK, DECEMBER 30, 1899. $5.00 Per Annum. Single Copies, 10c.

## Original Articles.

### ETHERIZATION: THE MEANS WHEREBY THE QUANTITY WAS REDUCED FROM ONE THOUSAND TO ONE HUNDRED GRAMS PER HOUR: WITH ESPECIAL REFERENCE TO THE POSITION OF THE HEAD AS AFFECTING RESPIRATION.[1]

BY A. ERNEST GALLANT, M.D.,

FORMERLY ANÆSTHETIST TO THE ROOSEVELT HOSPITAL, GYNÆCOLOGICAL DIVISION; AND (AS INTERNE) TO THE NEW YORK CANCER HOSPITAL, THE SLOANE MATERNITY HOSPITAL, NEW YORK, AND THE ST. JOSEPH'S HOSPITAL, PATERSON, N. J.

IT has been very gratifying to note the number of excellent articles which have brought before the profession the need of well-trained anæsthetists. Every practitioner, at one time or another, is sure to be unpleasantly brought face to face with this truth, and to realize that he has leaned upon a broken reed.

Never can the writer forget the time when as a second-year man he was called upon for the first time to administer an anæsthetic. Without advice, without training, without even a fair knowledge of the action of the poisonous drug, yet anxious and willing to learn the art, it was with much trepidation he accepted the "towel cone" and at the command of the "house" poured on and crowded the ether, "blind leading the blind." In Roosevelt Hospital it was then a daily practice to use 1,000 gm. or more per hour. Much was wasted, and the patients were literally "drowned" in ether, and must have experienced a corresponding degree of shock. The last annual report of this hospital announces the appointment of an "official anæsthetist," and I hope that under his tuition much of this reckless waste and woeful extravagance will be done away with.

While on this subject of trained anæsthetists, it may not be out of place to state that not only every undergraduate medical student and every hospital interne, but every nurse in training should be drilled in the practical details of anæsthesia. Every surgeon, every gynæcologist, every obstetrician—ay, every general practitioner can recall the time when he has found it necessary to call upon the nurse to "hold the cone" or to give chloroform. Have we any right to jeopardize the lives of our patients in this reckless fashion?

Methinks I hear, in one loud acclaim, "No! No!"

Professor Macewen, at the Royal Infirmary, Glasgow, requires his own students to pass a written examination, to give evidence as to their thorough acquaintance with the physiological actions upon the human being of the principal anæsthetic agents, as to the manner in which fatal issues arise, and how these may be averted. Then each is required to administer, under the eye of a competent teacher, an anæsthetic to patients, on at least twelve occasions. If the candidate proves worthy in both examinations, he is granted a certificate of proficiency in anæsthesia.

How often we hear, in cruel jest, "The operation was a great success, but the patient died." Was this melancholy result due to the anæsthetic, *per se*, or to unskilful administration?

Successful anæsthesia depends upon: (1) The preparation of the patient; (2) the administration of the anæsthetic; (3) the early recognition of and means for overcoming accidents during anæsthesia; (4) the after-care of the patient.

**The Preparation of the Patient** cannot be thoroughly accomplished in less than a week, to afford time to ascertain the real condition of the (*a*) kidneys; to evacuate entirely the (*b*) intestinal tract, and give the bowels at least twelve hours' rest just before operation, to minimize painful peristalsis, which so often follows handling of the abdominal viscera. The (*c*) food must depend largely on the activity of digestion, and the general condition of the patient. Food and liquid exhibited twelve to twenty hours before anæsthesia is sometimes vomited, in an wholly undigested state; digestion being at a standstill, probably owing to nervous anticipation and dread of operation. (*d*) A good night's rest is without doubt one of the best means of fortifying a patient against subsequent shock, and can often be induced by a hot ammonia bath, followed by a rub-down with weak alcohol. Too little attention is paid to the observation of the (*e*) character of the pulse and action of the heart before operation, by which to compare its work during anæsthesia and after the operation is over, and this neglect leads to unnecessary stimulation and over-driving a heart which is doing its average best.

**Administering the Anæsthetic.**—The choice of anæsthetic must depend largely on the judgment and inclination of the surgeon, and the result of the study of the kidneys, heart, and lungs of the patient.

Nitrous oxide has now a well-established place as the most agreeable and safe anæsthetic for diagnostic examinations and minor operations, and in the practice of the writer has replaced all others for curettage, circumcision, excision of cysts, reduction of dislocations or fractures, etc. It will no doubt surprise many to learn that in the hands of one familiar with its use its action can be continued from one-half to one hour. For rapid and pleasant induction of anæsthesia, preceding ether, it stands as an ideal drug. The complete apparatus including cylinder, bag, and inhaler is put up in a box weighing thirty-five to forty pounds, which can be carried in the hand. The empty cylinders can be exchanged for full ones, without other expense than the cost of the gas.

Ether. The inhalation of ether is made disagreeable only by those who brutally insist on the so-called "rapid" method, accomplished by crowding the cone tightly over the face, and holding it there, in spite of the most strenuous efforts of the patient to secure a comfortable inspiration. It would be a pleasure to the writer to anæsthetize such an "enthusiast" after his own plan, as the only means of teaching the error of his way.

The cone. The aim of every anæsthetist is to induce and maintain a uniform degree of anæsthesia with a minimum quantity of ether, and avoid nausea, vomiting, and shock. After many experiments with the various forms of cones, the best results have been obtained by a modified Allis' inhaler.

[1] Read before the Harlem Medical Association, October 9, 1899.

1. The rubber sheath has been made extra long, eight and one-half inches, (*a*) to increase the air space above, and the nose space below; and (*b*) by folding in the upper edges (Fig. 1) we prevent the escape of ether, and administer it in a more concentrated form.

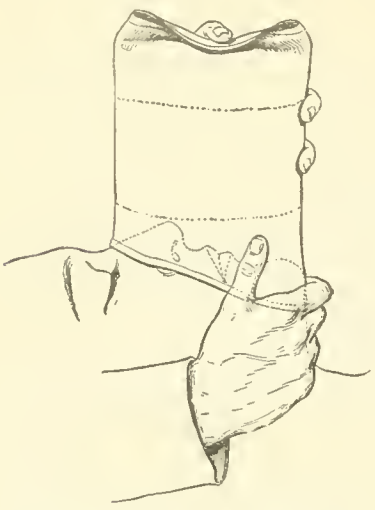

Fig. 1.—Cone Adjusted to Face, Ample Air Space above, and Nose Space below Frame. Right hand supporting chin, to prevent relaxation of jaw and prolapse of the tongue. Left hand folding top of cone to increase the amount inspired.

2. Fold a piece of gauze, four to eight thicknesses, over the end of the metal frame (Fig. 2), and invert it into the sheath, so that the diaphragm will lie just above the nose (Fig. 1); this prevents ether from splashing through into the nose or mouth of the patient.

3. Into the cavity thus formed, place three-quarters of a yard of gauze, bunched up like a handkerchief (Fig. 2). Absorbent cotton and sea-sponges have a great affinity for aqueous vapor, soon become saturated with moisture from the breath, and fail to take up the ether poured thereon. Coarse meshed gauze, on the other hand, when loosely placed in the cone allows the warm breath to act upon the cold ether, raises the temperature of the inhaled air more nearly to the normal, is less irritating to the pulmonary mucous membrane, and reduces the liability to post-operative bronchitis.

4. Through the open top, ether in drachm doses can be added at frequent intervals, without removing the cone. The free admixture of air guards against oversaturation; the gauze diaphragm prevents vomiting into the cone; in prolonged operations, the loose gauze can be readily replaced, and, last but not least, the tedious lacing of the frame is avoided.

"Surgical degree." "The object of anæsthesia is to suspend the action of the centres which have to do with sensation and motion, while leaving the respiratory and cardiac centres intact." In other words, the degree of anæsthesia must be profound enough to abolish sensation with relaxation of the voluntary muscles, generally designated the "surgical degree." In abdominal operations it is essential that the recti be relaxed.

Position on the table. It will be found much more convenient for the anæsthetist to etherize his patient upon the operating-table. Having removed false teeth, finger-rings, and ear-rings, place the patient in the dorsal position upon the table, with a pillow under the head—not under the shoulders—just thick enough to raise it to a comfortable level (Fig. 3).

Deep breathing. As but few persons are accustomed to the effort involved in fully inflating the lungs, it is well, before bringing the cone near the face, to insist on a few minutes' practice in "taking long breaths." Saturate the gauze in the cone with ether, and, in order to reassure the patient of its harmlessness and to illustrate how it must be done, place it close to your own face, and take a long, deep inspiration.

Self-administration. Hand the cone to the patient, and encourage him to bring it nearer and nearer to his face. If he complains that it is too strong, repeat the suggestion of Dr. George F. Shrady, to "blow it away," thereby insuring full expiration and inspiration, and rapid saturation of the blood with ether. In two or three minutes the hands will begin to relax their hold on the cone, when it must be taken up by the administrator and adjusted closely to the face. Fold in the top of the cone (Fig. 3) to increase the amount inspired. By applying his nose to a corner of the cone, the anæsthetist can estimate the quantity of ether still in the cone.

Position of the anæsthetist. At this stage, sit down at the head of the table, resting your elbows one on either side of the patient's head, to prevent swaying from side to side (Fig. 3).

A struggling patient can be pinned to the table if an assistant will place one hand on each arm just above the elbow, and throw her whole weight thereon (Fig. 3). If two assistants are at hand, station one on each side of the table; let them place one hand on the patient's shoulder, the other grasping the humerus just above the elbow, and weight him to the table. In this position it is impossible for the patient to reach the cone, raise his body, or slide off the table. Struggling will hasten the desired end.

**Accidents during Anæsthesia.**—Prophylaxis. By thoroughly emptying the bowels of fæces, we can minimize fermentation and abdominal distention, and avoid distressing pressure on the heart and lungs. The ingestion daily of from two to three quarts of water (a glassful every two hours) will have an excellent effect on the kidneys and intestinal tract, and also tend to raise the blood-pressure.

Heart. From our ante-anæsthesia observations of the pulse—radial and temporal—and the color of the skin, we are able to note any change in the action of the heart. By pinching the lobe of either ear, the refilling of the capillaries and return to normal redness affords reliable means of determining the condition and activity of the circulation.

Heart stimulants. A small dose of morphine (gr. $\frac{1}{12}$ or $\frac{1}{8}$) hypodermatically, fifteen to twenty minutes immediately preceding etherization, will have a quieting effect on respiration, stimulate the heart's action,

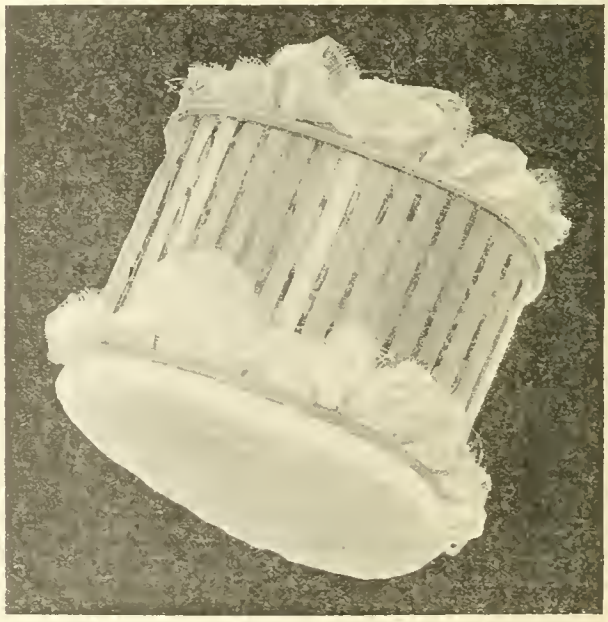

Fig. 2.—Gauze Diaphragm Adjusted to Frame of Allis' Inhaler. Cavity filled with loose gauze, ready for introduction into the rubber sheath.

and unlike larger doses (gr. $\frac{1}{6}$ to $\frac{1}{4}$) will lessen post-operative nausea and vomiting and diminish the quantity of ether necessary to maintain anæsthesia. Heart weakness may be met by the hypodermatic use of strychnine (gr. $\frac{1}{30}$), tincture digitalis (♏ x.–xx.), or brandy.

Loss of blood or shock from prolonged operation must be overcome through enemata of hot (120°–130° F.) saline solution (℥ i. to O i.), to which may be added two to four ounces of brandy. The effect of such an injection will be almost marvellous. Saline infusion during an operation or at its close, before consciousness has been restored, has done excellent service under similar circumstances.

Respiration. The most troublesome and annoying feature during anæsthesia is the action of respiration. When the cone is gradually brought near the face by the patient himself, little difficulty is experienced, but as soon as the mask is fitted over the nose and chin, and the air fully charged with ether, a choking sensation occurs, and the patient will struggle violently to remove the cone. At no time is better judgment needed than at this stage. Raise the cone, allow the patient to take a full inspiration, and then quietly replace it with the injunction to "blow it away." From this time on the cone should not be removed from the face until the surgical degree has been reached.

Fig. 3.—Correct Position of Pillow, Head on a Comfortable Level. Proper position of anæsthetist, patient's head immobilized between elbows; right hand supporting chin and cone, left hand closing top of cone; nurse grasping arms just above elbows, pinning struggling patient to the table.

Stertor. Our knowledge of the conditions which cause stertor or noisy breathing have been greatly amplified by the work of Robert L. Bowles, M.D., F.R.C. P. London.[1] Therein he tells us: "It is well known that the cavity of the pharynx, having a fixed boundary only posteriorly, may have its capacity materially affected by the ever-changing position of its sides, of the soft palate, the tongue, and the larynx. The tongue, being attached to the lower jaw by its mucous membrane and its muscles, has its relations with the surrounding parts altered as the mouth is opened or closed. With the mouth closed, the horizontal portion or body of the jaw forms nearly a right angle with the spinal column, from which the symphysis is then at its greatest distance. When the mouth is opened by the dropping of the jaw, the symphysis describes the arc of a circle and approaches more nearly to the spine, where the posterior wall of the pharynx is attached. The tongue, having its chief attachment to the symphysis, would consequently be drawn away from the pharynx in the former case, and allowed to rest in contact with it in the latter. This, if not true in every case, is at least true in some.

"When the mouth was opened and the subject on its back, the road to the larynx was completely obliterated, in consequence of the tongue resting in contact with the vault of the pharynx, but the obstruction could be removed by hooking the tongue forward. When the mouth was closed, the tongue was lifted from the pharynx, leaving ample breathing space. But even with the mouth closed, if the chin was much bent on the sternum, the base of the tongue was almost in contact with the back of the pharynx.

"The dissections, besides demonstrating the respective positions of the tongue with the open and closed mouth, suggest the necessity of caution being used in raising the head with pillows; for if the head be bent too much forward on the chest, the tongue may lie in dangerous proximity to the pharynx even when the mouth is closed."

Varieties of stertor. "The deep vibrating snore of sleep with the mouth closed depends upon the tongue pressing the velum palati upward and backward, thus narrowing the opening between the nose and the pharynx, the velum vibrating as the air rushes through. Sometimes, when the mouth is partially open, the soft palate drops upon the tongue, and vibrates as the air rushes between it and the tongue."

To either of these noises in which the soft palate is concerned Bowles proposes the name "palatine stertor." The harsh, sharp, husky noise, occurring in apoplexy (or anæsthesia) with the mouth wide open, always arises low down in the pharynx, and depends upon the narrowing of the passage between its posterior wall and the base of the tongue, and as it arises solely in the pharynx, he has given it the name of "pharyngeal stertor."

"There is another variety of stertor which may be

[1] "Stertor, Apoplexy, and the Management of the Apoplectic State." Wood's "Medical and Surgical Monographs," vol. ix., No. 3, September, 1891.

named 'mucous stertor,' as it depends upon the presence of mucus in the bronchial tube.

"Of these three different varieties, that which is named 'pharyngeal' is by far the most dangerous, for the greater the paralysis (relaxation) the more effectually does the tongue block up the passage, and each inspiration only adds to the obstruction by sucking the tongue lower down into the pharynx. Its danger is, however, not due alone to the gradual impediment it offers to respiration, but also to the fact that at any moment this impediment may become absolute and cause death by suffocation. We may observe this in the snoring sleeper, who, after drawing several inspirations with evident effort, at last comes to a sudden check from having been gagged by the tongue falling back. This will rouse him from his stupor, and he will then sleep on quietly until the same thing recurs from his deepening sleep."

Position of the head to prevent or overcome stertor. To prevent mucus collecting in the bronchial tubes, and to stop "mucous stertor," turn the patient's head to one or the other side, and allow the saliva and mucus to run out at the corner of the mouth.

From the foregoing we learn that in order to prevent "pharyngeal stertor" the head must lie in such a position as will not bend the neck too far back or approximate the jaw too near to the sternum (Fig. 1). Knowing that pharyngeal stertor is due to the too close approximation of the paralyzed tongue upon the posterior pharyngeal wall—really against the cervical vertebræ—by adjusting the head a little higher or a little lower we can afford relief. Turning the head to one side will in some instances give relief. In others it is necessary to lift the jaw well up, not in the usual barbarous fashion, but by embracing the chin in the hollow of the hand (Fig. 1), being careful not to bend the head backward and so arch the cervical vertebræ forward, for by so doing we increase rather than relieve the difficulty. When, during the administration of an anæsthetic, especially chloroform, the patient suddenly ceases breathing and becomes deadly pale, the jaw drops and the tongue touches the teeth, we may be sure the tongue is at fault. To Dr. H. A. Hare, of Philadelphia,[1] we owe the proof by demonstration, that in order to open the larynx and give free entrance to air the tongue must be pulled upward toward the nose. This can be accomplished by the use of forceps, a hook tenaculum, or, better still, by running the finger well down the dorsum of the tongue and pressing it forward toward the teeth, when a deep inspiration will result, and the patient will breathe naturally.

Cyanosis. A deep purplish darkening of the face, and the escape of dark blood from the field of operation, indicate that the patient is not inhaling enough oxygen; really a condition of temporary asphyxia from accumulated mucus, foreign body in the trachea, or obstruction by the tongue, and which can be readily relieved by removing the cause. Cyanosis is most often met with in stout, short, thick-necked people, and necessitates a more careful adjustment of the head, and close attention to the general condition.

Vomiting. The precautions given as to food and diet must be observed, and anæsthesia maintained at the surgical degree to prevent vomiting. If efforts at vomiting do occur during etherization, turn the head to one side, wipe out the mouth, and, during the interim, crowd the ether so as to dull the vomiting centre and prevent its recurrence. Inhalation into the larynx or trachea of solid particles of food is almost positively fatal.

Artificial respiration. Failure of respiration demands the application of artificial respiration. While Sylvester's method is the most popular, unless the tongue is held "well forward toward the nose," no air can enter the lungs. Marshall Hall's method affords the most natural means, as in the side position the tongue falls forward, mucus runs out of the side of the mouth, and respiration is unimpeded.

Oxygen by inhalation, as a stimulant to the heart and respiration, is of great benefit in plethoric, short-necked people, who seldom breathe well during anæsthesia. Oxygen may be applied directly to the mouth, to the nose, or introduced beneath the cone.

**After-Care.**—Without enumerating the ordinary measures, there are four points wherein the writer differs from the usual procedure in the care of patients recovering from anæsthesia, viz.:

1. Hot water. Ever since a cœliotomy patient, under my care, sat up in bed, two hours after operation, emptied the contents of a hot-water bag into her stomach, and recovered, it has been my practice to give hot water *ad libitum* as soon as the patient is conscious enough to ask for a drink. It allays gastric irritability, quenches thirst, and if vomited really washes out the stomach. Its early use also has a good effect on the kidneys and intestines.

2. Nourishment. Milk, with or without lime-water, is given as soon as the stomach is quiescent. Starvation does not strengthen a weak heart, nor aid recovery from loss of blood or shock.

3. Position of the patient. As soon as the dorsal decubitus becomes at all irksome, turn the patient on the side, and a restful sleep will follow.

4. Intestinal distention or paresis usually begins during the latter part of the first day, and soon becomes a source of great discomfort. If not relieved by high enemata, at once resort to friction along the colon; beginning at the right iliac fossa, pass the hand up the ascending, across the transverse, and down the descending colon, slowly repeating this manœuvre for fifteen or twenty minutes.[1] This will result in free discharge of gas from the rectum, give immediate relief, assure us that there are no intestinal kinks, and that the bowels will move whenever it is deemed desirable.

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[1] Therapeutic Gazette, 1895, vol. ii., p 83.

## THE TREATMENT OF SEROUS EFFUSIONS.[2]

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The treatment of serous effusions appeals to a large portion of the medical fraternity, and is an appropriate subject to bring before an association of this kind in which specialists in every branch of medicine are wont to congregate. The general surgeon meets an accumulation of serum in the synovial sacs of the joints, and the bursæ of the tendons; the neurologist in the meninges and ventricles of the brain and cord; the genito-urinary specialist in the tunica vaginalis, and the specialist of internal medicine, otherwise known as the general practitioner, in the peritoneum, pericardium, and pleura. Notwithstanding the wide distribution of the serous cavities in the body—they being present in head, trunk, and extremities—each or all may contain an abnormal amount of serum in disease of the heart, kidney, or blood. Indeed, such transudations may waterlog every tissue of the body.

In the following paper I shall exclude all such effusions, and limit myself to the exudations following local inflammation or irritation, and for the most part use the pleura as a type of its class. A basement membrane of connective tissue, interspersed with few

[1] See Mathew's Medical Quarterly, vol. iii., July 18, 1896.

[2] Read before the Hospital Graduates' Club, November 23, 1899.

elastic fibres, paved with a single layer of endothelial cells, traversed by a plexus of vessels, nerves, and lymphatics, the latter terminating in open mouths between the cells, is the histology of a serous membrane. This membrane, folded on itself so as to form a blind sac, encloses a serous cavity. In health, the plasma of the blood in limited quantity passes through the wall of the capillary, undergoing certain changes in its transit, moistens the internal surface of the serous sac, makes its exit through the minute openings of the lymphatics, and returns again, by the way of the thoracic duct or right lymphatic trunk, to the blood. The process of evacuating the serous sac of its contained lymph is facilitated in the case of the pleura by the respiratory movements of the lungs and by the valves of the lymphatics. It is not unlike the mechanism of a suction pump. Normally no serum flows into the cavity beyond that which the lymphatic pump can easily remove. The inflow from the blood current equals the outflow by the lymphatic stream. Such is the physiology of the serous sac.

Under irritation, chemical, bacterial, or traumatic, the capillary vessels swell and become congested, the connective-tissue cells proliferate, an increased flow of plasma, plus leucocytes, fibrin, red corpuscles, and bacteria, swells the stream which pours into the serous sac. The lymphatic pump is overtaxed. Fibrin clogs the mouths of the absorbents, and an effusion obtains, serous, sero-fibrinous, fibrinous, sero-sanguinolent, or purulent, according as each element preponderates. There is no "dry" pleurisy without some serum, and the clearest serum contains some fibrin, blood and pus cells. Degree of irritation then, rather than kind, characterizes the exudation of a serous membrane. The same pathology applies to all cases.

Such being the mechanism of the serous exudate, from whence springs the irritant of the capillary, for this is the initial step in the process? The clinical history as a rule gives us a working hypothesis. A previous or coincident condition justifying the presence in blood or tissues of the pneumococcus, tubercle bacillus, strepto- or staphylococcus, points unmistakably to these germs or their toxins as the probable irritant; with less directness and exceptionally the gonococcus, typhoid bacillus, and bacillus coli communis, harmless enough in their own habitat but pathogenic outside, may offer an adequate explanation; for these germs have all been found in pleural effusions. The toxins of syphilis and rheumatism, temperature changes, and traumatism, from the sequence of events, are worthy of consideration. An antecedent history embracing any of these conditions, attached to a patient with slight cough, localized pain, dyspnœa, and some rise of temperature, outlines a clinical representation of pleurisy with effusion. A displaced heart, an increased perimeter of the chest, or, better, a change in its shape, along with the well-known signs of auscultation and percussion, fill in the outlines, add color, and complete the picture. We have, then, to deal with a compressed—carnified—lung, and a serous sac distended with fluid.

Such a condition presenting, the first indication of treatment is removal of the fluid, and restoration of the cavity and lung to their normal relations, and to effect this as speedily as possible. I am not unmindful, in this connection, of Murphy's recommendation in cases of pulmonary tuberculosis, namely, to bring about identical relations of lung and pleura through the introduction into the pleural cavity of nitrogen gas. So far as I am aware, however, no other authority has advocated this measure, and West and others denounce it as an erroneous principle, which it seems theoretically to be.

In emptying a pleural cavity of fluid, two methods may be employed: first, aspiration; second, absorption through the lymphatic channels. So far as rapidity is concerned, aspiration as recommended by Bowditch, forty years ago, furnishes an ideal method. With modern asepsis and average care, the operation is entirely free from danger. The objection is the often rapid recurrence of the fluid, and the consequent necessity of a frequent repetition of the operation. On the other hand, in my experience, spontaneous absorption by the lymphatic stream, when effective, leads to permanent results. The absorptive power of the lymphatic sponge, however, even when drained through the bowel, kidneys, and skin, and dried by the least possible injection of liquids, is slow, desultory, and often negative. It is not infrequent to observe fluid remaining unchanged in a pleural cavity for weeks and months, all of which time the patient is undergoing a rigorous and enervating course of cathartics, diuretics, and diaphoretics, and then note its abrupt recession and comparatively rapid disappearance. No recurrence follows, but the patient often finds himself face to face with a pulmonary tuberculosis, with which the deteriorated state of his long compressed lung and his own weakened general condition render him unfit to cope successfully.

In other cases, the serum is taken up by the lymphatics promptly and energetically, under eliminative, salicylic, iodide, or no special treatment. The pleural surfaces meet and are firmly and permanently glued together. The patient recovers with thickened and adherent pleural walls. The sac is often changed to a connective-tissue membrane of leathery consistence. No further encroachment of serum is to be apprehended, and, with the exception of a possible subsequent slight contraction, the chest is to all intents and purposes normal. Adhesion of the pleural surfaces is generally found at autopsies when death has occurred from other than chest diseases (eighty per cent. according to Dr. F. Ferguson); and in cases of pleural effusion it is a "consummation devoutly to be wished."

It was to imitate nature in her successful methods as just sketched, that the work incorporated in this paper was undertaken. I am not sure but that if aspiration consumed as many hours as we ordinarily employ minutes, the pleural surfaces would adhere with the same pertinacity and permanence as those in spontaneously absorbed effusions. Nature, however, manages better than art, and not only removes the fluid, but at the same time finishes her work by exuding a cement substance in appropriate quantities, and in favorable locations. She does not, for reasons best known to herself, work uniformly, but, as is well known to all, follows receding effusion by fits and starts, perhaps regulating the amount of absorption to the amount of fibrin she can furnish to glue the surfaces together, as they meet after the subsidence of the liquid. For what shall it profit a man if he lose all the serum, and gain no fibrin?

Absorption if possible, if not aspiration, is the accepted modern treatment of pleural effusions.

The therapeutic resources ordinarily recommended for facilitating absorption are uncertain in their action, and debilitating in their effects. Diuretics and counter-irritants have had their day; hydragogue cathartics drain fluid from the vessels, but carry no assurance that the latter will recoup themselves from the reservoir in the pleura; diaphoretics possess all the disadvantages of hydragogue cathartics with none of their advantages; iodides and salicylates serve as forlorn hopes; antiphlogistics are antiquated and unscientific; so that the patient, as a rule, emerges from a longer or shorter course of internal medication, and comes to the aspirator, a sadder and weaker man. Here, too, no assurance can be given that there will

be no return of the fluid, and if repeated aspirations are necessary, "the last state of that man is worse than the first."

In studying the course of serous effusions, it has seemed to me that if we could secure a general deposit of fibrin on the pleural surfaces, and then aspirate, adhesion of the walls of the sac would follow, and a resultant obliteration of the cavity. This, as nature has taught us, is the goal to strive for. Different astringents have been injected into the serous cavities with the view of promoting adhesions, but, so far as I am aware, these injections have been employed after removal of the fluid; consequently but a small part of the serous membrane comes in contact with the irritating solution, and but a small part is coated with the adhesive fibrin. Dr. Janeway[1] has thrown into pleural effusions of a suspected tuberculous nature two to five drops of creosote in alcoholic solution. No harm resulted, and in some cases much improvement. Absorption took place, and no pulmonary tuberculosis followed. In reference to one case he adds: "Had it not been for the success attained, this case would have been regarded as undoubtedly tuberculous." He mentioned this method of treatment in connection with remedies for tuberculous pleurisy, and not for its effect on fibrin formation, or absorption of the fluid.

That astringent injections, in animals at least, will produce artificial exudative pleurisies, and that the character of the exudation varies directly with the strength of the irritant, is shown by the experiments of Delafield and Prudden.[2]

In order safely to throw a feebly irritating solution into a serous effusion, so that the former may come in contact with the entire surface which the serum bathes, certain conditions must be fulfilled: First, the irritating material must form an easy and permanent solution in the vehicle employed and in the serum; second, the reaction and specific gravity of both fluids must correspond as closely as possible; third, the material injected must be antiseptic or easily rendered aseptic; fourth, the volume of the fluid in the sac must remain unchanged. About three years ago I made some experiments in this line, with iodine in the form of the tincture, permanganate of potassium, and the aniline dyes fuchsin and methylene blue. Solutions of these were made in a decinormal salt solution, and each was mixed with a definite quantity of fresh human serum. As a result of these experiments I found that the tincture of iodine, while irritative and aseptic, mixed uniformly only after considerable agitation; and the uniformity of the resultant mixture was but transient. The others were to a less degree open to the same objection. In order to obviate this defect if possible, I next approximated a salt solution to the specific gravity of the serous exudation. This has been found to differ somewhat, according to different observers. Gee (in Allbutt's "System of Medicine") gives it as 1.018–1.024, although it may go as low as 1.006. Dickinson in the same volume finds an average gravity of 1.013. An average of a small number of serums tested by the house physician of Columbus Hospital recorded a specific gravity of 1.018. A 3.5 per cent. salt solution in distilled water registers a specific gravity of 1.020. Fuchsin in this solution is but slightly soluble, and was discarded on that account. There remained potassium permanganate and methylene blue, both of which deeply and uniformly stained the salt solution with their respective dyes. On adding these solutions to freshly drawn human serum, however, the potassium permanganate became at once decolorized, while the blue solution, after considerably less agitation than in the case of the decinormal saline solution, imparted to the mixture a uniformly deep blue color. This, however, on standing for some hours, did not preserve its original uniform tint. As the result of these experiments, the blue aniline seemed to be the proper material to use, but the salt solution did not appear to be the ideal vehicle.

Methylene blue is antiseptic, anodyne, has diuretic properties, is easily detected in the urine, and imparts a color not found in any bodily secretion, physiological or pathological. Bearing these properties in mind, I withdrew about three and one-half ounces of serum in a case of pleural effusion, and ventured to replace it with the same amount of salt solution (specific gravity 1.020), in which twelve grains of methylene blue were dissolved. The results in this case were not altogether satisfactory. The pain was considerable, and hypodermic withdrawals at different points over the affected chest gave a variety of blue tints, or no blue color at all. Absorption took place in a period somewhat less than usual, but the clinical condition during this time was not such as to encourage another trial. While withdrawing the serum to make room for the salt solution, the idea occurred to me to use the former as the solvent, and, after taking up the blue, to return it again to the cavity. By such a procedure, every essential would be fulfilled. As I had already determined, serum readily dissolves methylene blue in about one to fifty parts. The reaction and specific gravity would obviously agree, being a part of the whole; if no infection occurred during the trip, its condition as to sterility would be as good as before—which we have seen is not always the best; and finally, the amounts borrowed would be paid in full, so that no change in volume would result. It was expected that the respiratory movements and the operation of injection would produce sufficient agitation in the chest cavity to make a uniform mixture of the two serums.

In this connection, the action of living serum, if we may so term it, or some of its constituents, on methylene blue is most interesting. If we introduce hypodermatically methylene blue into the serum of a surface blister—which can easily be done by penetrating the blister through the healthy skin, withdrawing some serum into the syringe containing the blue powder, and then reinjecting—a uniform blue color at once appears through the translucent skin. Some hours later, the color assumes a greenish tinge, and the next day the wrinkled skin shows a diminution of the fluid. If we withdraw serum from the same blister into a sterilized test tube containing methylene blue, the color remains unchanged provided no infection is present. I have preserved this blue-tinted serum in such test tubes for over three weeks without the slightest change in color. Bacterial infection will, however, sooner or later destroy the tint. In the same way, serum in a serous cavity decolorizes the aniline blue or exhibits a greenish tinge (chromogen) after a few hours; but in a cavity outside of the body preserves the color for weeks. Whether this action is due to leucocytes, fibrin, or some unknown constituent added from the blood, I am unable to say. Certain it is, that the same fluid inside and outside the body acts differently on the aniline. As I found subsequently in my injections into serous sacs, a part of the blue is rapidly taken up and excreted by the urine; yet much remains, although the color does not indicate it, and its presence can easily be demonstrated by adding acetic acid and heating.

The method which I employed for withdrawing the fluid, making the solution, and reinjecting into the serous cavity is practised by means of a large aspirating syringe, with a needle of medium calibre, and fitted with asbestos piston and washers. A rubber

[1] Transactions New York Academy of Medicine, 1893.
[2] "Pathological Anatomy and Histology."

tube is attached to the outflow tube of the syringe, and extends into a glass graduate of a capacity of 100 c.c. or more, which holds the methylene blue. A glass rod for mixing the blue and serum is inserted into the vessel alongside the rubber tube, and the entrance is then plugged with sterilized cotton. The whole outfit before use is easily sterilized by heat. If the sterilization is thorough, infection of the serum on the round trip from sac to vessel and return, is impossible. Ordinary care renders the needle clean. The methylene blue, being put into the graduate before sterilization, is itself sterilized. It is, however, antiseptic, and I have never been able to get any growth from it in culture media, even when coming from sources which would contaminate non-antiseptic materials.

I have used the method of treatment just described in twenty cases of pleurisy with effusion, and synopses of the histories follow. All the work incorporated in this paper was done in Columbus Hospital during the past three years, with the active co-operation of the various internes, without whose aid, which I here gratefully acknowledge, the investigations would have been impossible. The great number of urinary examinations, of hypodermatic withdrawals at fixed periods, observations and examinations of fluid withdrawn, entailed a very considerable amount of labor and presupposed a constant surveillance over the patients.

Case I.—G. S——, male, aged twenty years, admitted January 20, 1897, with rheumatism, one month prior to present attack, which began one week before admission. At present he has pain, cough, and dyspnœa, with physical signs of right pleural effusion. Apex beat in nipple line; right chest sixteen inches, left chest fifteen inches. Temperature, 99.8° F.

January 22d: Injected methylene blue, gr. xii. in 100 c.c. (3¼ ounces) serum.

January 25th: The needle was introduced for aspiration purposes. No fluid was found on repeated introductions. The urine is greenish in color, and of increased quantity.

January 26th: Respiratory sounds are returning.

January 30th: The urine is still green. The apex beat is normal.

February 1st: Respiratory and voice sounds are returning.

February 3d: The urine is amber colored. The patient has some joint pains, otherwise he feels well. The chest perimeters are equal.

February 11th: There is no recurrence of the effusion. Discharged cured.

This patient could have left the hospital on February 3d, twelve days after the injection, except for the joint pains. His detention also gave me an opportunity of noting whether or not there was a recurrence of the effusion. Much to my surprise, the result in this case looked toward a rapid absorption of the serum after the addition of the aniline. I did not, at that time, attribute this to the presence of the methylene blue, and I am still of the opinion, from the physical signs presenting, that, although greatly diminished in amount, some fluid was present three days after injection, and the failure of the needle to show it was due to clogging from exuded fibrin.

Dr. A. A. Smith first publicly drew attention to the fact that the abstraction of a small part of the serous effusion was often followed by the rapid disappearance of the whole. In this case, no fluid was withdrawn, but probably more than a drachm remained in the syringe and needle, and to this circumstance I attributed the sudden subsidence of the fluid. At that time, I feared the possible injection of air into the pleural sac, and consequently did not empty the syringe as completely as might be. Since then I have learned that air, sterile and in limited quantity, may be thrown into a pleural sac with impunity, as has repeatedly and advantageously been done in the case of the peritoneum.

Case II.—C. A——, male, aged twenty-nine years, admitted February 15, 1897. Previous history immaterial. He had pain in the chest four days before admission. The apex beat was displaced to the sternum, and the ordinary physical signs of left pleural effusion were present.

February 17th: Injected gr. vii. of methylene blue in 80 c.c. (℥ iiss.) serum.

February 19th: Aspirated 109½ ounces of turbid, dark greenish (colored) fluid.

March 11th: Discharged cured.

Case III.—L. J——, male, aged twenty-seven years, admitted May 3, 1897. He had rheumatism six months ago. His present illness has lasted fifteen days. Temperature, 99.4° F. Apex beat in nipple line. He has physical signs of right-sided pleural effusion.

February 6th: Injected gr. v. methylene blue in 50 c.c. (℥ i. ℥ v.) serum.

February 8th: The hypodermic needle withdraws fluid, greenish and rather turbid. The urine is greenish and copious.

February 10th: The hypodermic needle finds no fluid. The respiratory and voice sounds are returning. The dulness is still present.

February 12th: Discharged cured.

Case IV.—M. P——, female, aged twenty-six years, admitted June 2, 1897. Previous history was negative. Present illness began fifteen days ago. Apex beat is three inches to right of normal position. The left chest is half an inch greater than the right chest. Temperature, 102.4° F. A large effusion in the left chest was diagnosed.

June 4th: Injected gr. xv. of methylene blue in 100 c.c. (℥ iii. ℥ ii.) serum.

June 5th: The urine is green.

June 9th: The apex beat is returning to normal position. The chest was aspirated, and forty ounces of greenish turbid fluid were evacuated.

June 10th: The respiratory murmur is returning. The patient is up and about the ward.

June 20th: Discharged cured.

Case V.—M. C——, male, aged fourteen years, admitted June 14, 1897. He had rheumatism two months ago. His present illness began three weeks ago. The left chest is three-fourths of an inch greater than the right. The apex of the heart is displaced toward the right. Temperature, 101.6° F. Diagnosis, left pleural effusion.

June 17th: Injected gr. xv. methylene blue to 100 c.c. (℥ iii. ℥ ii.) serum.

June 18th: Hypodermic shows pale green serum. The urine is green.

June 21: The respiratory murmur is good.

June 27th: Discharged cured.

Case VI.—J. B——, male, aged thirty-two years, admitted June 24, 1897. His previous history is negative. He has been ill twenty days. The left chest is three-fourths of an inch greater than the right. The apex beat is one inch to the right. Diagnosis, left pleural effusion.

June 25th: Injected gr. xv. methylene blue to 100 c.c. (℥ iii. ℥ ii.) serum.

July 7th: The respiratory murmur is about normal. The apex beat is in its usual place. The urine is greenish. The left chest has the same perimeter as the right.

July 9th: Discharged cured.

Case VII.—L. R——, male, aged twenty-five years, admitted September 7, 1897. He has had pain and cough for one month. Temperature, 99.8° F. Diagnosis, moderate effusion on the left side.

September 8th: Injected gr. viii. methylene blue to 40 c.c. (℥ i. ℥ ii.) serum.

September 12th: The urine is pale green. The dulness is slight. Breathing sounds are normal.

September 15th: Discharged cured.

Case VIII.—C. C——, female, aged twenty-eight years, admitted September 17, 1897. She has had a slight chest pain and cough for two months, with chill and increased pain thirteen days ago. The heart apex is one-half inch to the left of the nipple line. The right chest exceeds the left by three inches. Temperature, 101° F. Diagnosis, large right effusion.

September 18th: Injected gr. xv. methylene blue to 100 c.c. (℥ iii. ʒ ii.) serum.

September 19th: The urine is of a dark greenish color. The apex of the heart is in nipple line.

October 8th: Temperature is normal.

October 10th: Out of bed.

October 13th: Discharged cured.

Case IX.—N. T——, male, aged twenty-six years, admitted October 20, 1897. He has had cough and pain for twelve months; has lost flesh. He has night sweats. Temperature, 99.6° F. The heart apex is moved to the right. The left chest is one inch greater than right. Diagnosis, left pleural effusion.

October 23d: Injected gr. xv. methylene blue to 100 c.c. (℥ iii. ʒ ii.) serum. Temperature (evening), 103.2° F.

October 24th: The chest fluid is bluish green.

October 25th: The urine is deep green. The chest fluid is clearer than yesterday.

October 27th: Temperature, 101.2° F. Aspirated forty-seven ounces of rather clear fluid. Acetic acid and heat bring out deep blue color.

November 2d: The respiratory murmur is returning. There is no return of the effusion.

November 5th: Temperature (evening), 99.2° F.

November 8th: Discharged cured.

Case X.—C. P——, male, aged thirty-four years, admitted January 13, 1898. He had a chill fourteen days ago, with cough since the chill. Heart's apex is in the sixth space, three-fourths of an inch left of the nipple line. The right chest is one inch greater than the left. Temperature, 100.4° F. Diagnosis, right pleural effusion.

January 15th: Injected gr. xv. methylene blue to 100 c.c. (℥ iii. ʒ ii.) serum.

January 16th: The urine is green. The fluid is receding.

January 18th: The hypodermic withdraws colorless serum, which becomes blue on adding acetic acid. The urine is green.

January 20th: The heart is returning to its normal position.

January 24th: The heart and respiratory sounds are normal.

February 5th: Discharged cured.

Case XI.—F. L——, female, aged twenty-six years, admitted May 13, 1898. She had a chill nine days ago, with pains over the left chest at the same time. The apex beat is near the ensiform cartilage. Temperature, 100.4° F. Diagnosis, large left effusion.

May 15th: Injected gr. xv. methylene blue to 100 c.c. (℥ iii. ʒ ii.) serum.

May 16th: The fluid is receding, and the apex is moving toward the left. The urine is green.

May 23d: The heart is normal. The respiratory sounds have returned. The urine is still greenish.

June 1st: The respiratory sounds are normal. Discharged cured.

Case XII.—C. B.——, male, aged thirty-five years, admitted September 20, 1898. He had gonorrhœa two years ago. His present illness dates two weeks ago. The apex beat is to the left. Temperature, 101° F. Diagnosis, right pleural effusion (moderate amount).

September 22d: Injected gr. x. methylene blue to 80 c.c. (℥ iiss.) serum. The methylene blue showed in the urine eighteen hours after the injection.

September 29th: The patient is doing well. The methylene blue is disappearing from the urine.

September 30th: Discharged cured.

Case XIII.—C. M——, male, aged twenty-six years, admitted October 3, 1898. His illness is of ten days' standing. The heart is normal. Temperature, 100° F. Diagnosis, small effusion of the right side.

October 5th: Injected gr. viii, methylene blue to 100 c.c. (℥ iii. ʒ ii.) serum.

October 6th: The methylene blue shows in the urine.

October 9th: The patient feels well. The respiratory sounds are returning.

October 12th: Discharged (at patient's own request). He says he feels quite well. The urine is greenish. The respiratory sounds are fairly good.

Case XIV.—C. D——, male, aged twenty-two years, admitted October 12, 1898. He had gonorrhœa and rheumatism (?) two months ago. Heart, apex beat to the left. Temperature, 100.2° F. Diagnosis, right-sided effusion.

October 14th: Injected gr. x. methylene blue to 100 c.c. (℥ iii. ʒ ii.) serum. The methylene blue showed in the urine four hours later.

October 15th: The pain is rather severe. Temperature, 101° F.

October 17th: Temperature, 102° F. Aspirated thirty-two ounces of turbid and blood-stained fluid.

October 19th: He feels well. Temperature, normal.

October 20th: Discharged cured. (This was probably a case of tuberculous effusion.)

Case XV.—G. R——, male, aged thirty-two years, admitted October 24, 1898. He has had a cough four months. Pain over the left side began six days ago. The heart is pushed to the right. Temperature, 100° F. Diagnosis, moderate left-sided effusion.

October 25th: Injected gr. x. methylene blue to 100 c.c. (℥ iii. ʒ ii.) serum. It was found in the urine six hours later.

October 28th: The respiratory sounds are returning.

October 30th: The urine has a small amount of methylene blue.

November 7th: Discharged cured.

Case XVI.—A. G——, male, aged forty-five years, admitted January 14, 1899. He has had pain and cough for ten days. The heart is displaced to the right.

January 19th: Injected gr. x. methylene blue to 100 c.c. (℥ iii. ʒ ii.) serum.

January 20th: The urine is greenish in color.

January 25th: The urine is normal. The respiratory sounds are good. The heart is normal.

January 26th: Discharged cured.

Case XVII.—C. C——, male, aged twenty years, admitted February 2, 1899. He has been ill seven days. The heart is displaced to the left side. Diagnosis, right pleural effusion.

February 4th: Injected gr. x. methylene blue to 100 c.c. (℥ iii. ʒ ii.) serum.

February 7th: The urine is tinged dark green.

February 14th: The heart is normal.

February 16th: Discharged cured.

Case XVIII.—A. U——, male, aged twenty-two years, admitted April 2, 1899. He received a blow on the chest five days ago. Two days later he had a stitch pain and some cough. Now he has cough, restricted movement, and the usual signs of a right-sided effusion.

April 5th: Injected gr. x. methylene blue to 100 c.c. (℥ iii. ʒ ii.) serum.

April 11th: Discharged cured.

Case XIX.—P. C——, male, aged thirty-six years, admitted June 3, 1899. He has had a cough, with

loss of flesh and general bad health for five months. The apex beat is unchanged. He shows physical signs of a small left pleural effusion.

June 5th: Injected gr. x. methylene blue to 80 c.c. (℥ iiss.) serum.

June 7th: The fluid is receding.

June 12th: Discharged cured.

Case XX.—J. A——, female, aged twenty-two years, admitted June 16, 1899. She has had a cough for three months, with pain on the left side. She is anæmic and weak. Diagnosis, effusion in left side.

June 20th: Injected gr. x. methylene blue to 80 c.c. (℥ iiss.) serum.

June 21st: Methylene blue shows in the urine.

July 10th: Discharged cured.

In the foregoing list, besides the injections of methylene blue as described, some cases received salicylates, some diuretics or cathartics, and others no internal medication at all. So far as I could determine, drugs used internally had little or no influence on the rapidity of absorption. "Wolff bottles," as recommended by Dr. Walter James for facilitating lung distention, were employed in all cases, and with good effect. The shortest interval between the injection of methylene blue and its appearance in the urine was four hours. In four cases paracentesis was performed, a few days after injection, without cutting short the period of convalescence. No considerable reaccumulation of fluid could be made out in these cases, but absorption of the rest of the effusion—for it is impossible, even if advisable, completely to empty the chest-cavity—dragged along at a snail's pace, so that the time from injection to discharge from the hospital was something more than two days over the non-aspirated cases.

To illustrate the influence of methylene blue in inducing fibrin formation and subsequent adhesion between the pleural surfaces, the following case may be cited.

M. A.——, aged twenty-eight years, admitted September 9, 1899. Diagnosis, empyema. The patient had been ill about six months, and gives the following data: On April, 1899, the chest was aspirated, and about one quart of fluid removed, which he says "resembled urine in clearness and color." In June he entered a hospital, and remained there about three months, during which period the chest was emptied three times, and a "milky" fluid aspirated on each occasion. On September 7th, a "whitish" fluid was withdrawn from the chest by a private physician, and he was referred to Columbus Hospital, where a large empyema was found, and successfully operated on by my colleague, Dr. Walsh, on September 15, 1899. Daily irrigations of a boric-acid solution were employed up to October 22d, when a solution of methylene blue (gr. x. to two quarts of water) was substituted for the boric acid. The cavity at this time had a capacity of fifteen ounces, and had not perceptibly diminished in size since the operation. About four ounces of pus were evacuated daily. The blue appeared in the urine on the evening after the first irrigation.

October 27th: The cavity holds twelve ounces, and the daily quantity of pus is much diminished.

October 30th: The cavity is irrigated every other day.

November 8th: Irrigated every third day with methylene blue solution (gr. v. to two quarts of water. The blue persists in the urine about forty-eight hours as a rule, when only faint traces can be detected.

November 15th: The cavity holds eight ounces. About two ounces of purulent fluid accumulates at each irrigation (every third day).

November 22d (one month after the employment of the blue). The cavity holds seven ounces; accumulation of pus for the past three days, one ounce. The patient has gained weight and strength. The chest has contracted one and one-half inches.

Besides the use of the methylene blue in the pleural sac, I have also employed it, in a similar way, a number of times in the peritoneum and twice in the tunica vaginalis. In the latter cases the blue promptly appeared in the urine, and the next day there was a marked diminution in the tension of the sac and amount of contained fluid. As these patients had entered the hospital for ailments other than hydrocele, the latter condition was not discovered by me until the patients were about to be discharged. They therefore left the hospital two or three days later, with instructions to return to the dispensary should the tunic refill. They never came back, however, and I have no knowledge of their subsequent history.

In the peritoneal cases the injections were more for the purpose of experimental observations than for curative effects. Ascites due to hepatic obstruction can, of course, be only temporarily alleviated by increased action of the absorbents. Here the cause of the transudation is constant. Ascites due to peritonitis, tuberculous or simple, however, presents a fertile field for experimentation, and I greatly regret my inability to report some cases in effusions of this character. That patients suffering from ascites secondary to hepatic cirrhosis may derive benefit from the injection of the blue aniline is shown by the following case (one of a number):

J. S——, aged twenty-seven years. Diagnosis, large ascitic effusion from cirrhosis of the liver. He has been ill two years. He was tapped three times prior to admission. He suffers great abdominal pain, and is compelled to remain in bed.

September 20th: Injected gr. xv. methylene blue to 100 c.c. (℥ iii. ℥ ii.) serum. The urine showed the dye three hours later.

September 21st: The abdominal pains are about gone. The amount of urine is increased. The patient got out of bed.

September 25th: The blue is absent from the urine. He has been walking about the ward, and feels better in every way. There is no pain, and but slight tenderness over the abdomen.

September 27th: The abdomen was tapped, and one hundred and sixty ounces of a slightly turbid serum was removed; reaction, neutral; specific gravity, 1.017, with faint traces of methylene blue. Discharged improved.

In this, as in every other case in which I have used the dye, no pain followed; and if pain was present prior to the injection, it (the pain) was diminished, rather than increased. As a rule, there was no rise of temperature. Lemoyne[1] recognizes the analgesic properties of methylene blue in migraine, sciatica, rheumatism, and the abdominal pains of tabes, and his views have been supported by many other observers.

In general, it may be said that the injection is attended with no more pain than the ordinary aspiration, and takes less time. The patient usually walks to the treatment room, and returns to his bed or the ward according to his own inclination.

The belief that serous effusions, of the pleura at least, are due to the irritation of bacteria or their toxins is constantly gaining ground, so also is the impression that among these germs the tubercle bacillus plays a leading rôle. Notwithstanding the fact that the tubercle bacillus has been only exceptionally found in serous effusions, injection experiments and culture methods, together with the subsequent history of the cases themselves, strengthen the opinion that the process, in a vast majority of cases, is primarily tuberculous.

[1] Bulletin général de Thérapeutique, April 15, 1899.

Pansini[1] reports, out of fifteen cases of sero-fibrinous pleural effusion, six with tubercle bacillus, three with diplococcus pneumoniæ, one streptococcus, and five negative. Netter,[2] on a basis of thirty-seven sero-fibrinous effusions, concludes that when no germ is found, the presence of the tubercle bacillus may be presumed. Jakouski[3] arrives at the same conclusion.

That the introduction of methylene blue into the pleural cavity, even in the dilute solution employed, will be inhibitory or fatal to the tubercle bacillus, as well as other germs, seems a fair inference to draw. Its antiseptic properties, although weak, are well established, and forming, as it does, a perfect solution with the serum, no part of membrane or effusion escapes its influence.

Case IX., as well as others, was without doubt a tuberculous effusion. The antecedent history, the general symptomatology and appearance all pointed toward a tuberculous infection, possibly pulmonary, although repeated examinations failed to disclose the bacilli in the sputum. I saw this patient over a year after his discharge from the hospital, and found no return of the effusion. He was working at his trade, that of a shoemaker, had gained flesh, and was generally in a good physical condition.

The duration of treatment in serous effusions of the pleura, for obvious reasons, varies within wide limits. Glaeser,[4] in a most exhaustive article, on a basis of one hundred and seven cases cured by internal medication, gives the average duration of treatment as 56.3 days. In the twenty cases here reported the average was 13.1 days.

47 West Fifty-eighth Street.

## CONSIDERATIONS UPON THE PROPHYLAXIS OF GLANDERS IN HAVANA.[5]

By ENRIQUE ACOSTA, M.D.,

AND

J. N. DAVALOS, M.D.,

HAVANA, CUBA.

The case of glanders just reported by Dr. G. Lopez, and another one that we have been enabled to diagnose within a few days, compel us to submit to this learned body some considerations regarding this disease, which since 1888 has attracted so much public attention.

We shall not attempt even to outline a history of what has taken place here in reference to this malady, but we must state that for many years we have struggled faithfully in strenuous efforts to cause its disappearance: in company with Dr. Juan Santos Fernandez we formed part of ridiculous "official" committees in endeavors to obtain its extinction; we saw a fellow-worker succumb to the infection, Dr. Diaz; we suffered bitter and undeserved censure; our scientific capacity was questioned, and we witnessed the death of numerous individuals; we obtained nothing, because all our efforts were powerless against the influence of those who, commanding great wealth, overcome all difficulties by bribing the veterinarian, the ward deputy-mayor, or even the governor himself. By this easy means, stable owners made free use of infected animals, exposing them in the public streets so that two or three deaths from glanders were reported every month.

When, after corroborative bacteriological evidence, a horse was reported suffering from the disease, if a newly arrived and unscrupulous veterinarian was consulted, three things were sure to result: (1) a healthy horse was temporarily substituted; (2) the animal was declared not infected; (3) the veterinarian became an employee of the stable where the horse belonged. Thus, many years went on, until last January, when the new condition of things led us to hope for improvement. In fact, the American government has placed the work of looking after this disease in very able hands.

We know the good work realized by the inspector, and for that very reason, having learned of the recent cases in the human subject, we wish to point out the real agents which maintain glanders among us.

When, a few months ago, we had the honor to read before you our article upon anthrax, we knew not whom to blame for its continuous occurrence. The municipal corporation defended itself, alleging that the American authorities curtailed its rights, and the latter asserted that their supervision did not extend to the slaughter-house, corrals, etc.

In bringing the question of glanders before you, we expect to meet with similar difficulties, for we see that the sanitary department has charge of the hygiene of stables, etc., while the municipal corporation issues ordinances in the same direction. At all events we shall comply with a scientific duty in stating our opinion regarding the present means of prophylaxis employed against glanders, and the Academy will deliberate and act in accord with its high prestige and scientific representation.

Glanders, as you know, is an infectious disease peculiar to an animal species, and is transmitted by direct or indirect contact to man. In all civilized countries where it exists, prophylactic measures are directed to obtain its extinction, and the disease is much under control. Only in the island of Cuba has the infection remained firmly rooted, to the extent of causing from twenty to thirty deaths per year.

The prophylactic measures at present employed may be divided into three factors: (1) one inspector who examines the horses, (2) a so-called hospital, and (3) a very good set of municipal ordinances on the subject. The inspector, gentlemen, does more than could be expected of any one. He is well informed, honest, and energetic, unbending before threat or bribery; he carries on an actual prosecution against glanders; he is well acquainted with all infected spots and has compelled the sacrifice of numerous diseased animals. But his authority does not reach beyond a certain limit, and this has rendered some of his work most unfortunately fruitless. Not many days ago, having found numerous infected animals in two stables, he ordered them taken to the hospital and the stables to be closed; we know not what happened after that, but the stables were neither closed nor disinfected, and it was attempted to compel him to revoke the order. There have been several instances like the above which have forcibly reminded us of the Spanish régime, but with the notable difference that at that time every one allowed himself to be bribed by friendship, influence, or money, while to-day the inspector alone resists temptation.

As to the so-called hospital or lazaretto, when you become acquainted with it you will understand why we name it so. It occupies a small area of land situated in one of the corrals belonging to the old School of Agriculture, in the neighborhood of Cienaga. It is composed of a broken tile roof supported by posts; there is only one lateral wall, made of old timber and extending only part of the distance. There are two small rooms inside of the square, occupied by the family of the keeper. The mangers have no way of keeping the horses separated. The ground is mostly

[1] Centralbl. f. allg. Path., 1893.
[2] Semaine médicale, 1890.
[3] Centralbl. f. Bact., 1892.
[4] Therapeut. Monats., July, 1897.
[5] Read before the Havana Academy of Medicine in November, 1899.

mud, which is stirred up into a thin slime when it rains through the roof. This is the hospital to which infected or suspected horses are taken. Nothing more loathsome can be conceived of, and nothing more favorable to the propagation of glanders than this spot destined for the observation of suspected animals. More than forty sick and suspected horses often congregate in this filthy corral; many are killed, some are returned infected, and others finally die of the disease.

What is done with their dead bodies? Those that die at the hospital are buried in the neighborhood, while those that have the strength to reach Chorrera (a suburb) are killed there and the remains utilized. The skin, fat, bones, etc., are sold, and no one stops such dangerous and criminal commerce. When we visited this so-called hospital and spoke to the inspector about its condition, he told us that he could do nothing; that he was tired of presenting complaint and protests. He said that in his opinion the hospital was the greatest focus of glanders infection.

We left the hospital profoundly disappointed; our hopes of last January had come to naught. The contagion, in this way disseminated over cities and towns, protected by an unknown and invincible hand, will continue to claim its regular quota of human victims.

The third factor, the set of municipal ordinances, is above criticism. It embraces all that is required for the prevention of glanders: inspection of public and private stables; inspection of all corrals and pastures; the use of mallein for the purposes of diagnosis; and lastly the establishment of a modern lazaretto. But in spite of their publication in the *Official Gazette*, and presumably their thus having gone into effect, the regulations above mentioned remain as so much dead letter.

We have again to think of the confusion of authority that we see all around us, and which is so detrimental to our public and private hygiene.

In fact, gentlemen, the inspection of stables and corrals is in the hands of the American sanitary department when it ought to be under the control of the municipal corporation, which, to judge by its ordinances, is quite competent to undertake the work of forever extinguishing this dreaded infection. It is time that the municipal authorities take the matter in hand, since, as the work is performed to-day, we find cause only for censure and protest. If they do not discharge the obligation which they assumed by the issuing of their ordinances, we shall continue to cry against the causes which at all times have made of glanders a source of moral imposition and material extortion.

From the above it is evident that we can draw but one conclusion: that the prophylaxis of glanders, as carried out by the present authorities, is a menace to public health, and that it ought to be placed in the hands of the municipal corporation, which offers better means for its realization.

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**Rigors in Disease.**—You will not have failed to note how frequently the occurrence of a rigor in a medical case at once determines the need for surgical interference, and how prompt we are to avail ourselves of it. In the treatment of a patient suffering from a rigor you are to employ warm drinks such as hot tea with essence of ginger, and apply extra blankets and hot bottles. Some ether or carbonate of ammonium may be given, or brandy and hot water. If the pinched and collapsed condition lingers, a tablet or two of trinitrin may be given sometimes with advantage. The exciting cause may, however, be diligently sought for and treated as far as possible.—Sir Dyce Duckworth (London *Lancet*, November 25th)

# Clinical Department.

## A CASE OF SUBCUTANEOUS CRANIOTOMY.

By SIDNEY F. WILCOX, M.D.,
NEW YORK.

The above title applies to a new operation which I have lately performed, and which I believe can be done only with the Gigli saw, or some modification of that instrument. The Gigli saw is described by Dr. W. W. Keen as "a bit of roughened steel wire about 35 cm. long and 0.5 mm. or more in diameter, with a loop at each end. The method of using the saw is to make two or more trephine openings, separate the dura from the skull, . . . draw the saw under the bridge, . . . attach a handle to each end of the saw, and cut outward." The principle of this instrument is the same as that of the old-fashioned chain saw, but being so much lighter, thinner, and stiffer, with no liability to kink or clog, it is a much better and more adaptable instrument. The operation which I wish to describe in this short article was suggested to my mind on seeing the Gigli saw used in a trephining case; and having occasion to operate on a patient the following week, I put the idea into practice. The case was one of a girl fourteen years of age, well grown and developed physically, but very backward mentally. She had a dull, sleepy look with half-closed eyes, and her mental non-development was manifested by her imperfect speech, her limited acquirements, and some muscular inco-ordination. Her mother, an unusually bright woman, states that, in spite of the child's sleepy look, she had never seen her asleep; and an examination of the skull with the *x*-ray machine indicated unusual thickness of the bone for a child of that age. It was thought by the neurologists who were consulted that undue pressure was being made upon the brain by the over-thick skull, or at least that expansion and development of the organ were inhibited, and the operation was undertaken with the object of relieving the pressure, and giving an opportunity for the brain to expand. Of course, it was largely an experiment, but I think the results thus far justify it. The operation was performed on February 7th of this year. Without going much into details, I will state that the whole operation consisted in first removing quite a large plate of bone from over the fissure of Rolando with the chisel, and then loosening up another large plate without cutting the scalp along the line of section through the bone. The latter portion of the operation was accomplished by first making two very small openings through the scalp and skull at some distance from the place where the plate of bone had been removed: then the dural separator was passed from one trephined opening to the other, and the saw pushed along its groove under the bridge of bone; the handles were attached and the wire was held out as straight as possible as the bone was cut through. As soon as this was done, the saw was pulled out without cutting the bridge of soft tissues. The instrument was then re-introduced so as to make the new line of section join the opening left by the removal of the original plate of bone. Thus an irregular quadrilateral piece of bone was loosened up, and the expansion of the brain promptly pushed it from within outward. In order not to produce a condition which could be similar to a depressed fracture, I drew the saw sidewise as it cut through the bone, thus bevelling the edges, so that, when pressure was made externally, the raised piece could only be pressed down into its original position. In other words, the portion of skull which was loosened might be likened to a stove lid, which fitted into the bevelled edges of the opening. Only a few weeks have elapsed since

the operation was performed, but the effect thus far has been good; although, of course, no judgment can be formed as to the permanent result in so short a period. The child now opens her eyes wide; the sleepy look is gone, and she sleeps naturally. She left the hospital two weeks after the operation, and I saw her about two weeks after that.

The points I wish to make are these: With the Gigli saw a piece or several pieces of bone may be loosened without cutting the scalp except to make very small openings sufficient to admit of placing the trephine on the skull. The attachments of the skull to the scalp and dura are not torn off, and there can hardly be a limit to the amount of bone loosened; and finally with aseptic precautions the operation is almost entirely free from danger. As to the results which may be accomplished, no one can tell as yet, but it seems to me that a new field may be opened up to the neurologist through the invention of this simple instrument.

51 West Fifty-second Street.

## JEQUIRITY IN THE TREATMENT OF TRACHOMA.

By R. H. T. MANN, M.D.,

Texarkana, Ark.

In well-selected cases the jequirity treatment of trachoma is far the best, and there are many cases which yield to this treatment when all other methods fail. This treatment is especially adapted to cases of long standing and when much pannus exists. Ten beans are finely pulverized and placed in a bottle containing one-half ounce of water. This solution is allowed to stand for twenty-four hours. A few drops of the solution are instilled into each eye once a day until a false membrane appears, which will be in most cases after the third instillation. Within two hours after each instillation pain sets in, and remains severe for six hours.

This treatment is followed by the daily application of a two-per-cent. solution of nitrate of silver, which is kept up until the eyes are well: this will usually be in from two to six months. I have used this method successfully in my practice in many cases, and have seen it used in many more, and have yet to see a case in which it has had any bad results; however, it might be advisable to use it in one eye at a time. The solution should be freshly prepared for each case.

I give here two cases which will serve to illustrate the treatment I have just outlined:

Case I.—A girl of twenty years had been suffering from trachoma for seventeen years. Vision was reduced to $\frac{1}{200}$ in each eye. She had consulted many physicians without relief. This patient was well in six months. Vision with properly adjusted glasses, $\frac{20}{60}$ in each eye. I saw her a short time ago, and she has had no recurrence of the trouble.

Case II.—A girl of fifteen years had been suffering from trachoma for four and a half years. The vision was reduced to simple perception of light in each eye. Pannus covered the upper half of each cornea. At the end of eight months she had made a complete recovery. Vision $\frac{20}{30}$ in each eye without glasses. I last heard from her one year and a half after I dismissed her. She had then had no further trouble.

**Nitroglycerin** is serviceable only in diseases connected with actual or relative spasm of unstriped muscular fibre. In pneumonia and other respiratory diseases there seems to be no rational basis for its use. —Marshall, *Lancet*, November 4th.

## Therapeutic Hints.

**Chronic Bronchitis.—**

℞ Acidi carbolici ..... 0.5
Ichthyol ..... 5.0
Spiritus vini ..... 10.0
Aquæ destill ..... 100.0
M. S. Inhale.

—Neusser.

**Pediculosis Capitis.—**

℞ Naphthol ..... 5.0
Olei olivarum ..... 100.0
M. S. Apply.

**Pyrosis.—**

℞ Sodii bicarbon.,
Pulv. rad. rhei .....āā 1.5
Sacch. alb ..... 3.0
M. div. in pulv. No. x. S. One t.i.d.

—Nothnagel.

**Chronic Constipation.—**

℞ Extr. aloes,
Extr. rhei,
Pulv. rad. rhei .....āā 2.0
Extr. colocynth ..... 0.3
M. ft. pil. No. lx. Sig. Three pills before retiring.

—Nothnagel.

**Hyperemesis Gravidarum.—**

℞ Morphinæ hydrochl ..... 0.2
Acidi acetici glacial .....q.s. ad sol.
Chloroformi ..... 5.0
Alcohol. absol ..... 15.0
M. S. Five drops in sugar water.

Or:

℞ Cocain. hydrochl ..... 0.25
Sacch. alb ..... 3.0
M. ft. pulv. No. x. Sig. One powder t.i.d.

—Schauta.

**Bronchitis.—**

℞ Extr. belladonnæ ..... 0.1
Extr. hyoscyami ..... 0.2
Pulv. pummosi ..... 3.0
M. ft. chart. No. x. Sig. One t.i.d.

℞ Pulv. ipecacuanhæ et opii ..... 2.0
Sodii bicarbonatis ..... 4.0
M. ft. chart. No. x. Sig. One t.i.d.

—Neusser.

**Pertussis.—**

℞ Pulv. rad. belladonnæ ..... 0.1
Sodii bicarbon ..... 0.4
Sacch. alb ..... 2.0
M. ft. chart. No. x. S. One powder q. 3 h.

—Widerhofer.

**Hydrocephalus.—**

℞ Sodii iodidi ..... 2.0–4.0
Aquæ destill ..... 90.0
Tinct. valerian ..... gtt. xx.
Syr. simplicis ..... 10.0
M. S. Tablespoonful every two hours.

—Monti.

**Pernio.—**

℞ Acidi nitrici puri ..... 3.0
Aquæ destill ..... 60.0
M. S. Apply locally.

—Gussenbauer.

**Hysteria.—**

℞ Camphor. monobromat.,
Extr. valerian .....āā 3.0
M. ft. pil. No. xxx. Obduc. fol. argent. Sig. One pill t.i.d.

—Krafft-Ebing.

**Peritonsillitis.**—If seen within twenty-four hours of the onset it can be aborted. The remedy thus efficacious consists of:

℞ Morph. sulph. ..... 0.06
Tinct. veratr. virid ..... 4.0
Aquæ ..... 120.0
M. S. Teaspoonful every hour for three hours; then once in three hours.

—Emil Mayer.

MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 51 Fifth Avenue.

New York, December 30, 1899.

## PROPOSED LEGISLATION FOR THE MEDICAL DEPARTMENT OF THE UNITED STATES ARMY.

THE surgeon-general of the army will present to Congress at the present session three bills relating to the medical department of the army. These bills cover three greatly needed reforms. They provide, first, for an increase in the medical department of the army; second, regulations relative to the efficiency of the department; and third, bills for the relief of acting assistant surgeons and assistant surgeons with the rank of captain in the volunteer service. The necessity for an increase in the number of regular medical officers has been apparent to the head of the medical department for some time, and it has been repeatedly brought before the attention of the legislative and executive branches of the government. The medical corps of the army at present consists of one hundred and ninety-two commissioned medical officers, while from the requirements of the service there are at present, in addition to these, over four hundred civilian physicians serving under contract as acting assistant surgeons. The number of medical officers belonging to the medical department was barely sufficient for the needs of the service during its hand-to-mouth existence prior to the war with Spain. The army then numbered twenty-five thousand men, and the medical officers, though all trained and expert in the performance of their duties, were hardly able by strict economy of working material to carry out the multifarious duties demanded of the medical department. Upon the outbreak of the war the medical corps had to be reinforced by a large number of physicians taken from civil life. In some cases these physicians had received preliminary training in military matters through association with the National Guard, but the large majority were without any training whatever. As a result of the influx of new men unacquainted with the special and peculiar duties which were required of them, and from the fact that the medical department of the army was so small in numbers as to be insufficient even to form the nucleus about which the untrained men could assemble for instruction until such time as they were able to work for themselves, more or less confusion, which is now a matter of history, resulted.

The duties of a medical officer of the army are such that he is in reality a specialist. It is not alone that he must be able to prescribe for the sick or operate upon the wounded, but he must exercise executive and sanitary functions. In time of peace he must not only be a practising physician and surgeon, but he is required to be the health officer of the particular post at which he may be stationed, and in addition to this he is required to exercise executive functions in the hospital over which he may have command. In time of war his field of activity both in executive and sanitary measures is greatly increased and proceeds along special lines. The sanitary and hygienic questions which arise relative to the care of men in camp and field are relegated to him. The questions of camp and field sanitation and hygiene offer problems markedly different from those of hygiene and sanitation in settled communities, and special training is required in this direction.

The modern army is a collection of highly specialized units which requires for its efficiency that all its component parts shall work harmoniously toward the end of its efficiency as a fighting force. Not only must the sick and wounded be treated, but care must be taken that sickness is reduced to a minimum and that all the precautions which are requisite to the health of an army should be known and practised by the military surgeon. It is here that the civil practitioner suddenly brought into the military service most frequently fails. The conditions which obtain in this country are such that dependence cannot be placed entirely upon a standing army of sufficient size to meet all possible emergencies, and the formation of volunteer forces at certain times of need is and will continue to be a settled policy of the government. This being the case, the established medical department of the regular army should contain a sufficient number of men to form a suitable nucleus about which the medical officers of the volunteer army may be organized and by which they may be instructed in times of war. With the medical department of its present size it will be overwhelmed at any time in the future when conditions similar to those which obtained at the outbreak of the war with Spain occurred.

But not only is an increased number of medical officers required to serve as a nucleus, but an increased number is required for the needs of the service as they actually exist at the present time. As a result of the increase in seaboard defence eighteen new posts have been established upon the seacoast in the Department of the East, and ten have been established in the Department of the Columbia, including Alaska. There are now eleven independent garrisons in Porto Rico and a large number of independent commands in Cuba and the Philippines. These independent garrisons and commands all require medical officers of experience and ability, and in addition all the higher executive offices of the medical department have to be filled with men of a rank commensurate with the positions which they occupy. It is absolutely impossible to do this with the present number of medical officers, hence the request of the surgeon-general for legislation as to an increase of the corps.

Relative to the increased efficiency of the medical corps, this will be obtained not only by an increase in number of the medical department, but by the proposed legislation for a period of probation for all medical officers of the regular establishment. The bill provides that all candidates who have passed the medical examining-board in compliance with existing regulations shall be appointed acting assistant surgeons for a probationary period of six months. During this probationary period they will attend the Army Medical School, established in the city of Washington and at the end of the probationary period the faculty of the school will report to the Secretary of War upon the fitness and relative standing of the probationary candidates. This measure is to the end that more careful selection of men may be made relative to their adaptability to the medical service than can be done as at present by a single, comparatively brief examination.

The bill for the relief of acting assistant surgeons provides, first, for the granting of leaves of absence to acting assistant surgeons, as is now provided for all commissioned officers of the army, and also that their pay shall be continued during absence from duty on account of sickness contracted in the service. The justice of this legislation is so manifest that it hardly requires comment. It is manifestly unjust that surgeons serving under contract in the army should be deprived of all rights and privileges regarding leaves of absence, and should have their pay stopped when they are absent from duty by sickness contracted in the service. No other class of men in the military service are so discriminated against, and it is but a matter of common justice that these discriminations should be done away with.

The bill for the relief of assistant surgeons with the rank of captain provides that assistant surgeons in the volunteer army commissioned as captains shall be entitled to the pay of "captain, mounted." At present the assistant surgeons of the volunteer army of this rank are allowed the pay of first lieutenants only, the decision being that the act of Congress providing that assistant surgeons shall receive the pay of captain only after five years of service holds in these cases. As all other captains of the volunteer army receive the pay of captain, it is a discrimination against the assistant surgeons of this rank which should be corrected by proper legislation.

It is to the interest of the medical profession at large throughout the country that the legislation above referred to be enacted. The members of the medical corps of the army are graduated from the same schools as are the members of the profession at large. All of the principal medical colleges are represented in the ranks of the medical corps. The efficiency or non-efficiency and the method of performance of the duties imposed upon them reflects, therefore, not only upon themselves, but upon the profession at large, and it therefore becomes the duty of the profession to further in every way legislation which may increase the efficiency of this representative body. It is not too much to ask that personally and collectively, both as individuals and as medical societies, the medical profession of the country present to their representatives in Congress the urgent necessity for the proposed legislation.

## FEEDING AN ARMY.

To feed an army in the field at a very considerable distance from home is no light task, and upon its successful accomplishment hangs much of the ultimate issue of a campaign. It would seem at first sight as if the Boers should decidedly be in a more favorable position as regards this aspect of the situation than the British. Undoubtedly, however, such is not the case, and this fact can be easily explained when the subject is more carefully looked into. The Transvaal and Orange Free State must both be self-supporting during the war, as, the British having command of the sea, they will be unable to import provisions into the country, and the time will come, and is probably now not far away, when their own supply will fail. *The London Hospital*, quoting from the London *Times* of November 30th, tells that the provisioning of the British army rests upon the principle of maintaining a four months' supply of food at the base of operations; and that, therefore, when this supply is established it must still be replenished at short intervals and to a sufficient extent to keep pace with the daily rate of consumption. There have to be maintained in South Africa, roughly speaking, one hundred and sixteen thousand men, including soldiers and those engaged in the work of transport, and fifty-one thousand horses and mules. At the present time there are supplies for only three months in the country, but the necessary additions are being rapidly and continuously despatched, so that the theoretical standard of quantity will soon be attained. What these quantities are can be stated only in figures which, like those expressive of astronomical distances, practically elude the imagination. Among the chief items are twelve million pounds of preserved meat, and an equal quantity of biscuits. At an approximate computation the preserved meat alone would occupy a space about equal to that of a terrace of ten houses, each house thirty feet high, thirty feet deep, and with a frontage of thirty feet. Then come four hundred thousand pounds of coffee, two hundred thousand pounds of tea, two million two hundred thousand pounds of sugar, eight hundred thousand pounds of compressed vegetables, four hundred thousand pounds of salt, and one million five hundred thousand pounds of jam, as essential requirements of the military storeroom. Sugar is now universally admitted to be an admirably nutritious article of diet, and the jam affords in combination with sugar vegetable elements which are of high importance for the prevention of scurvy. A further provision in this direction is that of four hundred thousand pounds of lime-juice, while other needs in the way of liquids are met by eighty thousand gallons of rum, twelve thousand bottles of whiskey, thirty-two bottles of port wine, a "vast quantity" of sparklets for making soda water, and eighty tons of alum for purifying spring or river water the quality of which

may be doubtful. In addition to all this there are the forage for animals, and the supply of not only these animals themselves, but also of the wagons to which they are to be harnessed, and of the harness itself which are to be considered. The first idea was to obtain wagons and mule harness in large quantities from the United States, but it was considered that they approached too nearly to "munitions of war" for this course to be pursued, and the demands are in the way of being fully met by the unaided resources of the empire.

Of course canned meat must be largely used in a country where the supply of cattle on the hoof is not equal to the demand, but the aforesaid meat should be rigorously inspected ere it is dispatched to its destination. Now, too, that many more British and colonial troops are to be poured into South Africa, the War Office will doubtless have to strain every nerve in order to transport provisions sufficient to maintain the supply at the base of operations at the standard of four months.

## THE APPENDICITIS QUESTION AGAIN.

"To operate, or not to operate, in appendicitis" is still one of the absorbing questions of the hour. The physician proper still leans favorably to the expectant plan of treatment, while the operator urges removal of the appendix in all cases as being the only method of cure. The surgeon, however, weighs the pros and cons for operation in each case, and governs his action accordingly. Of course each patient, and every attack of appendicitis, must be considered as an entity, and no steadfast rules can be set down to govern all cases. Certain clinical facts have been demonstrated so often in the course of this affection that broad lines of action may be formulated upon them. Briefly stated these are as follows:

1. As we can never tell from the nature of a previous attack of appendicitis what will be the character of the next seizure, or when, if ever, it will occur, a patient who has had one mild attack should have this clinical observation clearly stated to him, and the decision for or against operation left with him. If a patient has had more than one attack, the probability of a recurrence is much stronger, and the surgeon may even urge an operation in the interval, the burden of responsibility, in case of refusal, being placed upon the shoulders of the patient. Under this head belong all those cases in which, after the subsidence of the acute seizure, the parts apparently return to their normal condition. Should adhesions of the appendix to neighboring structures have occurred, which in themselves cause pain and interference with the general well-being of the individual, there would exist a further indication for surgical interference.

2. If, during the course of an acute inflammation of the appendix, there is manifested a distinct tendency to a regression, we may safely wait for the subsidence of the attack, and then consider the patient as outlined above. Such regression is determined by careful observation of the triad of symptoms, which in relative importance are: (*a*) Pulse rate; (*b*) local pain and rigidity of the abdominal muscles; (*c*) temperature elevation. If the pulse rate steadily declines and the other two symptoms become less marked, the inflammation is regressing, and operative attack can be deferred.

3. But if there is a distinct progression as indicated by an increasing rapidity of the pulse, and more marked local pain and rigidity, irrespective of temperature elevation, operation is urgently demanded.

4. Abscess cavities call for immediate careful evacuation.

5. General peritonitis demands immediate operative interference, except when the general condition of the patient forbids a formidable procedure. Such latter patients do better if treated expectantly, and often enough these desperate cases improve, and then their subsequent surgical treatment depends upon the local condition.

These general principles of action will be found to govern the vast majority of cases. But one must never forget that appendicitis does not always run a typical course, and in the atypical cases the internist and the surgeon both must rely on their past experiences to enable them to decide for or against operation.

## News of the Week.

**Possible Murder of a Medical Student.** — A young man named Hirth, a student at the College of Physicians and Surgeons, was found dead a few days ago on Woodlawn Heights with a bullet hole in his head. In his pocket was a box containing cartridges, but no pistol could be found. The shot had been fired at very close range, for the skin of the face was powder-burned.

**Mr. Dwight L. Moody,** who died last week, offered a gratifying contrast to many of his cloth, especially revivalists, in his appreciation of regular medicine and his antipathy to quacks. In speaking of a prominent Christian scientist, or faith healer, or what-not, in Chicago, whose offences against humanity and common sense are many and notorious, he praised medicine as the noblest of professions after that of the ministry. "Never yet," he said, "in all my years of work have I called upon an able doctor, telling him of the sickness and need of some poor friendless person, that he did not at once go to the rescue, without money and without price. Some of the noblest men I ever knew have gone out as medical missionaries, devoting their lives to doing good with the skill and healing medicines the Lord has conferred upon them." "These are the men," he continued, "who are called devils by the 'faith healers,'" but he prayed God to forgive those guilty of such slander. "God heals," he said, "through doctors and through medicines. Do not be carried away through ravings of fanaticism. We have a new 'ism' in America about every year—beware of the 'isms'! What would I do if I fell sick? Get the

best doctor in Chicago, trust to him, and trust to the Lord to work through him. The doctors have done wonders as their knowledge has grown; they have reduced the dangers of death from diseases that once slew all they touched; and the doctors, if God helps them, will yet find a way to stop the ravages of other terrors."

**Fire in the Colored Home.**—Fire occurred last Saturday in the laundry building of the Colored Home and Hospital in this city. The laundry building is distant about twenty feet from the main building where the wards are located. The patients, most of whom are helpless, were kept in ignorance of the fire, and the latter was extinguished, after having caused about $2,500 damage, without being communicated to the main building.

**Rabies in Washington.**—There is a rumor in Washington that a mad dog has been running amuck through the city, and war has been declared on all canines. An order has been issued that all dogs must be muzzled, and all unmuzzled animals are taken to the pound and killed, unless claimed within a definite time. Nearly five hundred dogs were apprehended in one week.

**Navy Department,** Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the United States navy for the week ending December 23, 1899. December 18th.—Passed Assistant Surgeon W. M. Wheeler detached from duty at the naval hospital, New York, and ordered to the *Vermont*. Assistant Surgeon H. A. Dunn detached from Port Royal naval station on reporting of relief, and ordered home, and to wait orders. Assistant Surgeon M. S. Elliott detached from the *Vermont* on reporting of relief, and ordered to duty at the Port Royal naval station. Assistant Surgeon E. Davis ordered to duty at the naval hospital, New York. Assistant Surgeon W. L. Bell detached from the *Independence*, December 31st, and ordered to the island of Guam on the *Scindia*. December 20th.—Surgeon H. T. Percy ordered to the Norfolk navy yard, January 4th. Surgeon H. E. Ames detached from the Norfolk navy yard on reporting of relief, and directed to proceed home and to be ready for orders to sea service. December 21st (Changes by cable from the Asiatic station).—Medical Inspector R. C. Persons detached from the *Baltimore* and ordered to the *Brooklyn*. Medical Inspector G. E. H. Harmon detached from the *Brooklyn* and ordered to the *Baltimore*. Surgeon O. D. Norton detached from the *Solace* and ordered to the *Monadnock*. Passed Assistant Surgeon C. H. T. Lowndes detached from the *Princeton* and ordered home. Passed Assistant Surgeon J. Stoughton detached from the *Monadnock* and ordered to the *Bennington* via the *Solace*. Assistant Surgeon C. D. Langhorne detached from the *Monterey* and ordered to the *Princeton*.

**Memorial to the Late Dr. William Pepper.**—In connection with the formal opening of the Free Museum of Science and Art, and its transfer to the trustees of the University of Pennsylvania, on December 20th a statue of the late William Pepper was unveiled, and his widow made a memorial gift of $50,000 for carrying on the work. The building cost $385,000, while the ground on which it stands is worth $225,000.

**The Late Dr. Charles Inslee Pardee.**—At a regular meeting of the board of directors of the Manhattan Eye and Ear Hospital, held on November 21st, the chairman, George E. Sterry, vice-president, called the board's attention to the loss that the hospital has suffered in the death of Dr. Charles Inslee Pardee, and on motion appointed Dr. Roosa and Mr. George G. Moore a committee to draft suitable resolutions. Dr. Roosa remarked that he was a classmate in the medical college with the late Dr. Pardee, and that he had been intimately acquainted with him from that time until the time of his death. His death was very sudden, said to be from apoplexy. After graduation, Dr. Pardee served gallantly and efficiently as a medical officer in the volunteer service during the Civil War. On his return, he was associated with Dr. Roosa in the University Medical College, and, as his assistant, he was with the speaker on the opening of the Manhattan Eye and Ear Hospital, and served there as an assistant surgeon on the very first day that Dr. Roosa's clinic was opened for the reception of patients. He was elected surgeon in 1879, and continued his duties there until he was appointed dean of the medical faculty of the university. His labors in the medical college were so exacting that he was obliged to resign his position as surgeon of the Manhattan Eye and Ear Hospital. But he, on the nomination of the late Dr. Agnew, was made a director of the hospital, in which position he served with punctuality and faithfulness until his death. Dr. Pardee was an astute and skilful practitioner, and he was so successful as dean of the medical faculty, that the speaker has heard the late Chancellor Crosby say he was worthy to be made chancellor of the university. He was very genial and interesting in social life, and, as has been said by the chairman of our board, we all deplore his loss.

"The Board of Directors of the Manhattan Eye and Ear Hospital record with profound regret the death of their late colleague, Dr. Charles Inslee Pardee. Dr. Pardee was appointed assistant surgeon at the Manhattan Hospital in 1869, and promoted to the surgeonship in 1879. He resigned the latter position on the 17th of November, 1885, and was thereupon elected a director of the hospital, which position he continued to occupy until the day of his death. He died on the 3d of November, and the board of directors make this record of his services to the institution, which were always of a high order.

"It is directed by the board that a copy of this be sent to the family of the late Dr. Pardee, and to the medical journals."

John Sinclair, *President;* A. G. Agnew, *Secretary.*

"*Resolved*, That this board [of Manhattan State Hospital], having learned, from the report of the general superintendent, of the death of Prof. Charles Inslee Pardee, M.D., of the board of consulting physicians and surgeons of this hospital, place upon record its sense of the valuable services rendered by Professor Pardee to the hospital during his connection with its consulting board, dating from that board's

first organization in 1879; its sincere regret at their termination; and its sympathy for his family in their affliction.

"*Resolved*, That the secretary be requested to enter a minute of the board's action upon the records of the hospital, and to transmit a copy thereof to Professor Pardee's widow."

**The Late Dr. Samuel Ketch.**—The following resolutions were adopted at a meeting of the staff of the New York Orthopædic Dispensary and Hospital, on December 15, 1899:

"*Whereas*, It is with profound sorrow we have learned of the death of our late associate, Dr. Samuel Ketch; and

"*Whereas*, During his long service as a surgeon of the Orthopædic Dispensary his colleagues and fellow-practitioners have had abundant opportunity to testify to his many good qualities as a skilful orthopædic specialist, as a cultured scholar, an earnest teacher, and a genial friend—

"*Resolved*, That by the untimely removal of Dr. Ketch the staff has been deprived of one of its most valued counsellors, the institution has lost a faithful officer, and the medical profession mourns a brilliant speaker, a fluent writer, a courteous and dignified member.

"*Resolved*, That we give public expression of our high appreciation of the man as we intimately knew him, and that we furthermore extend to his afflicted relatives our heartfelt sympathy in their sad bereavement."

Committee, H. J. Bogardus, M.D., Russell A. Hibbs, M.D.

**Obituary Notes.**—Lieut.-Col. David L. Huntington, United States army, retired, died in Rome, Italy, on Wednesday. He was born in Charlestown, Mass., in 1834, and served for thirty-six years continuously in the medical corps of the army. He was a graduate in arts of Yale College, and in medicine of the University of Pennsylvania in the class of 1857. At the beginning of the Civil War he was appointed assistant surgeon in the regular army and assigned to various places in the West. Later he became medical officer on General Grant's staff. He was medical director of the Army of the Tennessee, and accompanied Sherman on the march from Atlanta to the sea. For some years prior to his retirement he was in charge of the Medical Museum in Washington, and edited "The Medical Record of the War." He was a delegate to the International Medical Convention held at Moscow, Russia, in 1897, and after his return to the United States he was placed on the retired list April 10, 1898. Since that time he had lived abroad.

Dr. Albert P. Walter died at his home in Jersey City on December 18th, after an illness of six weeks, from peritonitis resulting from typhoid fever. Dr. Walter was born in Easton, Pa., in 1853. He was a graduate of the College of Physicians and Surgeons, Baltimore, in 1884.

Dr. William D. Camp, of Millerton, N. Y., died in that place on December 21st, of disease of the heart. He was fifty-seven years old, and was a graduate of the medical department of the New York University in 1870. He had two brothers who are physicians, one in Connecticut and the other in Massachusetts.

Dr. Jesse C. Miller died suddenly at Marklesburg, Pa., on December 21st. He was graduated from Jefferson Medical College in 1884.

Dr. Edward Higginson Williams, a member of the firm of Burnham, Parry Williams & Co., proprietors of the Baldwin Locomotive Works, died at Santa Barbara, Cal., on December 21st, at the age of seventy-five years. He was graduated from the Vermont Medical College at Woodstock in 1846. During his early medical career he had successful charge of the famous case in which a three-foot tamping bar was blown through a man's head. He subsequently undertook the business of engineering, and he gradually advanced in his profession until in 1890 he became a partner in the Baldwin Locomotive Works.

Dr. William B. Canfield, of Baltimore, died in this city on December 26th, from a fracture of the skull received in a fall about a month ago. He was found unconscious on West Seventy-second Street and was carried to the Roosevelt Hospital, where he remained until he died. Dr. Canfield was forty-four years old, and was a graduate of the University of Maryland School of Medicine in the class of 1880. After graduation he studied in Europe for a year and then began practice in Baltimore. He was for several years editor of the *Maryland Medical Journal*.

Dr. Charles Herwisch died at Philadelphia, on December 14th, at the age of forty-seven years, as the result of injuries received in a runaway accident the day before. He was a native of Austria, and was a graduate of the medical department of the University of Pennsylvania. He was a physician to the Rush Hospital for consumptives and instructor in clinical medicine in the Philadelphia Polyclinic.

Dr. Frederick Z. Johnson died at Corona, N. Y., on December 12th, at the age of thirty-one years.

Dr. Jonathan M. Higgins died at Philadelphia on December 15th, at the age of fifty-eight years. He was graduated from the medical department of the University of Pennsylvania in 1861, and was for nineteen years a member of the nineteenth sectional school board.

Dr. Walter Boardman was found dead at his home at Lancaster, Pa., on December 16th. He was thirty-eight years old, and was connected with Battery C of Phœnixville, prior to the outbreak of the Spanish-American War.

Dr. Stephen T. Beale died at Philadelphia on December 12th, at the age of eighty-five years. He was born in England, but came to the United States at the age of seventeen. He was graduated from Jefferson Medical College in 1847, engaging in the practice of medicine and of dental surgery, but after a time relinquishing the former. He was one of the founders of the Pennsylvania Association of Dental Surgeons and its first vice-president. He was instrumental in securing a charter for the Philadelphia College of Dental Surgeons, from which in 1853 he received the honorary degree of Doctor of Dental Surgery.

# Reviews and Notices.

Essentials of Diseases of the Skin. By Henry W. Stelwagon, M.D., Ph.D., Clinical Professor of Dermatology in the Jefferson Medical College; Physician to the Department of the Skin, Howard Hospital; Dermatologist to the Philadelphia Hospital, etc. Fourth edition, thoroughly revised. Illustrated. Philadelphia: W. B. Saunders. 1899.

This arrangement of questions and answers, covering the field of cutaneous and syphilitic affections, has evidently met the requirements of a large number of students, as we predicted for the first edition. Some practitioners might like this manner of self-questioning, having the answers under the eye, but most will undoubtedly prefer a more continuous text. Teachers and quiz masters might use the work, which belongs to the series of Saunders' Question Compends, of which it is No. 11. The woodcuts are not good, and give often a very inadequate idea of the affection they are meant to represent.

A System of Medicine. By Many Writers. Edited by Thomas Clifford Allbutt, M.A., M.D., LL.D., F.R.C.P., F.R.S., F.L.S., F.S.A., Regius Professor of Physics in the University of Cambridge, Fellow of Gonville and Caius College. Vol. VIII. New York: The Macmillan Company. 1899.

The curious confusion in the numbering of volumes which has characterized this series appears again in this volume, which is called viii. on the title-page and vii. at the end of the index and also in the preface. In this volume the subject of diseases of the nervous system is continued and apparently concluded. The several sections are diffuse diseases of the spinal cord, limited diseases of the spinal cord, diseases of the brain, and "other diseases of the nervous system"—the last term including disorders of sleep, epilepsy, chorea, the tics, and other neuroses. There are twenty-nine contributors, among whom two—Drs. Andrew H. Smith and M. Allen Starr—are Americans. The list includes such well-known names as Bramwell, Bastian, Beevor, Ferrier, Gowers, Grainger Stewart, Risien Russell, and the editor. There are, in addition to thirty-four illustrations in the text, three plates, one of them representing the cord in a case of syringomyelia, drawn by Van Gieson.

Twentieth Century Practice. An International Encyclopedia of Modern Medical Science. By Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M.D., New York City. In Twenty Volumes. Volume XVIII. Syphilis and Leprosy. New York: William Wood and Company. 1899.

Containing the fewest articles, this is still one of the most interesting volumes of the set. Two subjects are treated by three writers. Eduard Lang, of Vienna, presents a contribution upon "Acquired Syphilis"; Jonathan Hutchinson, of London, upon "Inherited Syphilis," and Prince A. Morrow, of New York, upon "Leprosy." These are subjects fraught with the greatest interest for all medical men at the present day. Volumes on end have been written upon all three topics, but we have here a review of what has actually been brought forth, in advancing our knowledge of these diseases during the past century. All three chapters show the master hand, and frequent passages show the facile pen. The faculty of making a strictly scientific article, and at the same time interesting reading, is not within the powers of all writers. At the end of Lang's article are twelve pages of formulæ, among which will be found many useful in the treatment by baths, injection, or inunction, and many prescriptions to meet the various complications as they arise. Hutchinson is a writer who seems so well qualified by long and varied experience in the matter of inherited syphilis that he can give the results of a lifetime of investigation in a brief space. This he has here done. In about twenty-five pages he covers the subject, not alone well but entertainingly. Morrow's monograph takes up over two hundred and seventy-five pages, including ten of bibliography. This article is illustrated. No very new nor startling facts are brought out, but for a clear and accurate statement of the present knowledge of the subject in all its bearings, it leaves nothing to be desired. After all has been said that can be said, we are left in much the position we were in decades ago. No one seems able to tell absolutely in what manner the disease is transmitted and spread. No one claims much for any drug or method of treatment. The bacillus has been found, to be sure, but the ravages of the disease go on increasing in some regions while they abate in others, without, as it would seem, a just regard being shown for the efforts of man. Still the line of scientific endeavor in the matter of prophylaxis seems clear, and the author has indicated it in an appropriate chapter, giving a conservative though fair and dispassionate résumé of opinion in the matter of government control and segregation.

Differential Diagnosis with Clinical Memoranda. By Fred. J. Smith, M.A., M.D. Oxon., F.R.C.P. Lond., Physician and Senior Pathologist to the London Hospital. New York: The Macmillan Company. 1899.

This work is entitled an "Introduction to the Outlines of the Principles of Differential Diagnosis," and an attempt has been made by analysis of clinical symptoms to lead up to the underlying principles which govern disease processes. There is an element of originality in the work, though the author disclaims any attempt to introduce new facts in his efforts to arrange old phenomena in such a manner as to show more clearly than is usually the case their fundamental meanings and relationships. The work is suggestive, and points out the way to get at facts rather than the mere facts themselves. The lines of thought which almost every page introduces would prove of great value to the advanced student and medical thinker, writer, or teacher; but for the student preparing for his degree, or for the busy practitioner, it will hardly find a useful place.

A Manual of Diseases of the Nose and Throat. By Cornelius Godfrey Coakley, A.M., M.D., Clinical Professor of Laryngology in the University and Bellevue Medical College, New York City. Illustrated with 92 engravings and two colored plates. Philadelphia: Lea Brothers & Co. 1899.

A book is to be judged by its title, and as the present one is a manual, we are not to look for all the detail which is expected in a more formal treatise. Suffice it to say that in the present volume the principles of rhinology and laryngology are set forth with sufficient detail to enable the practitioner to take it as his guide for actual clinical work. The writer has long enjoyed the reputation of a careful clinician, and his manual is the outcome of a vast amount of practical work conscientiously performed. Especial praise is to be given to the paragraphs upon differential diagnosis, which is, after all, the most important factor in the daily work of one who has had a certain amount of experience; for while many problems in this field of medicine are unsolved, the field itself is no longer new, and as soon as the exact condition to be treated can be positively made out, the proper therapeutic measures will at once suggest themselves. Similar commendation is deserved by that portion of the book devoted to therapeutics. Dr. Coakley does not bewilder the beginner with a multiplicity of plans to be followed, but clearly sets forth what has been in his own work most successful. In diphtheria, he advises the employment "in connection with antitoxin, of those remedies which were so valuable to us before antitoxin was discovered."

An Introduction to Dermatology. By Norman Walker, M.D., Fellow of the Royal College of Physicians of Edinburgh; Assistant Physician for Diseases of the Skin to the Royal Edinburgh Infirmary. New York: William Wood and Company. 1899.

This octavo of two hundred and forty-seven pages is well illustrated, containing a colored frontispiece and twenty-nine plates, and having thirty-four illustrations in the text. It is written in a concise, easy, and attractive style, and suggests class-room clinical instruction unburdened by lengthy descriptions or detail of special cases. Rare forms have been omitted, while both sides of controverted questions are clearly and at times pointedly stated. The author credits Allan Jamieson with much that he has "unconsciously absorbed" from his teachings, while claiming for his own the "new-fangled" ideas which appear in the book. The influence of the German school is apparent throughout, and Unna is largely quoted, as are most of the English dermatologists, while American authors, with the exception of Duhring, are

almost ignored—and, indeed, the latter receives less credit for his dermatitis herpetiformis than might have been expected. Histological changes form the base upon which the scheme of classification is constructed. The most logical classification is thought to be that followed by Unna, and this, somewhat modified, has been adopted, beginning with anomalies of sensation and terminating with those of pigmentation. The arrangement of certain affections in the classes in which we here find them is open to criticism in several instances. Under infectious inflammations—by far the largest class—we find seborrhœa included as well as eczema, which on page 77 the author characterizes as the "rubbish heap," and further along as "inflammation of the skin, of the cause or nature of which the observer is ignorant." Undoubtedly many affections have been classed as eczema which are gradually finding their way into more definite groups, but we can scarcely do away with the term until our knowledge has advanced much further. Considering the many good features of the work, and despite the fact that the illustrations fall far behind many recent American productions, Dr. Walker's book may be taken as a trustworthy, safe, and easily followed guide. Since, however, the entire field of dermatology is not covered, larger text-books must be consulted for rarer forms, for more extended accounts, and especially for an adequate knowledge of syphilitic affections and their treatment. A peculiar oversight in the index on page 245 makes McCall Anderson's name appear as Anderson McCall.

PRACTICE OF MEDICINE. By JAMES M. ANDREWS, Ph.D., LL.D., Professor of the Practice of Medicine and of Clinical Medicine in the Medico-Chirurgical College, Philadelphia, etc. Third edition, revised. Philadelphia: W. B. Saunders. 1899.

THIS illustrated text-book of almost thirteen hundred pages has been revised in part, especially the chapter on infectious diseases, while portions have been rewritten and amplified. A few new illustrations have been added. The general scope and arrangement remain the same as for the last edition. That the work has been favorably received is shown by this third edition being required in less than a year from the second. In its new form it deserves a continuation of popularity.

## Progress of Medical Science.

**On Tremors.**—Levy Dorn gives as a result of a series of comparative studies on cases of tremor of diseased conditions and mimicry tremors the following general physiological conclusions: The cerebral ganglia are able to give rise to just as many simultaneous impulses as can the subordinate centres. Thus should the assumption be made that the cortex is involved in the process giving rise to the tremor, the physiological facts derived from the study of mimicry tremors would substantiate it. That is, voluntary tremor can be made to correspond in rhythm and number with the known tremors of disease.—*Virchow's Archiv*, 155, p. 591, 1899.

**Hemorrhagic Nephritis and General Infection.**—Peter Holst (*Deutsche Medizinal-Zeitung*, November 13th) reports three cases of acute hemorrhagic nephritis which were manifestations of a more or less latent generalized infection. In one case there existed a generalized streptococcus infection (blood, liver, kidneys, spleen) which for eight months presented itself as a hemorrhagic nephritis, and which ran an afebrile course until the last few weeks of life. The second case, which was also an afebrile one, presented in addition to the hemorrhagic nephritis a fresh endocarditis (staphylococcus infection). The third case occurred in a patient suffering from disturbed compensation, from whose urine a pure culture of staphylococcus albus was cultivated. He concludes by saying that (1) hemorrhagic nephritis is often a manifestation of a blood infection, a latent pyæmia or septicopyæmia; (2) the transient hemorrhagic exacerbations during the course of a chronic nephritis are also perhaps traceable to a temporary infection of the blood.

**Post-Scarlatinal Nervous Affections.**—Moureyre (*Berliner klinische Wochenschrift*, November 6th) is credited with saying that the following nervous diseases may occur after scarlet fever: (1) Neuralgia or neuritis of the lower extremities and post-scarlatinal tabes; (2) encephalitis and myelitis, as well as laryngeal stenosis due to nervous paralysis; (3) neuroses, such as hysteria and chorea; (4) psychoses.

**The Bacteriology of Impetigo.**—In the conclusions of Marié Davy's contribution to the study of the bacteriology of impetigo we find that the micro-organism of the affection is a streptococcus having short chains; that this streptococcus is the only agent of infection, and that there is no microbic association; that staphylococci are encountered in impetigo only as accidental inactive elements, or as the result of lesions accidentally engrafted upon the original process but quite distinct. The author does not seem to have determined whether this streptococcus is specific to impetigo.—*Annales de Dermat. et de Syph.*, October.

**Gastro-Intestinal Acquired Syphilis.**—In opposition to the views upheld by Neumann and Dieulafoy that acquired syphilis of the gastro-intestinal tract does not occur, Fraenkel reports such a case in which an autopsy was obtained (*Virchow's Archiv*, 155, p. 567, 1899). The clinical history was one of gastro-intestinal inflammation, and death resulted from perforative peritonitis. At the post-mortem examination there were found a great number of large and small ulcers scattered over the walls of the stomach, which showed the characteristics of syphilitic ulcers. There were, moreover, other ulcers of the small intestine, chiefly at its upper portion, numbering between thirty and forty. Some of these were circinate and others extended in patches almost around the entire circumference of the intestinal wall. Microscopical examination of the ulcers confirmed the macroscopic diagnosis. Thus their syphilitic nature could admit of no doubt. Small miliary gummata were also found in the arterial system, and there was in addition a gumma of the spleen which measured at least three inches in diameter.

**Urine in Disease.**—Dr. Formad (*Maryland Medical Journal*, September) concludes: 1. Sediment in the urine has no significance unless deposited within twenty-four hours. 2. Albumin in the urine does not indicate kidney disease unless accompanied by tube casts. The most fatal form of Bright's disease—contracted kidney—has little or no albumin. 3. Every white crystal in urine, regardless of shape, is a phosphate, except the oxalate of lime crystal, which has its own peculiar form; urine, alkaline. 4. Every yellow crystal is uric acid if the urine is acid, or a urate if the urine is alkaline. 5. Mucous casts, pus, and epithelium signify disease of the bladder (cystitis) or other parts of the urinary tract, as determined by variety of epithelium. 6. The urine from females can often be differentiated from the urine of males by finding in it the tessellated epithelium of the vagina. 7. Hyaline casts (narrow), blood and epithelial casts signify acute catarrhal nephritis. There is much albumin in this condition. 8. Broad hyaline casts and epithelial dark-green granules and oil casts signify chronic catarrhal nephritis. At first, albumin is present; later, less. 9. Hyaline and pale granular casts, and little or no albumin, signify interstitial nephritis. 10. Broad casts are worse than narrow casts, for the former signify a chronic disease. 11. The urine should be fresh for microscopical examination, as the micrococci will change hyaline casts into granular casts or

devour them entirely in a short time. 12. Uric acid may, in Trommer's test for sugar, form a peroxide of copper, this often misleading the examiner into the belief that he has discovered sugar. Thus, when urine shows only sugar, other methods of examination must be used, preferably the lead test. 13. The microscope gives us better ideas of the exact condition of affairs in examination of urine than the various chemical tests.

**The Uterus of Infants.**—As a result of careful and minute research, von Mandach, of Bern, contributes (*Virchow's Archiv*, 156, p. 94, 1899) some interesting facts with reference to the persistence of the Wolffian tracts in infants. The investigations were followed out by means of serial sections on eighty uteri in infants and children up to the age of sixteen years. He finds that the Wolffian tract persists in a far greater proportion of cases than has heretofore been taught. The tracts consisted of single ducts with cylindrical epithelium, well-marked lumen, and a muscular wall of three layers (inner and outer longitudinal and middle circular). This was the case in thirty-two of the specimens, while in sixteen others the muscular bands were solid semilunar masses. The right side seems to be favored more than the left, as the involution is more advanced on the latter. The tract sinks into the wall of the uterus about midway between the os internum and fundus, having passed by spiral turns from the broad ligament to the body of the uterus. Thence it passes laterally until it reaches the lower end of the cervix near the cervical canal; from this point it again passes to the side, bending horizontally in the vaginal wall beneath the mucous membrane. With reference to the development of the uterine mucosa in infants, the author shows that the mucous glands are very sparse in the body of the viscus, whereas the cervical glands are well developed.

**Headache and Eye Affections.**—Dr. S. D. Risley (*Journal of the American Medical Association*, September 23d) draws the following conclusions: (1) Abnormalities of the ocular apparatus are in a large group of patients the sole and sufficient cause of headache. (2) Abnormalities of vision may be the unsuspected cause, and therefore the absence of symptoms obviously referable to the eyes does not exclude them as an etiological factor in headache, insomnia, vertigo, petit chorea in children, and certain stomach derangements. (3) The recent or sudden development of symptoms, after attacks of severe illness, as typhoid fever, the exanthemata, etc., or in association with more or less acute exacerbations of some general dyscrasia, is not sufficient evidence against ocular participation in causing the symptoms. (4) The participation of the eyes as an etiological factor in headache can be positively excluded only in the absence of ocular disease or after the most painstaking correction of any existing error of refraction or abnormality of binocular balance. (5) For the relief of reflex symptoms accurate corrections are essential, and these can be secured only by the more or less prolonged use of a strong cycloplegic. (6) Immediate relief by these corrections in a large group of patients is not to be expected, since the pain is frequently due to associated pathological conditions of the fundus oculi, and these require time for cure.

**Post-Apoplectic Hemihypertonia.**—Spiller (*Philadelphia Medical Journal*, December 16, 1899, p. 1188) reports a case presenting tonic spasm of one side of the body, associated with a little weakness, without contracture, developing after an apoplectic seizure, and probably due to irritation of the motor fibres at some point below the motor cortex. The patient was a girl, nineteen years old, who, at the age of three months, had repeated convulsions followed by unconsciousness. When the child began to walk, at the age of ten months, deficiency in power on the right side was observed, the movements being spastic, and this condition had increased progressively. The right lower extremity was spastic, the toes of the right foot being usually flexed in tonic spasm of varying intensity. The right hand at rest in the lap was often slightly flexed at the wrist, and the fingers were slightly flexed at all the articulations, and sometimes it retained this position for a long time. Attempted movement in the right upper extremity from the shoulder was effected without difficulty, but the right wrist became strongly flexed and sometimes the hand was drawn around so that its dorsum or its palm was turned away from the body of the patient. Attempts at movement with the left hand were attended with change in the position of the right hand and fingers from flexion to extension. Flexor predominated over extensor spasm. The condition was aggravated by excitement. The right upper extremity was smaller than the left. Similar tonic spasm occurred also in the lower extremity and in the face on the same side. Intelligence, speech, and sensibility were unaffected.

**Lesions of the Lateral Sinus Resulting from Injuries of the Head.**—Gangolphe and Piery (*Revue de Chirurgie*, 1899, No. 9) report a case of injury to the head with laceration of the lateral sinus, together with seven other cases collected from the literature, and as a result of their study conclude that such lesions may be caused by a double mechanism—namely, by laceration under the influence of a splinter of bone or of a foreign body, and by rupture in consequence of separation of the fragments of fractured bones. As a result, hemorrhage takes place and a clot forms between the dura mater and the calvarium. The seat and the extent of the clot are dependent in part upon the adhesions of the dura mater and in part upon its detachment before the hemorrhage. Frequently there coexists with the extravasation a preceding semifluid, currant-jelly intra-arachnoid effusion, covering the surface of the hemisphere opposite to the injured sinus. The symptomatology of lesions of the lateral sinus are most variable; it may at times be that of central compression and at other times that of an attack of apoplexy due to cerebral hemorrhage. Not only is the diagnosis of the sinus injured most often impossible, but often also the presence of an intracranial hemorrhagic effusion from injury of a vessel cannot be recognized, especially when the symptoms of apoplexy as from cerebral hemorrhage are present. In cases of difficult diagnosis, even when only a knowledge of an apoplectic seizure and of previous traumatism is obtainable, steps should be taken as if the existence of hemorrhagic intracranial extravasation of traumatic origin was assured. If a lesion of the lateral sinus is certain or can be presumed, one or two courses should be pursued. If the sinus is exposed, the wound is tamponed after careful removal of splinters or foreign bodies. If the sinus is not exposed, trephining should be undertaken at or near the point of traumatism, independently of the indications afforded by cerebral localization. These indications may even mislead and cause the application of the trephine at a point remote from the seat of hemorrhage. When the lesion is found, the sinus is tamponed with iodoform and gauze.

**Clinical Study of the Functional Activity of the Stomach.**—As a result of a carefully conducted investigation, Pfaundler (*Deutsches Archiv f. klinische Medicin*, B. 65, H. 3, 4) points out that if, after a given time following the ingestion of a test meal of measured amount, the hydrochloric-acid content of the mixed gastric contents be determined, the following

estimations can be made: (*a*) The total amount of gastric juice and the amount secreted during the various digestive periods; (*b*) the duration of the secretion of gastric juice containing hydrochloric acid; (*c*) the hydrochloric-acid content of this secretion; (*d*) the volume of the material emptied by the stomach into the intestine during the different periods of digestion. The information thus acquired furnishes a rational basis for comparing the activity of the healthy and the diseased stomach with regard to their secretory and motor functions. The values for a stomach with normal chemical activity are as follows:

| | Test Dinner. | Test Breakfast. |
|---|---|---|
| Total amount of gastric juice secreted. | 595.5 c.c. | 105.5 c.c. |
| Duration of the secretion, about .. | 4 hours. | 1½ hours |
| Hydrochloric-acid content of the acid gastric juice. | 0.3514 per cent. | |
| Volume evacuated from the stomach into the intestine. | Hourly, approximately evenly, on the average, 281.6 c.c. | Half-hourly, 90.1 55.1-11.4 c.c. |

The healthy stomach secretes in the first half-hour or hour after the ingestion of the meal the greatest amount of gastric juice; during the succeeding period the amount diminishes and, at least approximately, steadily. In the digestion of a test meal consisting of soup, meat, potato, bread, and water, fermentation lactic acid (and possibly other organic acids) appears in the normal stomach, and its relative amount in the mixed contents may reach as much as one per cent. The acid gastric contents normally are gradually neutralized toward the close of gastric digestion by a secretion poured out in the pyloric antrum, perhaps from the pyloric glands. In the presence of hyperacidity (at least in one variety of this functional disturbance) more gastric juice is secreted in a unit of time and the production of this juice lasts longer than under normal conditions. Probably deficient or retarded neutralization of the gastric contents in the last period of digestion takes part in the pathology of this disorder.

**Gonorrhœal Endocarditis.**—Loeb (*Deutsches Archiv fur klinische Medicin*, B. 56, H. 3, 4, p. 411) reports a case of gonorrhœal endocarditis, from a consideration of which and of the cases recorded in the literature he expresses the opinion that in rare instances of gonorrhœa endocarditis develops, either in direct connection with the virulent urethritis or, more commonly, as an associated manifestation of so-called gonorrhœal rheumatism. Apart from isolated cases in which bacteriological examination discloses the presence of steptococci in the deposits upon the valves, and which must be considered as pyæmic, gonorrhœal endocarditis is a true metastasis, dependent upon the activity of the gonococcus. The disease appears in two forms, verrucose and ulcerative. In the former, which is followed by valvular lesion, in some instances also with complete restoration of tissue, the mitral valve is usually involved, while in the ulcerative variety of the valves of the left ventricle, the aortic are almost always attacked and the pulmonary with comparative frequency. Ulcerative gonorrhœal and post-gonorrhœal endocarditis rarely attacks normal valves, but is usually engrafted upon a preceding endocarditis. As with ulcerative endocarditis in general, the gonorrhœal variety also appears to occur more commonly in women than in men.

**Ptosis.**—Ptosis may be acquired from (1) over weight of the lid, due to hypertrophy, accumulated fat, or disease; (2) spasm of the orbicularis; (3) paralysis or paresis due to (*a*) traumatism to the levator palpebrarum or to its motor nerve; (*b*) disease, either central or peripheral, of the muscle or its motor nerve; (*c*) hysteria. Ptosis may be congenital from (1) overweight of the lid; (2) paralysis or paresis due to imperfect muscular development of the levator palpebrarum. Operations for relief of ptosis may be classified as: (1) Removal of a portion or shortening of the skin of the lid. (2) Interference with the action of the orbicularis. (3) Advancement or shortening of the levator palpebrarum. (4) Substitution of the action of the occipito-frontalis for that of the levator palpebrarum: (*a*) by direct union of the tissues of the lid to the tendon of the occipito-frontalis by means of artificial cicatricial tendons, or permanent sutures; (*b*) by direct union of the tissues of the lid to the tendon of the occipito-frontalis. (5) By substitution of the action of the superior rectus for that of the levator palpebrarum.—Dr. Matthias Lanckton Foster (*American Journal of the Medical Sciences*, December).

**The Presence of Bacteria in Butter and Other Milk Products.**—As the result of a series of experimental observations, Weissenfeld (*Berliner klinische Wochenschrift*, November 27, 1899, p. 1052) found tubercle bacilli in three out of thirty-two specimens of butter examined, and various other bacteria (cocci, diplococci, and bacilli) in a number of additional secondary products of and substitutes for milk.

**Typhoid Fever Complicated by Thyroid Suppuration and Orchitis.**—Murray (*Philadelphia Medical Journal*, December 16, 1899, p. 1191) reports the case of a man, twenty-two years old, in which in the second week of an attack of typhoid fever the previously enlarged thyroid gland became painful and subsequently underwent suppuration, pus containing typhoid bacilli being evacuated on incision. In the fifth week of convalescence inflammation of the right testicle was observed, which, however, subsided entirely in the course of ten days, without effusion or other complication.

**Paroxysmal Hæmoglobinuria.**—Mannaberg and Donath (*Deutsches Archiv fur klinische Medicin*, B. 65, H. 3, 4, p. 285) report three cases of paroxysmal hæmoglobinuria in which they found, on agitating the blood and on ligation of one extremity, diminished resistance of the red blood corpuscles as compared with normal blood. The differences, as shown by control observations, were not absolute, but merely quantitative. The attacks could not be aborted by amyl nitrite. The blood cells also exhibited diminished resistance to carbon dioxide, although here also the differences were quantitative. The secretion of a hæmolytic ferment on the part of the vessel wall during the paroxysm of hæmoglobinuria is considered improbable. In two cases examined, hæmoglobinæmia was found in the blood of the periphery.

**Appendicitis.**—Dr. Maurice H. Richardson (*American Journal of the Medical Sciences*, December) makes the following summary of a very interesting and complete article on appendicitis: 1. Should every case be operated upon as soon as the diagnosis is made? As a rule the appendix should be removed if the diagnosis is made in the first hours of the attack. After the early hours operation is advisable: (1) If the symptoms are severe, and especially if they are increasing in severity; (2) if the symptoms, after a marked improvement, recur; (3) if the symptoms, though moderate, do not improve. The wisdom of the operation is questionable: (1) In severe cases in which an extensive peritonitis is successfully localized and the patient is improving; (2) in cases which are at a critical stage, and which cannot successfully undergo the slightest shock. 2. Should the appendix be removed in any case? It should not be removed: (1) In localized abscesses with firm walls; (2) when the patient's strength does not permit prolonged search. It should be removed whenever the peritoneal cavity is open, unless the patient's condition forbids. The appendix should be removed in all cases as soon as the inflam-

matory process has had time to subside completely—in from two to three months after the attack. In cases simply drained, the scar tissue should be excised, the appendix removed, and the wound securely sutured.

**The Relationship of Membranous Rhinitis to Diphtheria.**—Yonge (*Practitioner*, December, 1899, p. 652) reports a case of membranous rhinitis in which diphtheria bacilli could not be found in the nasal secretion, and expresses the opinion that this disease (not including primary nasal diphtheria) is commoner than is usually supposed, cases being overlooked owing to the mild constitutional symptoms, or being regarded as catarrhal rhinitis. The disease may occur in one of two forms, which concur in the local appearances, the prolonged course, and the mildness or absence of constitutional symptoms, but differ in the presence or absence of diphtheria bacilli and in their power of infection. The form associated with diphtheria bacilli is considerably more common than the simple form, and is a mild local manifestation of diphtheria, differing sharply, however, from the usual form of primary nasal diphtheria. Inasmuch as the two forms of membranous rhinitis are indistinguishable clinically, a bacteriological examination should be made in every case, and isolation of the case practised, at least until the result of the examination is learned.

**The Management of Surgical Injuries to the Ureter.**—Dr. Beverly MacMonagle (*American Journal of the Medical Sciences*, December) draws the following conclusions: 1. Surgical injuries to the ureter during extensive operations on the pelvic and abdominal viscera are comparatively frequent, and are found to occur most often during hysterectomies. 2. These injuries can often be prevented by special care both before and during the operation. 3. In uretero-vaginal fistula great care must be taken to have the urine aseptic before undertaking the operation for repair. 4. In uretero-vaginal fistula repair through the vagina should be first tried. Failing in this, immediate repair by anastomosis or implantation into the bladder is to be preferred. 5. When injuries occur during abdominal operations, immediate repair by anastomosis or implantation should be undertaken. If the condition of the patient is low, implantation on the skin should be done with the view of future operation. 6. When anastomosis or implantation cannot be accomplished, implantation in the other ureter or bowel is preferable to implantation on the skin. 7. Tying the end of the ureter, with a view to atrophy of the kidney, is not advisable. 8. Nephrectomy should be practised only as a last resort. 9. The results of the different methods of uretero-anastomosis and bladder implantation have been about equally successful.

**The Prevention of Shock in Surgical Operations.**—Moynihan (*British Medical Journal*, November 5, 1899, p. 1471) describes briefly as follows the measures that he would recommend for the prevention of shock: The operating-theatre, if in a hospital, should have a temperature of from 70° to 75° F., and the patient should be placed on a table warmed by a current of sterile hot water. As an additional, though not an invariable, adjunct to these means for retaining heat the upper and lower limbs of the patient may be bound in hot cotton-wool and flannel bandages. Strychnine is administered hypodermically before the anæsthetic or the operation commences, the dose being modified according to circumstances. A dose of ♏x. of the solution of strychnine (gr. $\frac{1}{15}$) is usually given at first, and during the operation ♏v. may be given when required; as much as ♏xxx. (gr. $\frac{1}{4}$) may be given without harm. Ten, fifteen, or twenty ounces of hot saline solution are introduced into the rectum, with or without a small quantity of brandy. As soon as the patient is under the influence of the anæsthetic the infusion of saline solution, to the extent of from one to four pints, may be begun. If, after the operation, the patient is at all collapsed, it is important to postpone removal to the wards.

**The Hæmostatic Value of Gelatin.**—Nichols (*Medical News*, December 2, 1899, p. 705) reports a case of hæmophilia in which profuse and long-continued hemorrhage from an accidental wound ceased immediately upon local application of sterile liquefied ten-per-cent. gelatin. As a result of his experience, together with that recorded in the literature, he expresses the opinion that while it is perhaps too early to make a final estimate of the value of gelatin as a hæmostatic, if such successful and remarkable results can be constantly obtained as have been noted by a number of observers, it is certain that the agent will prove of great value in the treatment of some serious and otherwise intractable conditions. The material should not be looked upon as specific in any class of cases, nor should it supersede ordinary methods of hæmostasis. In cases that resist other methods of treatment—and such cases are usually serious and even desperate—the use of gelatin offers some, if only a forlorn, hope of success. If but a portion of cases of hæmophilia which is such an appalling and disastrous complication, or of inoperable aneurisms the treatment of which has heretofore been at best uncertain, yield to this agent, any proportion of lives thus saved, however small, will be ample justification for the use of gelatin.

**The Prevention of Tuberculosis.**—Tonta (*Berliner klinische Wochenschrift*, November 27, 1899, p. 1057) formulates the following rules for the prevention of tuberculosis: 1. Periodic disinfection of all places largely frequented by the public, such as the various forms of conveyance, or apartments in which many persons congregate, as, for instance, schools, halls, churches, baths, cafés, restaurants, institutes, orphan asylums, hotels, barracks, libraries, reading-rooms, convents, waiting-rooms, hospitals, dispensaries, stores, carriages, cars. 2. Forbidding expectoration in all of the places mentioned, and providing cuspidors containing disinfectants. 3. The provision of special places for children to play, to be strewn with gravel, in order to prevent the children from playing in places to which tuberculous patients may gain access and disseminate tubercle bacilli. 4. Whitewashing and disinfecting rooms and dwellings in which tuberculous patients had lived or died. 5. Annual examinations of all persons attending schools and academies, or engaged in offices, institutes, or factories. Such examination should be made in the hospitals by local physicians, and those found tuberculous should be referred to a sanatorium or hospital, and official notice should be given of such cases. 6. The establishment of public institutions for treatment, with the co-operation of private support, beneficial societies, life-insurance societies, etc. 7. Hygienic instruction of tuberculous patients in hospitals and sanatoria in order to avoid infection not only of themselves, but also those with whom they come in contact. 8. Isolation of cases of pulmonary disease in the military and general hospitals, and, if possible, the erection of separate pavilions susceptible of especial care and of disinfection. 9. Preventing persons with pulmonary disease from bathing with healthy individuals, and the establishment of special bathhouses for cases of pulmonary disease under medical supervision. 10. Removal of cases of pulmonary disease from the schools and their transfer to colony farms, where attention to rational treatment and instruction may be given. 11. The formation of a proper committee to send the chil-

dren of poor persons suffering from or dead of tuberculosis into the country, and thus removing them from houses that have become foci of infection. The children in rich families should likewise be removed from their accustomed sphere of activity for some time. 12. Improvement in the hygienic and nutritive conditions of the poorer classes by the establishment of public kitchens, asylums for the homeless, public baths, etc. 13. Improvement of the nutrition and the hygiene of members of poor families in which pulmonary tuberculosis exists. The linen of the patients should be thoroughly disinfected before they are mixed with other linen. 14. Efforts should be made to prevent the marriage of unduly youthful persons whose appearance indicates the possibility of tuberculosis. Persons whose sputum contains tubercle bacilli should be absolutely forbidden marriage. 15. Obligatory periodic examination of domestic animals that are attacked by tuberculosis, and are capable of conveying the disease to other animals or to human beings; otherwise removal or destruction of the diseased animals. 16. Monthly examination of the stables: hygiene of the kitchen, of milking, and of milking-utensils; the greatest care in the dairies. 17. Increase in the number of inspections and supervision of the markets and slaughter-houses. Establishment of examination stations at boundary lines for imported animals. 18. Rigid regulations with regard to manufactured products. 19. Instruction in hygiene in all public schools. 20. Each school-child should possess its own drinking-cup, as well as a towel, and kissing among the children should be interdicted. 21. Instructions to second-hand dealers in books, clothing, and other articles, to practise thorough disinfection. This should also be applied periodically to books in libraries, as well as to articles for common use in schools or elsewhere.

**Traumatic Paralyses of the Shoulder and the Arm.**—As the result of a clinical investigation, Mally (*Revue de Chirurgie*, 1899, No. 10, p. 436) concludes that among the post-traumatic paralyses of the upper extremity, a certain number only appear due to neuritis from extraneous influences. Quite as important a group are of reflex origin. Among nerve-root paralyses a certain number develop, like myelitis, from the effects of traction upon the nerve-roots, and clinical experience would seem to show that certain traumatisms may directly injure the spinal cord and cause paralyses of myelopathic character, and these it is proposed to designate traumatic myelopathics.

**Tumor of the Pituitary Body.**—Walton, Cheney, and Mallory (*Boston Medical and Surgical Journal*, December 7, 1899, p. 565) report the case of a man, twenty-five years old, who presented peculiarities of growth suggestive of congenital defect of the pituitary gland, in which attacks of migraine accompanied by hemianopsia had existed for so long as at first to exclude an organic basis. Later, there was persistent deficiency of vision involving primarily the temporal field of one eye only; subsequently extending to the nasal field of the other eye, and giving rise to homonymous hemianopsia. Still later there was loss of color field on the otherwise unaffected side of one eye (hemiachromatopsia). During the progress of the case there was loss of sexual power, impairment of vision, and optic atrophy, the ocular symptoms with the persistent headache first establishing the diagnosis of tumor. Toward the end appeared vaso-motor symptoms, somnolence, physical weakness and apathy, and lack of mental grasp From a study of this case and of others recorded in the literature, the conclusion is reached that congenital peculiarities in growth resembling those of acromegaly, but occurring in otherwise healthy individuals, may point to structural defect of the pituitary gland, a defect sometimes furnishing the starting-point for new growth later in life. The occurrence of pituitary tumor without definite symptoms of acromegaly does not necessarily disprove a connection between this organ and this disease, for the persistence of even a small amount of healthy gland tissue is sufficient fairly to carry on the function of the pituitary body. The combination of general symptoms of new growth with optic atrophy and loss of the temporal field of vision makes the diagnosis of pituitary tumor almost certain. Hemiachromatopsia is not necessarily of central origin.

**For the Removal of Foreign Bodies from the Nose and Ear.**—Sturrock (*British Medical Journal*, November 25, 1899, p. 1473) recommends the following mode of procedure: The presence and approximate situation of the foreign body having been ascertained, a piece of india-rubber tubing, rather less in diameter than an ordinary lead-pencil, varying in length from one to three inches, and attached to the nozzle of a brass syringe, is introduced into the nostril or meatus, as the case may be, and brought into contact with the foreign body. The piston of the syringe is then pulled out for a sufficient distance to create a vacuum in the tubing, and thus to draw the foreign body into or against its free end. The syringe is then withdrawn, and with it the foreign body attached to the tubing. In some cases it has been found advantageous to dip the tubing into glycerin before insertion, in order to diminish the chances of air entering between the tubing and the foreign body.

**Suppuration of Hydatid of the Liver with Rupture into a Bronchial Tube. Drainage and Removal of the Cyst Wall through an Incision into the Lung.**—Jones (*Lancet*, November 25, 1899, p. 1435) has reported the case of a girl, eight years old, who presented a smooth, elastic, rounded tumor in the right epigastric region, partly under cover of the lower sternal ribs, and extending downward to within three and a half inches of the umbilicus. Above, the tumor was found to be continuous with the liver. There were no pain or tenderness over the swelling, no hydatid vibration, no jaundice, no ascites, and no albuminuria. The spleen was not enlarged, the heart-sounds were normal, and the apex-beat was in its usual situation. There was no pyrexia. The child's general health was reported to be good, but she complained of shortness of breath, and of feeling tight across the stomach, especially after meals. The swelling had been noticed for nearly two years, but it had not perceptibly increased in size during six months, since the removal of some of the fluid contents. Operation was declined, and after two months dry cough developed. The dyspnœa became more marked, the tumor painful and tender, and the temperature constantly raised, but there were no definite rigors. After an additional short time the patient was seized with acute pain in the right infra mammary region, accompanied by vomiting. On examination, the upper margin of liver dulness, which had hitherto been at the upper border of the fifth rib, could not be defined, the dulness being found to extend above the nipple to the extent of one and a half inches. There were well-marked signs of consolidation of the lung in front, and a pleuritic rub over the infra-mammary region of the affected side. In the course of a few more days the patient had a severe rigor with marked elevation of temperature, and followed by profuse perspiration. Vomiting persisted, and apparently was independent of the ingestion of food. The cough was worse, and small quantities of rusty sputum were expectorated. Rigors were repeated, and diarrhœa set in. The cough became persistent and painful, but the vomiting was much less Jaun-

dice of the conjunctivæ appeared, and enlarged veins became visible over the front of the lower part of the right chest. Immediately below and internal to the right nipple some œdema of the skin appeared, which gradually extended over the whole of the front of the right chest. Loud moist sounds could be heard over the lower part of the front of the right chest. The tumor was still painful and tense. The child was seized with choking and became collapsed, following a prolonged attack of cough, with the expectoration of about an ounce of sputum of the color of prune-juice, and of most offensive odor. A repetition of the paroxysm of cough was attended with the expectoration of a few drachms of fetid sputum. The cough closely resembled that of whooping-cough, but without the terminal whoop; it persisted for fully a minute longer, ceasing only when the child fainted. The tumor was now found to be much less tense than it had been, and there were no signs indicating adhesion of the swelling to the abdominal parietes. The œdema of the skin covering the chest was looked upon as indicating that the abscess had ruptured into the lung at no great depth from the surface, or else that it had burst primarily into the pleural cavity, and secondarily into the lung. It was, therefore, decided to make an incision at the spot where the œdema first appeared. Without the use of an anæsthetic, and after aseptic preparation, a slightly crescentic incision, one and a half inches long, was made through the whole thickness of the skin. The intercostal muscles were detached from the upper margin of the fifth rib for a similar extent, and a sinus forceps was thrust through the pleura into the lung tissue for a distance of an inch from the external surface of the rib. On opening the blades some fetid pus escaped. Leaving the forceps *in situ*, a scalpel was introduced between the blades, and the pleura and lung tissue were divided horizontally to the extent of the skin incision. This was followed by a slight gush of blood and several ounces of fetid pus. The fourth finger inserted into the wound was found to enter a cavity about the size of a walnut, and from the interior part of which a track descended directly downward. A half-inch drainage tube was inserted, and a gauze-and-wool dressing applied. In two hours the dressings were sodden with the discharge, and on removing them the drainage tube was found to have been expelled. The patient had not expectorated any pus since the incision was made. The drainage tube was reinserted, but before a fresh dressing could be applied a paroxysm of coughing set in, which shortly expelled the tube. The flap of skin was then seen to be sucked in with each inspiration, thus effectually excluding the air, yet permitting a free expulsion of pus. The drainage tube was discarded, and only an external dressing applied. The paroxysms of cough, though now unattended with expectoration, and of less frequent occurrence, were not changed in character. Consequently, some hours later, the patient having rallied somewhat, the wound was dilated and swabbed dry, and a reflected light thrown in. Nothing distinctive could be made out until a paroxysm of coughing caused a gush of discharge. After swabbing out the pus a pearly white substance could be seen at the bottom of the wound. This was not visible when the paroxysm ceased. Considering this substance to be part of the cyst wall, it was decided to wait, and during the next paroxysm seize the cyst wall in the blades of a forceps. This was done, and slight traction exerted. As more of the cyst wall became visible a second pair of forceps was applied behind the first. As traction made during the interparoxysmal periods caused tearing of the cyst wall, it was applied only during the paroxysm. The points of fixation of the forceps were alternately changed as more and more of the cyst wall appeared at the bottom of the wound. After fifteen minutes the whole of the cyst wall was extracted almost intact, four ounces of the fetid pus being discharged, and to the weight of which was attributed the proneness of the cyst wall to tear, for on further examination of the latter its friability was not nearly so great as was at first suspected. In volume the size of the cyst wall was rather larger than a Jaffa orange. A little iodoform emulsion was syringed into the cavity, and a gauze-and-wool dressing applied externally. The character of the cough changed entirely after the extraction of the cyst wall, the pertussis-like paroxysms disappearing. Within a week the discharge had practically disappeared, and in a month the wound had granulated up soundly from the bottom. Slight cough and slight evening rise of temperature persisted for more than two months. When seen nearly four years later, the patient appeared perfectly healthy and free from cough. Slight bulging of the ribs and cartilages still persisted. On auscultation the only adventitious sound heard in the chest was a dry rub in the immediate vicinity of the scar.

**Sequelæ of Ovariotomy.**—Dr. Martin ("Klinische Vorträge," No. 255) gives some of his observations on the sequelæ of ovariotomy, paying special attention to hernia. It is well known that stretchings and irregularities of the abdominal scar develop after all kinds of incision. Probably abdominal scars are the most prone of all to undergo distortion. Often a stitch aperture is the origin of a hernia. This gradually increases till a large rupture is developed with all its well-known characteristics. These are especially serious after extraperitoneal treatment of the stump, abscess formation, and abdominal drainage. Many attempts to avoid such untoward sequelæ have been made. From the major incision of the old surgeons, a change was made to an opening as small as possible. Some operators, Lawson Tait especially, made the incision so small that only two fingers could be inserted. But the resulting scars also stretched. Then the linea alba was thought unsuitable for incision, and so this was made in the rectus muscle itself, either in its outer border or in the flank. The skin was cut crosswise, the fascia and muscles were divided lengthwise. Finally abdominal binders were thought to give a perfect support to the scar, and numerous varieties were tried, but they did not yield the desired results. It was early observed that the scars following suppurating wounds as well as those after extraperitoneal treatment of the stump and drainage, were especially disposed to stretch. The first progressive step was taken in the introduction of asepsis. Next, instead of suturing the abdominal layers *en masse*, the separate layers were stitched together one by one. Martin makes his incision exclusively in the linea alba. It is noticeable that most hernias resulting from scars do not cause much trouble, at least if a suitable binder is worn, though there are the same discomforts as in other ruptures—namely, pain on pressure, nausea, a feeling of weight, nervous symptoms, etc. Generally, the patient's capacity for work is interfered with. An effective treatment of beginning hernia is not known. Martin has used bands of adhesive plaster to avoid the stretching of the stitch punctures. Many surgeons employ abdominal binders; others make use of a suitable corset with an elastic lower border. In the worst cases, of course, operative treatment may be advised. For small tumors and inflammatory ovarian swellings of favorable position, the vaginal incision is always feasible. But the number of cases amenable to this treatment is quite limited. Martin speaks also of the treatment of the troublesome general symptoms which often follow ovariotomy. This has been varied. Fresh preparations of ovarian substance have been tried;

experiments have also been made on animals of transplanting ovarian tissue. Decidedly varied results have been obtained. Martin himself, in some of his cases, has made use of tablets of ovarian substance with differing results. He cannot, from his own experience, promise a brilliant outcome for this treatment. He gives certain dietetic directions to all his ovariotomy patients, advising a carefully regulated life, and avoidance of heating drinks such as alcohol, coffee, and tea; and he also recommends energetic exercise and faithful attention to the bowels and kidneys. He closes his monograph by expressing the hope that in the future some internal medicinal treatment may be discovered to benefit those now operated on for removal of the ovaries.

**The Geographical Tongue in Childhood.**—Dr. Henry Böhm ("Klinische Vorträge," No. 249), after giving a short history of the geographical tongue in childhood, sums up certain conclusions he has reached in his study of this subject. He states that, so far as he knows, the comparison of a certain affection of the tongue with the contours of a map was first made by Santlus. Moeller had observed prior to that six cases of chronic excoriation of the tongue, in five of which the patients were afflicted with tænia or bothriocephalus. The affection was, however, exceedingly painful, while the geographical tongue is described as almost invariably painless. For this reason "Moeller's glossitis" has been given a special place in the text-books on this subject. On the other hand, it would seem that the five cases observed by Betz would have to be classed among those of geographical tongue. He proposes the designation of pityriasis of the tongue for the affection observed by him. In looking over the literature of the subject we find interesting contributions by Bergeron, Gubler, who conjectures concerning a parasitic origin of the disease; Gautier, Caspery, Unna, and others. On the basis of the observations and investigations made by the author of the paper, he arrives at the following conclusions: The so-called geographical tongue is a rather common affection in childhood, occurring most frequently in children under two years of age. The anatomical basis of the disease is as yet unknown. It is observed in the majority of cases soon after birth, in a small proportion within the first year, and rarely in later childhood. The duration of the affection extends over years, although a temporary disappearance of the same for a longer or shorter period has frequently been noticed. In about two-thirds of the cases observed by the author, he found suspicious symptoms pointing to tuberculosis, at times with and at times without hereditary taint. The question whether on this account the disease can be brought into closer relation with scrofula or tuberculosis, although plausible, cannot be definitely decided as yet. The chronic course of the trouble and its gradual disappearance in later childhood furnish an analogy with the long-continued and often recurrent catarrhs seen in other mucous membranes in cases of scrofula or tuberculosis. The fact that only two-thirds of the cases observed by Böhm showed symptoms of scrofula or tuberculosis does not, he thinks, necessarily argue against the assumption of a relation between the process and the constitutional disease, nor do the five fatal cases, of which only one had tuberculosis, prove anything against this assumption.

**Retroversion of the Uterus and Chronic Inflammation of its Appendages in Consequence of Bodily Strain.**—Camillo Fürst ("Klinische Vorträge," No. 253) discusses the effects of bodily strain on the uterus and its appendages. His observations show that considerable transient, as well as long-continued and moderately increased, intra-abdominal pressure is a prominent factor in the development of this condition. On the other hand, there is no doubt that previous pregnancies furnish the chief predisposition. It is well known to every gynæcologist that retroversion of the uterus in the virgin is by no means a rare occurrence among the better classes, a fact which must be attributed to the long-continued sitting posture in a tightly laced condition that young girls assume during school hours. If such women adopt the bicycle as a means of recreation, they will find its effects invariably baneful. The author considers that swimming is the exercise most apt to counteract these injurious effects. Furthermore, Fürst has found that there is a certain immunity against retroversion in women with occupations in which the intra-abdominal pressure is lessened for continuous periods, as, for example, in floor-scrubbing. He has also noted that women in the lower walks of life, who are obliged to do their own housework, and who, while their work may be quite heavy at times, are forced to change their posture continually, are no more frequently subject to retroversion, despite all their hardships, than their better-situated sisters. For these reasons the author has for many years made use of the knee-elbow position for suitable cases of this description. Particularly well adapted for this treatment are those cases in which manual reposition is impossible without narcosis, at least in the beginning, on account of extreme hyperæmia and sensitiveness of the uterus, or on account of extreme softness of the organ. With reference to inflammation of the uterine appendages, the author shows by his statistics that the cause for this condition is to be found principally in great bodily exertions, such as lifting heavy burdens or sustaining concussions. A remarkable point shown by his statistics is that parametritis occurs more than twice as often on the left than on the right side. Such left-sidedness seems, in fact, to be characteristic of parametritis. He thinks it quite possible that this is due to the more frequent use of the right upper extremities in the execution of heavy work, since thereby the lower part of the trunk assumes such a position as to force downward the left parametrium farther than the right because of the increased intra-abdominal pressure. His experience has shown that in instances when both arms were equally employed, the disease occurred with almost equal frequency on the right and left sides.

**The Pathology of Paralysis Agitans.**—Dana (*American Journal of the Medical Sciences*, November, 1899, p. 503) reports a fatal case of paralysis agitans, with autopsy and a careful histological examination of the nervous system, disclosing the following anatomical changes: There was some general atrophy of the cord, with moderate increase in the connective tissue, and some dilatation of the perivascular lymph spaces. There was no special thickening of the blood-vessels, either veins or arteries, and no meningeal thickening. The anterior cornual cells exhibited pronounced changes, consisting in atrophy, pigmentation, and vacuolization, loss of dendrites, and diminution in the richness of the plexus formed by the dendritic processes, the alterations being most marked in the upper cervical and lower dorsal regions. Clarke's columns were not markedly affected, while the cerebral cortex exhibited slight degeneration of its cells, and the olivary nerve-cells also were degenerated. The peripheral nerves were normal, while the muscles and end-plates exhibited some fatty degeneration. Of the two views prevailing—namely, that paralysis agitans represents merely a premature condition of senility, and that the changes are the same as those found in extreme old age, the difference being a matter of degree and

not of kind, on the one hand; and that the nervous system presents changes that differ from those of senility, although these have not yet been thoroughly worked out, on the other hand—Dana is inclined to accept the latter. In his opinion the history of the disease indicates that it is primarily a parenchymatous nervous disorder, due perhaps to the remote or secondary results of some infection or intoxication. Rheumatism is common in the history of cases of paralysis agitans, and there are many facts in the clinical course of the disease that suggest a relationship between paralysis agitans and that form of rheumatic manifestation which is known as rheumatoid arthritis.

**A Contribution to the Study of Epidemic Diarrhœa.**—Dr. Arthur Newsholme (London *Lancet*, December 2d) summarizes an article on this subject from the evidences adduced as follows: (1) It is clear that towns with a high temperature and a deficient rainfall, especially in the third quarter of the year, suffer severely from diarrhœa. This relationship is so close that the towns may be classified meteorologically in the order in which they ought to stand in reference to diarrhœa, and their true relative position as to domestic and municipal sanitation may be ascertained when we know whether they occupy a better or worse position on the lists of towns than that which their meteorological place would indicate as rightly belonging to them. (2) It is clear that among populations living on impervious and rocky soils diarrhœa is not so prevalent, probably because polluting fecal and other organic impurities do not cling to, or soak into, such soils. (3) Diarrhœa is most prevalent where the removal of ditch and house refuse is the least satisfactory. The exceptionally good position of certain towns in which pail-closets are largely used must be regarded as due to the favorable climatic and physiographic position of these towns, probably aided by efficient municipal scavenging; and it is most certain that their position might be still further improved by the general adoption of the water-closet system. The fundamental condition favoring epidemic diarrhœa is an unclean soil, the particular poison from which affects the air and is swallowed, more commonly with food, especially milk. In other words epidemic diarrhœa is, like typhoid fever, a "filth disease." There are, however, certain points of contrast between the two diseases. In the annual summary of the registrar-general for 1898 is a table giving the average death rates for diarrhœa and enteric fever, 1888–1897. The clew to the difference of incidence of the two diseases will, I think—apart from the fact that enteric fever is a disease principally seen in adults, who are in the habit of taking infected foods not eaten by infants—be found in the view that the causation of diarrhœa is closely associated with surface pollution of the soil, that of enteric fever with less superficial pollution of the subsoil from cesspools and leaky drains, as well as from privy-middens. It will be noted that I have hitherto refrained from discussing the influence of artificial feeding with cow's milk in the causation of diarrhœa. Milk is, however, not the actual cause of diarrhœa. It is a vehicle of infection, just as mosquitoes are the vehicles in malaria, or rats in plague. Our ultimate researches ought to be directed toward elimination—if it be practical—of the actual conditions under which the contagia of these diseases are able to live.

**The Prognosis of Appendicitis, with Notes of Two Hundred Cases.**—Dr. H. A. Caley, at the meeting of the Medical Society of London (London *Lancet*, December 2d), stated that there were two factors to be considered in regard to the pathological basis of prognosis: (1) The nature and course of the appendix lesion regarded from the point of view of relative infectivity; and (2) the extent and nature of any resulting peritoneal infection which depends for the most part upon the actual lesion in the appendix, and in part also on its position and on certain special modifying conditions. Of these two, the most important direct prognostic factor was the peritoneal one. Two hundred consecutive cases treated in the medical and surgical wards of the St. Mary's Hospital were adduced to illustrate this. Of these, ninety-nine were cases of simple appendicitis and perityphilitis—*i.e.*, cases in which the peritonitis was localized and non-suppurative; all ended in recovery. Thirty-one were cases with localized suppuration, and of these twenty-nine patients recovered and two died. Twenty-three were complicated by general peritonitis, of which three patients recovered and twenty died (many of these were in a practically hopeless condition when admitted). Forty-two were examples of chronic and relapsing appendicitis (in thirty-seven the appendix was removed), and all these resulted in recovery. In the remaining five cases there were special complications, such as intestinal obstruction, hepatic abscess, and pulmonary œdema; and of these two patients recovered and three died. These figures illustrate the great fatality of appendicitis when general peritonitis is present, and the small mortality in the presence of localized abscess if efficiently treated, and the most uniformly favorable course of mild cases of the disease. The prognostic indications were based on the same features as the diagnostic indications. These might, for convenience of description, be arranged in four groups: (1) Local symptoms, with special reference to pain and vomiting. The severity, distribution, and duration of the pain varied greatly; as a rule, however, in mild cases the pain tended to become localized, whereas in perforative cases it was usually sudden and severe and more generalized. Persistent severe pain was suggestive of a severe lesion, and a sudden increase of pain was an unfavorable turn. Vomiting as a single symptom was more significant than pain. In the majority of cases which did well, vomiting was present only in the initial stage; it tended to subside when the patient was kept in bed and carefully dieted. (2) General symptoms with special reference to the temperature, pulse, respiration, and general condition. The temperature, pulse, and respiration must be considered conjointly, not separately, and the aspect of the patient be carefully noted. The temperature chart by itself is apt to be a fallacious guide, for there might be a subnormal temperature with initial collapse and perforation, or with general suppurative peritonitis. If, however, the type as well as the height of the fever was taken into account and considered in conjunction with the pulse and respiration, it was of prognostic import. A high pulse suggested a severe lesion. In the majority of the less severe cases included in this series the pulse rate was between 80 and 100; in every one in which it was persistently above 120 the attack was severe, and in most cases there was a localized suppuration or a general peritonitis. The importance of a pinched and anxious aspect and restlessness, obvious distress, or collapse was well known. (3) Local signs on physical examination. The degree of impaired mobility of the abdominal wall, the presence of abdominal distention, the distribution of localized tenderness and muscular rigidity were of value in assuming the extent of peritoneal implication. (4) The progress of the case. That was of special importance during the first twenty-four hours in acute cases. In the course of a few hours developments might occur which might have a determining influence in the prognosis and treatment. The prognosis as to recurrences had been given by various authorities in the proportion varying

from thirty per cent. to forty-seven per cent. In general terms recurrences may be expected in about one-third of the cases. The second attack usually occurs within two years, more commonly within one year, of the first attack. The liability to recurrences in a particular case amounts to a practical certainty if there are persistent pain, tenderness, or local thickening—symptoms which are indicative of chronic appendicitis.

**The Early Diagnosis of Aneurism of the Arch.**—I now wish to put on record a method of examination with which I have been experimenting for about three years. Remembering the close proximity of the aorta and œsophagus, and that the latter is exceedingly elastic and compressible, it occurred to me that a large bougie, with the lower end made very distensible, could be passed down opposite the site of the suspected aneurism, and the impulse be conveyed to the elastic end of the tube, and measured. The procedure is a very simple one. The ordinary œsophageal bougie can be covered at the end with gold-beater's skin, and, after a little spraying of the pharynx with a weak cocaine solution, it can easily be passed without danger and violence to the thoracic region. The tube is often distended with water, and connected with a V-shaped tube, which is also filled with water. A few drops of coloring matter will add to the demonstration of the experiment. If the tube is passed down near the cardiac orifice, the heart impulse is sufficient to produce some vibration in the tube, especially if there is hypertrophy; but if the tube is placed approximately opposite the aortic arch, very little impulse is noted in the normal case.—Dr. William Porter (*New York Medical Journal*, December 9th).

**X-Ray Illumination of the Stomach.**—Benedikt (*Wiener med. Presse*, 1899, No. 8) has devised a method which makes it possible within a few moments to transilluminate the stomach and the large intestine. Finding that the normal lung gave much lighter shadowgraphs than those atelectatic or infiltrated with tubercle, and that tumors of the chest as well as the heart itself are always easily seen, the thought occurred to him that an inflated stomach or intestine must give an analogous result. This proved to be the case. The inflation can be accomplished in short space of time by means of a stomach and intestinal tube and a balloon bulb. Viewed then through the fluoroscope the correct size, shape, and position of the stomach are said to be visible, and a tumor of that organ to be as discernible as the heart in a transillumination of the chest. It is claimed also that dilatation, hour-glass contraction, as well as anomalies of position and shape of the stomach can be recognized. The haustra of the large intestine and the contour of its walls are also plainly seen, and here, too, tumors, strictures, and dilatations are recognizable. The small intestines, on the other hand, cannot be inflated with air, and they therefore cannot be seen.

**Indications for Rectal Saline Enemas.**—From experiments and clinical observations, v. Mering (*Die Therapie der Gegenwart*, April, 1899) concludes that absorption from the stomach is dependent upon physical laws (osmosis), while that from the intestines depends upon the activity of the living cells. It follows, therefore, that injections of water into the intestine are indicated whenever the motor function of the stomach is insufficient. This condition is most marked in stenosis of the pylorus. v. Mering also recommends rectal injections in carcinoma, ulcer, as well as in neuroses and catarrhs of the stomach, when there are marked fermentation of the contents and diminution in the quantity of urine voided. Furthermore he sees them indicated when excessive thirst exists, as in diabetes mellitus, exhaustive sweats, profuse diarrhœa, and especially after severe hemorrhages. In the last instance the water replaces that of the blood, and we see in this class of persons the water rapidly absorbed from the rectum. The author recommends immediate injection of one litre of a one-half-per-cent. sodium-chloride solution, after a profuse hemorrhage; the injection to be repeated once or twice at intervals of three hours.

**Condition of the Stomach during Rectal Alimentation.**—Ziarko (*Berliner klin. Wochenschrift*) has inquired into the condition of the mucous membrane of the stomach during rectal alimentation. Winternitz claims that nutrient enemata are useless in ulcer of the stomach, believing that a reflex stimulus to the gastric glands is produced analogous to that from excitation of the gustatory and olfactory nerves, and that gastric secretion is poured out each time. A series of experiments has shown Ziarko that during as long a period as two and one-half hours after administration of a nutritive rectal enema there was no increase in amount of the stomach contents, nor of the acidity thereof. On the contrary the acidity was somewhat diminished. Ziarko thinks this diminution in acidity is due to two factors: suspension of glandular activity and mingling of alkaline mucus from the wall of the stomach.

**Medical (Carlsbad Course) and Surgical Therapeutic Indications in Cholelithiasis.**—Kehr (*Munchener med. Wochenschr.*, 1899, No. 38) divides the cases as follows: (*A*) Medical: (1) acute closure of the ductus choledochus and normal course; (2) inflammatory processes of the gall bladder with or without icterus, which are not too severe or of too frequent occurrence; (3) frequent colics followed each time by passage of stones; (4) gall stones complicated by obesity, gout, or diabetes, or by conditions which would render narcosis dangerous (cardiac, pulmonary, or renal affections); (5) patients who have already been operated upon. (*B*) Surgical: (1) Acute seropurulent cholecystitis or peri-cholecystitis; (2) when there are adhesions between the gall bladder on the one hand, and the intestine, stomach, or omentum on the other; provided, however, that they cause disagreeable symptoms; (3) chronic closure of the ductus choledochus; (4) chronic closure of the ductus cysticus (hydrops or empyema of the gall bladder); (5) gall-stone colics, which, though comparatively mild in character, resist all internal treatment, and by their presence render life a burden to the patient or interfere with his occupation; (6) suppurative cholangitis or abscess of the liver; (7) perforation along the biliary passages and peritonitis; (8) when morphinismus results.

**Hernia Following Abdominal Operations: Its Prevention and Cure.**—Under the above title Dr. A. Lapthorn Smith contributes an interesting article (*Pacific Medical Journal*, November, 1899), in which he summarizes as follows: 1. Hernia is a frequent complication following abdominal section. 2. When it occurs it prevents other women from undergoing a needed laparotomy. 3. It is quite preventable *a*) by leaving in the stitches for one month if the woman is thin enough to allow us to use through-and-through sutures; or (*b*) by using non-absorbable buried ligatures when the woman is fat enough to require two layers of sutures. The writer prepares his silkworm gut by placing it in solid glass tubes, and boiling it. A cut with a file is made in the middle, and just when it is required for use the tube is snapped across. (*c*) by discarding the abdominal drainage tube, and when drainage is necessary, which it rarely is, draining through the vagina; (*d*) by securing accurate

coaptation of the cut edges by marking the places where the stitches are to go before making the incision; (*e*) by taking care that no peritoneum is curved up so as to come between the muscle and fascia of the opposite side. 4. Hernia is easily cured in small cases with a single buried silk worm-gut purse-string suture; and in larger cases by splitting the edges of the ring until the recti muscles are exposed from top to bottom, and suturing them with buried silkworm gut. 5. Patients with buried silkworm-gut stitches do not need to stay in bed more than two weeks, and in some cases less; and they do not need to wear an abdominal belt.

**An Atypical Case of Measles.**—Dr. Frank H. Rowe (*Pediatrics*, August, 1899) reports the case of a girl four years old, sick with fever for four days, whose older sister during the same time had measles. He saw the case for the first time on the fifth day, when the child had 104.5° F. temperature. Fever continued steadily for ten days, and then declined to the normal without the slightest exanthema. Nervous symptoms were marked, with severe headache, delirium, muscular twitchings, rapid respiration, dry cough, uncontrollable diarrhœa, and general typhoidal state. The symptoms began to improve about the eleventh day, and a few days later the child was convalescent, when a younger sister developed an ordinary case of measles. On the fourteenth day of treatment, when the child was considered recovered, a very copious general eruption of measles appeared, which followed the usual course, but without any systemic disturbance.

## Society Reports.

### NEW YORK ACADEMY OF MEDICINE.

#### SECTION ON SURGERY.

*Stated Meeting, December 11, 1899.*

CHARLES N. DOWD, M.D., CHAIRMAN.

**Prostatectomy.**—DR. ALEXANDER D. JOHNSON presented a patient, sixty years of age, upon whom he had done prostatectomy. He had been admitted to the Roosevelt Hospital on October 2, 1899. Five years before he had begun to suffer from difficult, painful, and frequent urination. He had been catheterized occasionally to relieve retention of urine. The urine was passed in normal quantity, was cloudy, acid, and contained a very large amount of pus, but no casts. The examination of the urethra showed that the canal was patent. The distance from the bulbomembranous junction to the bladder was markedly increased. There were regularly five ounces of residual urine. The lower edge of the prostate appeared to be within one inch and a half of the sphincter. The patient suffered from moderate fever and had a pulse of about 120 most of the time. His bladder had been daily irrigated, and the urine had been withdrawn by catheter for five days without improvement. On October 7th he had been operated upon under nitrous oxide and ether anæsthesia. After irrigation of the bladder and leaving a few ounces of boric-acid solution in the bladder, this organ had been exposed by an incision two inches long. Through a perineal incision the prostate had been reached, and its capsule incised on either side of the median line, and each half of the prostate enucleated with the finger. The median portion came away easily, still attached to the lateral lobes. At the point of attachment to the urethra mesially the mucous membrane had been torn. The removal of the gland had been accomplished with ease, and the bleeding, while free, had not been alarming. It was found to be an ordinary mixed hypertrophy of the prostate gland. A large soft-rubber catheter had been inserted through the rent in the urethra, and pushed into the bladder. The cavity on either side, as well as the middle portion of the perineal wound, was packed with gauze. The suprapubic wound was closed with deep catgut and superficial sutures. There were no shock and not much pain after the operation. The urine had drained chiefly through the packing for three days, requiring frequent change of the outside dressing. For twenty-four hours this discharge had been blood-stained. The bladder had been irrigated daily with boric acid through the tube until the seventh day, when it had been removed permanently, after which irrigation had been accomplished through the urethra. The suprapubic wound had healed primarily. After the seventh day a No. 32 French sound had been passed through the meatus and into the bladder daily. The patient had been allowed out of bed on the twelfth day. The urine had been voided voluntarily through the urethra on the eighth day, after which the irrigation had consisted of silver solution. Then faradization had been employed, and had seemed to increase decidedly the force of urination and diminish in this way the quantity of residual urine. The perineal sinus had diminished slowly and was now almost completely closed. Now, two months after the operation, his general health was very greatly improved, he having gained fully twenty-five pounds in weight. While this patient's convalescence had been slow, the result would seem to justify even a longer period of disability. He had found the operation especially difficult, but in the future he would probably modify the operation by endeavoring to avoid tearing through the prostatic urethra by shaving off the attachment with a blunt-pointed knife. He would then repeat the process on the other side and introduce a drainage tube through the longitudinal slit in the membranous portion of the urethra. The object of this modification was to secure a more rapid convalescence.

DR. EUGENE FULLER also presented a case of prostatectomy, in a patient from the City Hospital. He was a man sixty years of age, who some time ago had been seized with retention of urine. In one of the metropolitan hospitals perineal drainage had been established, but nothing had been done to the prostate. Of course, as soon as the drainage tube had been removed a perineal fistula had been left, and the patient had been worse than before. There had been a condition of perfect atony of the bladder, and this viscus had been in a very foul state. The speaker said that he was of the opinion that a perineal operation in a case presenting such a condition of a prostate and bladder was more dangerous than a suprapubic operation. If a large prostate was removed under such conditions, there was liable to be a great deal of hemorrhage, and if the bladder was not opened, a great deal of trouble might be experienced in controlling this hemorrhage. Better drainage was secured by having a suprapubic opening. On making the suprapubic incision he had found that, owing to an extensive peritonitis, it had been impossible to expose the bladder except by going through the peritoneum, or by adopting the Trendelenburg transverse method. The latter plan he did not like, and he objected to the former because of the foul condition of the bladder. He had accordingly closed up the suprapubic opening, and had made an extensive perineal operation. The latter had had to be modified because of the existing perineal fistula. He had finally succeeded in getting the large prostate into the cavity of the bladder, and then had seized it with a flat pair of abdominal forceps and had delivered it through the perineum.

Dr. Fuller also presented a man who had had a gonorrhœal urethritis some time ago, and, as a result, so much inflammation and tumefaction that absolute retention of urine had been produced. The inflammatory condition had invaded the capsule of the prostate, and had thickened all the neighboring tissues. The bladder was extremely atonic, and hence, if a severe hemorrhage should occur into such a bladder, it would be very difficult to stop the bleeding. In more than one emergency case of this kind he had made a suprapubic incision in order to let out the rapidly accumulating blood. For these reasons he had made in this case a suprapubic incision in addition to the perineal opening. This method had secured perfect rest of the bladder, and had enabled this viscus to regain its proper tone.

Dr. Fuller then presented a case showing extensive urethral resection. There had been several false passages, and the urethra had been almost cartilaginous for some distance. He did not favor much instrumentation after such operations. In this patient the operation had been done four or five weeks ago, and an instrument had been passed only once since that time; nevertheless urination at the present time was exceedingly satisfactory.

Dr. Forbes Hawkes presented a man, aged seventy-one years, upon whom prostatectomy had been done. When seen one year ago, he had stated that there had been only three attacks of retention of urine in the previous fifteen years. The last attack had been more severe than the others, and catheterization had been difficult and had been accompanied by the passage of blood. The man was straining a great deal at the time. Dr. Hawkes said that he had introduced a large silver prostatic catheter down ten inches, and had then passed over a bar and, after going about two inches further, had finally penetrated the bladder. The spasm had returned in an hour or two, however, and on this account a suprapubic operation had been advised and performed. The bladder had been distended with air before opening it. On incising the viscus, a very large prostate had been exposed. The catheters employed had apparently tunnelled directly through one lobe. Both lateral lobes had been greatly enlarged, but had been readily enucleated. The median lobe had also been enlarged. By passing the fingers down through the right lateral pouch, the finger of an assistant being in the rectum pushing upward, he had succeeded in removing the median lobe without opening the prostatic urethra. There had been comparatively little bleeding and disagreeable reaction. At the present time, the man could sleep ten hours without getting up to urinate, and he evacuated the bladder only three or four times during the day. The only thing complained of was that on sneezing a few drops of urine would appear at the meatus. On the whole, the functional result seemed to be excellent.

**Removal of Floating Cartilage from the Knee Joint.**—Dr. B. Farquhar Curtis presented a young man who had had a floating cartilage removed from his knee joint. There had not been many of the usual symptoms of this condition. Last June the young man had had a traumatic synovitis, which had been treated by bandaging for three or four weeks. He had then remained well until September, when another traumatic synovitis had developed from a slight cause. When that had subsided, it had been found that a mass of considerable size lay to the outer side of the patella. It could be easily rolled about within certain limits, but always returned to its position alongside of the patella. It had been exposed by an incision, and removed. The interesting feature was the structure of this large foreign body—it was pure hyaline cartilage. It had been attached by a pedicle to the lower end of the joint. From its structure one would suppose that it had been chipped off from the joint surfaces by slow necrosis, but the shape of this body was so much like the ordinary synovial fringes, and its attachment pointed so strongly to this origin, that he had been compelled to accept this view. It was now three weeks since the operation. The wound had healed by primary union.

**Loose Cartilages following Trauma.**—Dr. Samuel Lloyd presented a youth of eighteen years, who had injured his knee while jumping in such a way that his weight came upon the right foot. Immediately afterward, he had experienced pain in the knee joint, and had noticed a clicking in the joint. Four weeks ago he had been admitted to the Post-Graduate Hospital and operated upon. Four loose cartilages had been found in the joint, one the size of an almond kernel, and the other three about the size of a pea. He had been allowed out of bed after one week, and the splint had been removed on the tenth day. He had been walking without any splint since that time, and already had a good functional result.

**A Remarkable Deformity of the Shoulder.**—Dr. J. F. Erdmann presented a colored man aged twenty-one years, who, when two years old, had fallen from a baby carriage and sustained an injury of the shoulder, which had left him with a marked deformity. Examination showed that the point of the clavicle was well up toward the back of the right ear. A skiagraph of this remarkable deformity was also exhibited.

**The Operating Cystoscope of Nitze and Caspar.**—Dr. Willy Meyer exhibited this instrument. He said that a description of it had been first published in 1891, but it had not then been obtainable in the market. Casper had made use of the straight cystoscope as an obturator, which could be easily introduced through the central shaft, for example, of a lithotrite. If there was much bleeding, the cystoscope could be quickly withdrawn and the bladder washed out. The snare and other attachments of both the Casper and Nitze instruments were exhibited, and their action demonstrated. In 1896 Nitze had reported thirty cases of tumor of the bladder upon which he had successfully operated with his operating cystoscope. Many of his cases had been operated upon at his office, and without general anæsthesia. In some instances as many as fifteen sittings had been required for the snaring off of the tumor and cauterization of the point of its attachment. Not one of these patients had died under the treatment. The majority of them had been examined within a year or two after operation, but not at a later period. This operator claimed that many of the papillomata of the bladder were benign growths, but the speaker said that he would expect later examination of some of these cases to show recurrences of a malignant nature. The operating cystoscope should prove especially valuable in connection with the operation of litholapaxy, because it could readily detect any fragments remaining behind in the bladder.

**Freudenberg's Modification of Bottini's Prostatic Cauterisator.**—Dr. Meyer demonstrated this instrument, and in doing so expressed his firm conviction that Bottini's operation on the prostate had come to stay. He had done the operation twenty-eight times on twenty-three patients. A patient would not submit to the removal of a small prostate only causing slight retention of urine, but many would be only too glad to submit themselves to the Bottini treatment. It was possible that, in time, this method would enable the surgeon to get these patients at an early stage.

Dr. L. Bolton Bangs said that he had been captivated with the ingenuity of Nitze's instrument, and was interested in its possible application. He had found, however, that such treatment was limited, or of wide

application, depending upon one's view of the pathology of the condition presented. Dr. Meyer had admitted this evening that many of these growths appearing at first benign proved later to be malignant. It was because he shared this view that he had not used these instruments, although admitting that the Nitze method might prove useful for the treatment of the recurrences. In his opinion, the first principle in operating upon tumors of the bladder was that well known to all surgeons—wide and thorough removal of the growth. He was sure that such treatment would be the best for these bladder growths. Regarding the Bottini cutting instrument he said that he knew there were some cases in which it had absolutely failed, and he was now endeavoring to find principles for the proper guidance of the surgeon in the use of this instrument. He had failed with deep and long incisions in relieving at least two of his patients having a fibroid enlargement of the prostate, but in the soft prostate, in which the glandular element seemed to preponderate, the success of the Bottini-Freudenberg instrument seemed to be assured.

Dr. Samuel Alexander said that in order to determine the value of any operation for the relief of prostatic enlargement two questions must be answered: (1) What were the causes of vesical retention and incompetence in cases of prostatic enlargement? (2) How did any good operation relieve it? The principal cause was mechanical obstruction to the flow of the urine, which might be either of a permanent or temporary character. A temporary obstruction was due to œdema of the prostate and prostatic urethra and internal vesical orifice. It was the result of venous stasis. It might occur very suddenly, and in most cases was the direct and immediate cause of sudden retention of urine in prostatics. There were, however, other causes which were equally important, though frequently overlooked. First, there was a displacement of the insertion into the prostate of the fibres of the vesical muscle. As the result, the regular wave of contraction of the detrusor muscle was interfered with, the internal vesical orifice was closed before the bladder has been emptied, and there resulted partial retention with residual urine present. The displacement of the muscular fibres, in their insertion into the prostate, might be due either to growths springing from the lateral lobes and pressing backward into the bladder or downward into the prostatic urethra behind the veru montanum, or to one of the forms of so-called middle-lobe enlargement. He recognized three varieties of this type of enlargement: First, there might be an enlargement in this part limited to the anatomical middle isthmus of the prostate —that is, to that portion which joins the two lateral lobes together and which lies between the mucous membrane of the prostatic urethra, the internal orifice, and the seminal ducts. When this part alone was involved, it pushed upward and backward the mucous membrane and muscular coat of the prostatic urethra at the internal vesical orifice, forming an oval bar at the vesical outlet. As a result of this obstruction, which was usually associated with enlargement of the lateral lobes, that portion of the detrusor muscle whose function it was to empty the lower fundus of the bladder was called upon to do an extraordinary amount of work, and in time it became thickened and hypertrophied, especially at the urethral orifice, though sometimes in the region of the trigone, forming the so-called bar at the neck of the bladder. The second form of middle-lobe enlargement consisted in a growth in the anatomical middle isthmus, with enlargement of the irregularly placed glands at the internal urethral orifice. These latter lay directly beneath the mucous membrane and between the circular fibres of the bladder and the middle isthmus of the prostate. The prostatic tissue in the middle isthmus, and these irregularly placed glands beneath the mucous membrane, had at first no connection, but as the disease advanced the muscular fibres of the bladder were pushed backward by the increasing growth, and, finally, in advanced cases one found at the internal urethral orifice a homogeneous tumor formed by the junction of these growths with the vesical muscle behind it. This was the common form of the so-called middle-lobe enlargement. The third form consisted in the growth and development of the prostatic glands, which were irregularly placed directly beneath the mucous membrane of the prostatic urethra, above the veru montanum. The enlargement of these glands, sometimes associated with enlargement of the middle isthmus, caused an intra-urethral growth, which pressed upward from the floor of the urethra, and by its progressive enlargement pushed back the muscular fibres of the bladder on the floor. In addition to these causes, which were the most important in producing the obstructions to the outflow of urine and vesical incompetence, there were two more, viz., (1) the overstretching of the vesical muscle, or atony; and (2) the structural changes in the walls of the bladder as the result either of prolonged inflammation, which was rare, or more commonly of chronic passive congestion resulting in the formation of the interstitial fibrous tissue in the bladder walls. Both of these weakened the muscular power of the bladder. From this it would appear that, theoretically at least, an operation deserving the name "radical operation for the relief of prostatic enlargement" must contemplate the removal of the mechanical obstruction, the relief of the venous stasis, the restoration approximately to its normal position of the attachment of the vesical muscle to the prostate, and the relief of congestion and inflammation of the bladder by drainage. Prostatectomy was the only operation which fulfilled all these conditions, and this operation, when done according to the method which he had heretofore described, would prove satisfactory in most cases. The theoretical objection to the Bottini galvano-cautery operation was that its object was solely to remove, and that only partially, the mechanical obstruction caused by the growth of the prostate. Of course, the burning through the obstructing portion of the prostate in this operation was likely also to relieve the œdema at first, but it was not claimed by its most ardent advocates that such a division of the prostate would restore, to an efficient state, the misplaced vesical muscle. The operation did not promise to accomplish efficient drainage of the bladder, yet this was absolutely necessary to cure the lesions resulting from chronic inflammation and from prolonged passive congestion. His own experience with the operation, although limited to a single case, had been most unsatisfactory; the patient had been relieved, after a few days, of his complete retention of urine, but he still required the use of the catheter several times a day, and the introduction of this was not made more easy by the operation. The immediate beneficial effects of the operation did not persist for more than four weeks, and the patient then, in spite of all efforts, relapsed into a condition of complete retention. He had seen several cases which had been operated upon by this method by well-known surgeons, and in all of these the ultimate results of the operation had been unsatisfactory. The best that could be said for Bottini's operation was, that it caused temporary amelioration in the symptoms of retention. He was inclined to think, from personal observation, that the good effects which were claimed for the operation were temporary, and certainly the patient who had been subjected to Bottini's operation was thereby rendered an unsuitable risk for any radical operation. He desired to protest against the views which were

being so freely expressed, by men whose opinion was entitled to respect, in favor of this operation; too much had been claimed for it. His own opinion was, that surgeons needed a better knowledge of what enlargement of the prostate meant—what anatomically and pathologically the disease really was. All cases were not alike—indeed, no two cases were alike. No one operation was certain to be suitable in all cases, nor to be equally satisfactory in all. It was a good thing to be progressive and to try new things, but it was most unfortunate to permit our enthusiasm to interfere with our scientific judgment.

**Technique of Perineal Prostatectomy.**—Speaking of the technique of the operation, Dr. Alexander said that unquestionably in most cases a suprapubic incision into the bladder was necessary in order to bring the prostate far down into the perineum. In two cases, however, he had been able to remove very large prostatic growths without resorting to the suprapubic incision. One of these cases was that of a very thin old man, and the other that of a patient with an exceedingly lax and flabby abdomen. In both cases it had been possible to pass the hand well down into the pelvic cavity without opening the abdominal wall, and to bring the prostate into the perineal incision. It was an open question whether the transverse or longitudinal incision into the perineum was the better. Up to the present time he had employed most frequently the longitudinal incision, and had found that the prostate could be removed through this with as much ease as when the transverse incision was made. It had the advantage of healing more rapidly, and of requiring less time to make than the transverse incision. The incision to be made into the prostate for the purpose of removing the growths was also still a matter of discussion. The method which he had usually adopted had been to divide thoroughly the floor of the membranous urethra up to, and perhaps a little into, the apex of the prostate; then, the prostate having been pushed as far down as possible into the perineum by the finger inserted through the suprapubic opening, he broke through the mucous membrane of the prostatic urethra as near the apex as possible, coming at once upon the enlarged lateral lobe, and being able to separate this without difficulty from the prostatic capsule. He was convinced that in his operation the floors and the sides of the prostatic urethra, anterior to the veru montanum, was torn through; the roof, however, of this portion of the canal was preserved. The prostatic urethra above the veru montanum was really an integral portion of the bladder, and it was this portion alone which it was necessary to preserve intact in order to obtain the best results. After having separated the lateral lobe from the capsule, the only difficult part of the operation was to separate it from the upper portion of the prostatic urethra without injury to the latter. This required a little time, but was not hard to accomplish. Having removed the tumors from the lateral lobe, he had never found it difficult to press down the existing so-called middle-lobe enlargement into the cavity thus formed, and enucleate it without injury to the mucous membrane of the bladder or prostatic urethra. If this method was employed, it was best to make the incision about a quarter of an inch below the apex of the prostate, and it should be deep enough to go through not only the prostatic capsule, but also well into the enlarged lateral lobes. The failures which had occurred in some cases had been due apparently to the fact that this incision had not been deep enough. This the speaker demonstrated clearly upon a specimen of enlarged prostate.

Dr. W. K. Otis said that he had had no personal experience with the Bottini operation, but was inclined to take the same view of it as did Dr. Alexander. Regarding the beautiful instrument presented he expressed the opinion that surgical procedures in the bladder could hardly go any further than catheterization of the ureter. Owing to the hemorrhage it did not seem to him that the advantages were commensurate with the trouble connected with this method of operation; and, moreover, the danger of hemorrhage and the greater liability to recurrence should lead the surgeon to select other and better known surgical methods. He would like to know what became of the tumors removed with these instruments; if there was not considerable likelihood that shreds of the tumors remaining behind would form nuclei of vesical calculi.

Dr. Meyer, closing the discussion, said that Nitze had especially stated that he operated only upon benign growth in the bladder. Many tumors that had been looked upon as malignant had proved ultimately to be benign. It was remarkable what large blood clots and large shreds of tumor would be discharged through these instruments. He was far from believing that every case of prostatic hypertrophy should be treated by the Bottini method; nevertheless, what he had observed from this method of treatment had deeply impressed him. The fact that Bottini had observed his cases for about twenty years should carry with it much weight. The least that could be said was that the method deserved, and should be accorded, a fair and thorough trial.

**Foreign Body in the Knee Joint Formed by a Piece of Cartilage Chipped from the Condyle.**—Dr. John F. Erdmann presented this specimen. It had been taken from the left knee-joint of a young girl. While turning, and running away from a playmate she had experienced sudden and severe pain, and this pain had recurred repeatedly until the time of operation, when it had been found that a small piece from the condyle had been chipped off. At the end of the third week she was moving about with perfect freedom.

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## Correspondence.

### OUR LONDON LETTER.

(From our Special Correspondent.)

MEDICAL COUNCIL—LORD LISTER AT THE ROYAL SOCIETY—DEBATE ON RELATION OF TABES TO GENERAL PARALYSIS OF THE INSANE—ADJOURNED DISCUSSION ON OPEN-AIR TREATMENT.

London, December 8, 1899

After two days spent in its judicial work the Medical Council resumed its debates on Saturday, and continued until Tuesday. On that last day the programme was so crowded that not a little had to be left undone. The first subject taken up on Saturday was that of the title of licentiates of the Apothecaries' Society. Are they physicians or surgeons, or both? Of course this arises through the lamentable Hunter case. The society desired the council to join in a lawsuit to settle the question. Mr. Brudenell Carter, in proposing this course, read part of a very interesting letter from Dr. Murray, editor of the Oxford Dictionary, on the history of the word "physician." He said modern etymologists, looking at the classical derivation, are apt to think the words should have the original sense; but that would be to undo history, pull down the Tower of London, St. Paul's, and Westminster Abbey in order to restore Roman London. Interesting as the letter is in tracing the history of the word physician, it does not show the right of the licentiates of the society to adopt it, and the Council did not seem inclined to enter on a lawsuit, which might prove costly. For this we may congratulate ourselves so

far. The proposal was referred to a special committee to report to the Council.

There was another discussion on the proposal to obtain power to suspend a delinquent for a time from the advantage of being on the register, and restore him in due course, to give power to the licensing bodies in the same way to withdraw and restore their diplomas, and to give to the Council fines and penalties recovered under the medical acts. The draft clauses for such an act were approved, and the president is to ask the Privy Council to promote or support the bill.

Reciprocity of practice in reference to foreign countries was fully discussed in consequence of inquiries made by Germany and Italy. After long discussion of the matter on Monday and Tuesday, Mr. Horsley eventually carried a resolution requesting the education committee to consider the exemptions which are allowed to foreign graduates by various qualifying authorities.

The conduct of the two London colleges in admitting schools as places of preliminary scientific education, notwithstanding the view of the Council formally expressed, gave rise to some warm discussion. The colleges were evidently in the wrong, and it looked as if the Council would venture to insist on its authority, in as absolute a manner as the colleges repudiated it. But a body consisting of representatives of other oligarchies would not be too hard on those of the colleges, and so a milder course was adopted by a resolution adhering to the regulation of June 7th, and inviting these colleges to take the matter into fresh consideration. If they decline, the Council can no doubt refuse to register their diplomas in these cases. It was said this would fall on the students, but these would, of course, go to other qualifying bodies, if the Council had the courage to advertise its decision in the journals. Then the colleges would find their fees so diminished that they would soon be defeated.

Lord Lister's address at the annual meeting of the Royal Society was chiefly occupied with Mr. Haffkine's address on preventive inoculation, of which I gave you a report at the time. It is, therefore, unnecessary now to do more than say that Lord Lister indorsed Mr. Haffkine's process, and spoke in most favorable terms of Professor Wright's extension of the plan to typhoid; which is so satisfactory that many soldiers going to Africa are being inoculated. In the year's death roll of the society the noble president mentioned Sir W. Flower, Sir W. Jenner, Lord Herschell, Sir W. Roberts, Sir Edward Frankland, Dr. Henry Hicks, and Professor Bunsen.

The discussion at the Pathological Society on "The Relation of Tabes to General Paralysis of the Insane" has been adjourned, so we have now on hand two important adjourned debates at two leading societies. The debate was opened by Dr. F. W. Mott, who illustrated his communication by lantern slides and microscopical preparations. He considers the pathological process in the two diseases as identical—viz., a primary progressive degeneration of the neuron with secondary sclerosis and inflammatory or sub-inflammatory conditions in the vessels or adjacent membranes due to irritation, caused by the products of degeneration and a formative degeneration of the glia elements. In tabes the changes in the posterior columns closely resemble those produced by cutting the roots. Dr. Mott has found in conjunction with Professor Sherrington that loss of muscular tonus is a most marked effect of section of posterior roots. He has found no chromolytic changes, however, in the cells of the posterior ganglia after section in monkeys. In six cases of tabes he found excess of pigmentation with some shrinking and irregularity. In two there were definite chromolytic changes, but in both of these the peripheral nerves were affected. As to the appearances in the cord in the tabetic form of general paralysis, there are differences of opinion. In Dr. Mott's specimens the lesions are those of tabes, and in the brain there are changes more or less typical of general paralysis. If these are borderland cases he would consider them a link in the chain of evidence that the two diseases are results of the same morbid process, differing only as it affects different parts. Dr. Mott holds that the most important factor of both diseases is syphilis. If the evidence hardly amounts to a proof that with no syphilis there could be neither tabes nor general paralysis, he thinks we might almost infer as much, and regard the two disease as parasyphilitic. He has seen twenty-two cases of juvenile general paralysis, and in eighty per cent. there were signs of a history of syphilis, and in the others this could not be excluded. A similar relationship to juvenile tabes has been remarked in recorded cases, and various clinical phenomena point in the same direction.

Dr. Alexander Bruce, of Edinburgh, said the posterior roots entered the cord quite differently from the anterior, for they were sharply constricted, and the medullary sheath became much thinner. Further around the point of entry was a blood-vessel, and in early cases he has seen a distinct thickening here such as syphilis might produce. This may perhaps explain the limitation of the disease to the parts within the cord. Dr. Bruce questioned whether the nerve changes were primary, for he had seen hyaline degeneration of vessels before any marked nerve changes could be detected. He had also frequently found inflammatory foci with dilated vessels and round cells scattered through the cortex. As to the action of toxins, that might just as likely affect vessels as nerves.

Dr. Buzzard did not profess himself qualified to discuss the pathological changes, but testified to the extreme importance of Dr. Mott's paper and demonstration. Clinical observation was largely concerned, and he agreed that the most important factor was syphilis. Dr. Mott's unique experience in juvenile general paralysis appeared to be overwhelming evidence of this. He was also disposed to admit the unity of general paralysis and tabes. He thought both diseases could in many cases be regarded as primary degeneration of the neuron, with secondary inflammatory or subinflammatory changes in the meninges and proliferation of the glia cells, but not always so. The two processes might sometimes go on side by side, as he felt sure was the case in insular sclerosis. He thought it premature to exclude the soft sore as a possible source of a toxin distinct from syphilis, but capable of setting up the degenerations in question, just as in multiple peripheral neuritis, whatever the toxin that set it up, the changes were the same.

On resuming the debate at the Medico-Chirurgical Society, Sir D. Powell said he thought the name "open-air treatment" unfortunate as ignoring other factors, while sanatorial was as bad as indicating the necessity of a special building. Any "catch-name" was undesirable. Sanatoria were useful for many who had no home in which they could be properly treated, and also for the medical men who had the care of them. The whole consumptive population could not go to sanatoria. The object was to check the spread of the disease, remove the patient from the conditions in which he was attached, and starve out the microbes. The evidence of progress was the temperature, the chief point being the excursions of the curve. He did not advocate the rectal method. Among other objects to promote repair was good cooking. The physicians should superintend the distribution of the food. It was a doubtful advantage to increase the weight above the patient's normal, as it might be

gained beyond the capacity of the lungs and heart, and so add to the breathlessness. In the apyretic periods graduated exercise, such as walking ten minutes and resting fifty in the hour as indicated, care as to work and climate, after leaving a sanatorium, was necessary, *e.g.*, return to city life might mean collapse.

Sir H. Weber regarded sanatoria as essential for the poor, and useful for others. He did not agree with Dr. Fowler that the system was the principal factor. The medical man was as important, if not more so, for the system could not allow for the constitution of the patient. In febrile states exercise should be avoided. He had known patients to perish on climbing a hill, and a heated discussion to prove the beginning of the end. This made him insist on the importance of medical supervision, and the doctor must regulate the treatment in each individual. Too much air, even too much light, might injure some individuals. Mental excitement was another point. He had noted a rise of one, two, three, and even four degrees in hospital patients on visiting-days.

Dr. A. Ransome recalled that Sir J. Clarke, Dr. H. MacCormac and others had employed fresh-air treatment, but Brehmer systematized the plan which yielded the best results. He did not advocate a hard and fast routine. The method was really treatment by pure air—a sort of aseptic medicine. How it acted might be explained more or less by various hypotheses. Happily a sanatorium was not indispensable, for many patients must be treated in their homes.

Dr. Heron was sure the method could be carried out in the patient's home if he was intelligent. The most hopeful cases were, of course, in the early stage —say a slight infection of one or even both lungs with a temperature not above 99.5° F. If above 100° F. the case was probably a mixed infection. Some rules in sanatoria were needless and irritating. A daily visit of the doctor and frequent temperature taking were irksome and unnecessary. Active exercise was often useful, and many poor patients could work at out-door employments, farming, gardening, etc. Sanatoria should not be commercial speculations.

Dr. Squire said the more complete was the open-air treatment the better were the results, but after twelve years' experience of fresh air as distinguished from sanatoria he admitted some patients could not bear it in all climates. He mentioned some contraindications. Diminution of temperature in cases with a wide daily range should be watched lest collapse supervene. Bronchitis cases would not bear much exposure to cold air. Hæmoptysis was not a contraindication. Many relapses occur after the patient has returned to work for a year. Over-feeding is not always beneficial.

Dr. Poore said an arctic climate might prevent lung disease, but would not make existent bronchitis better or worse. He dwelt on the construction of sanatoria.

Dr. Hillier referred to the discussion held years ago, introduced by Dr. MacCormac, which was not favorably received. Open-air meant pure-air treatment, absence of respiratory impurities. These are effete animal products—toxic to the host but nutritious to the bacilli. These vegetable organisms flourished on the effete animal products—a form of manure.

**Hemorrhoids.**—Eighteen failures led me to the belief that dilatation is of no value whatever, even in small piles, no matter whether internal or external. I would recommend in such cases that the local treatment with good but non-toxic antiseptics be given a fair trial. It is hardly necessary for me to mention that attention must also be paid to the possible removal of mechanical disturbing influences.—Gustavus M. Blech.

## THE TREATMENT OF APPENDICITIS.

To the Editor of the Medical Record.

Sir: On page 878, Medical Record, December 9th, Dr. Morris says: "As far as I am aware, no physician has as yet been able to defend medical treatment of any sort when proper treatment is available." This statement is obviously unfair. I might say with equal if not more accuracy, that "no surgeon has as yet been able to defend the exclusively surgical treatment of appendicitis when proper treatment is available." I am sure he will never find any one, physician or surgeon, who wishes to defend any treatment, medical, surgical, or any other, when proper treatment is available.

Dr. Morris' remarks on "proper" treatment reminds me of Andrew Jackson and the tariff. A committee was sent to him to find out whether he favored a protective tariff or a tariff for revenue only. "Gentlemen," replied the general, "I favor a judicious tariff." Now, I have the highest opinion of Dr. Morris as a surgeon; so have many physicians all through the country. However, physicians are not yet willing to concede to Dr. Morris that the exclusively surgical treatment is the only treatment in appendicitis. The exclusively surgical treatment and the treatment which, by careful selection, has come to be the regular routine with most of our physicians, do not show such a marked difference after all. The general practitioner favors operation in all his recurring cases; so does the surgeon. His acute cases the physician treats medically as a rule. In a very small percentage of his primary cases he may find pus developing, or after a few days prolonged high pulse, or perhaps severe continual pain with extreme rigidity of the muscles in the right iliac fossa, or other symptoms upon the development of which he, from experience and observation and what he has culled from the experience of others, may, and probably will, advise the calling of a surgeon with a view to operation. We believe that appendicitis cases managed as above receive the very best treatment that is available to-day, and one that will save more lives than the exclusively surgical plan. As to which plan is the better, reliable data can alone determine. Now, what constitutes reliable data? I believe that physicians can draw more practical conclusions from the means at their command than the hospital surgeon with all his statistics. The general practitioners mingle with physicians of their own county or vicinity, and have the benefit of one another's experience, impressions, and observations. Then some of their number attend meetings where physicians from a whole State or country are represented. The physicians return home, relate the results of their mission, the various treatments and results therefrom are dissected, and finally the consensus of opinion is thrown to some particular method differing a little in detail perhaps, but tending on the whole to reduce the mortality of the disease to its lowest possible percentage. Untrustworthy, Dr. Morris may say, but nevertheless they are worth more to the general practitioner than all the hospital statistics he has at his command. The statistics of a hospital may be all right for hospital practitioners, but are practically worthless for general practitioners. For instance, what interest have the discussions of the boasted methods of treatment of typhoid fever in the hospitals when they show a mortality of from seven to twenty per cent., while we have a death rate of from one to five per cent.? Or, again, in pneumonia the hospital statistics show a mortality rate of from twenty to forty per cent.; while it is a matter of common knowledge that the general practitioner in his private practice has a rate of only three to six per cent. I might quote other diseases with like comparisons. Hospital statistics may be all right

for hospital treatments, but for outsiders they are practically of no use.

On page 877 Dr. Morris quotes Dr. Rupp as saying, "Cases differ, and consequently they demand different methods or plans of treatment," and makes this reply: "My argument is that appendicitis cases are due to bacterial infection and are consequently alike." Nothing could be farther from the facts than that statement. It does not follow at all that appendicitis cases are alike because they are caused by bacterial infection except it be in their etiology. Typhoid fever is caused by germ infection, but every case is a law unto itself as to details of treatment. Given ten cases of typhoid, and the probabilities are that each case will differ from the other in many of its phases, and no two of them will be treated alike. Some patients have diarrhœa, others are constipated throughout the course of the disease; some have severe gastric symptoms, others none at all, and still all are caused by the same germ infection. And so with hosts of other diseases, appendicitis not excepted. Again, he says that "fifty thousand people die in the United States each year from appendicitis." Allowing that there were fifty million persons of suitable age for contracting the disease, that would be one death to every one thousand of population.

If each one of those who were susceptible should, after reading of the treatment of appendicitis from a surgical standpoint, say to himself: "I am just as liable to have appendicitis as anybody else; there is a great surgeon in the adjoining city who will remove my appendix, and I won't be half so liable to die from the operation as I would if I had the measles," and granting the surgeon the extreme low mortality of one per cent., there would be five hundred thousand deaths from the operation alone. That the physicians are none too conservative in refusing to advise operation in every primary case that comes along, however slight, will, in my opinion, be conceded in the near future by physician and surgeon alike. The physician is always open to conviction, and if Dr. Morris can convince the general practitioners that his way is the right way and will save more lives than ours, we are prepared to follow, but not merely on his say-so.

He asks us to tell him as to our cases, "length of time wasted in bed, state of health after subsidence of acute attack, and of the state of the appendix by accurate palpation."

Let him also tell us of hernia pads worn for months of operations that did not relieve pain, and subsequent operations for adhesions; of operating for diseased appendix, and removing an inflamed ovary which was the cause of the trouble; of operating only to push a displaced kidney back into position; of those who succumbed to anæsthetics; of those whose kidneys or other internal organs have been damaged by the ether or chloroform, and of other little things that we physicians consider before we send a perfectly healthy man who has had appendicitis once, and probably never will have it again, to him to be operated on. As to palpation, I believe that its indiscriminate use as a means of diagnosis is susceptible of much harm in hands less skilful than perhaps Morris or Edebohls, especially in those cases in which there is a probability of abscess. That pressure is liable to rupture the thin wall that nature has thrown up to keep pus out of the rest of the abdominal cavity was shown in this vicinity a short time ago. An operation was advised, a specialist was sent for, an incision was made down to the peritoneum, and just as the surgeon was going to incise the peritoneum he felt something give way beneath the slight pressure of his fingers. He continued the operation to find that the slight pressure had broken the wall thrown up to confine the pus, and it had flooded the abdominal cavity. In spite of every endeavor general fatal peritonitis followed. That palpation is a great help in differentiating suspected cases I know from recent experience. That the exclusively surgical treatment of primary appendicitis will ever supersede the "mixed" treatment of the physicians is practically out of the question; and the surgeon who thinks it will is liable to be grievously disappointed. The "mixed" treatment is here to stay until the general practitioners find something better, but that something is not located in the exclusively surgical method. However, we will all, physician and surgeon alike, agree heartily with Dr. Morris that all other methods or plans of treatment should be discarded when the "proper" treatment is available.

J. S. Horner, M.D.

West Pawlet, Vt.

## ORIGIN OF THE TERM APPENDICITIS.

To the Editor of the Medical Record.

Sir: In the communication of Dr. A. Rose to the Medical Record of December 9th, he inquired who first suggested the name "appendicitis," and as I could not answer the question myself some years ago, I inquired of Dr. J. B. Murphy, of Chicago, if he could tell me, and he sent the following answer:

"In reply to yours of December 3d, I will say that, as far as I have been able to find out, the first time that the term was employed was in a lecture in 1871, by Henry Draper, then professor of physiology in the medical department of the University of New York. He apologized for using a hybrid term, whose origin he was unable to state, which had been applied to the inflammation of the appendix vermiformis produced by foreign bodies. The lecture dealt with the affections of the intestinal canal. The term in all probability has long been current in English-speaking countries, and may date back to the time when there was less objection to yoke a Greek and Latin word together than there is at present. It was somewhat difficult for me to get this information, but with the assistance of my friend, Dr. James J. Kiernan, it was located in this country."

This is the nearest to the origin of the word "appendicitis" I ever heard, and I therefore send this communication to you, thinking that the readers of the Medical Record might be interested in it.

J. H. Carstens, M.D.

Detroit, Mich.

## THE NOMENCLATURE OF APPENDICITIS.

To the Editor of the Medical Record.

Sir: In your issue of December 9, 1899, Dr. A. Rose, commenting upon my paper, "A Review of the History and Literature of Appendicitis," which appeared in the Medical Record of November 25, 1899, criticises what I have written on the nomenclature of appendicitis, and formulates a demand for the name of "the benefactor of mankind" who has given us the word appendicitis.

The crisicisms of Dr. Rose are in part just. The one sentence, "Epityphlitis, ecphyaditis, and scolecoiditis have been proposed by Kuester, Morris, and Gerster, respectively, as synonyms for appendicitis," contains, I hope and believe, all there is of carelessness and inexactitude in my entire paper. A more accurate statement would have been: "Kuester first proposed epityphlitis as a synonym for appendicitis. Morris and Gerster were the first ones I personally heard use the terms ecphyaditis and scolecoiditis respectively."

In regard to the omission of perityphlitis as a synonym for appendicitis, with which I am charged

by Dr. Rose, I hold that these words are no more synonymous than are, for instance, perimetritis and salpingitis.

Dr. Reginald H. Fitz, of Boston (*American Journal of the Medical Sciences*, 1886, n. s., xcii., page 323), as far as my knowledge goes, coined and first used the word appendicitis. G. M. EDEBOHLS, M.D.

December 25, 1899.

## Medical Items.

**Heredity and Alcoholism.**—A physician who is a professor in a medical college has recently published an elaborate argument to prove that inebriety cannot be transmitted because it is a nutritional disorder. An eminent divine discovers from the theological point of view that inebriety cannot be transmitted, and disposes of the subject in a bitter condemnation of the foolishness of students who are trying to know something of the subject from the physical side. A man of letters has joined the objectors to heredity, and with some feeling condemns all efforts to sustain what he calls a great delusion. A self-assertive editor has delivered himself in oracular sentences at some length along this line, and discovers much danger in the heredity theory. Thus the tide of criticism goes on building up and strengthening the facts by denying their accuracy. In this way attention is turned to them and new inquiry and new examination follow, and the facts become firmer, clearer, and better known. Denials and contradictions of facts are never destructive, but always constructive if the facts are vital and real.—*Journal of Inebriety.*

**Menopause.**—There is no positive sign of the menopause. The menopause does not necessarily coincide with the cessation of ovulation, and there is no certain sign of inability to conceive.—CERF.

**Compositions of German "Infant's" Milks.**—Drs. Schwabb and K. B. Lehmann have determined the compositions of a number of so-called "infant's milks" in the German markets, with the view of ascertaining how far they fulfilled their claims to resemble breast milk. Of the twenty varieties of infant's milks examined the great majority contained an excess of casein and were deficient in sugar—that is to say, were too little removed in character from crude cow's milk; and a large number had so low a percentage of fat as to suggest their having been partially skimmed, or at least diluted with a view to a reduction of the casein. The closest approximation to human milk was presented by the specialties of the Würzburger Dampf-Melkerei with casein and albumin 1.11, fat 3.4 to 3.65, and sugar 5.98 to 6.10; and the advertised composition of the "Nutricia" of Hanover, with casein and albumin 1.7, fat 3.35, and sugar 6.2, though the actual percentages found were 1.28, 3.0, and 4.76 respectively. Gaertner's "Fettmilch" contained casein and albumin 1.4 to 1.7, fat 3.1, and sugar 1.88 to 1.99. —*Public Health.*

**Pneumatic Cure for Baldness.**—*The Canada Lancet* says: "There has recently been advertised a pneumatic cure for baldness. This is based on the old, old theory that the loss of the hair is caused by a diminished blood-supply with resulting atrophy of the hair bulbs. Positively the last thing in the treatment of this affection is what is known as a 'capillary chalice.' We trust that our denominational friends will not be shocked at this use of the word, but will take the broader view that is derived from the Latin *calix*, meaning a cup, and that it is only within the last half-dozen centuries that the word has been specifically used to designate the communion cup. Besides, to what more noble purpose could an instrument with any name be applied than in the relief of baldness, the deformity of youth, and scarcely to be borne with equanimity in old age? The mechanism of this treatment is simply the old one of cupping. The chalice is nothing but a hollow rubber pad from which the air can be exhausted, and in this way the circulation of the scalp stimulated so as to produce healthy hair follicles and stimulate the normal growth of the hair. We are left in no doubt as to the efficacy of the treatment, for the advertisement of the company selling the instrument contains a number of illustrations of 'before' and 'after' treatment. A number of men are shown with remarkably smooth pates, and later we see the same heads covered with hair that would be the envy of any barber in the land. We are informed that the 'chalice' does not aim to produce a perfect vacuum, which of course nature abhors, but that it is only a partial one. We are gratified at this conservatism on the part of the makers of the cup, because a perfect vacuum might result in a loss of a portion of the scalp and there would be little hope of restoration, as even with this method of stimulating the circulation it could hardly be hoped that the denuded cranium could produce a luxuriant crop of hair."

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the surgeon-general of the United States Marine-Hospital service during the week ended December 23, 1899:

| | | Cases. | Deaths. |
|---|---|---|---|
| **SMALLPOX—UNITED STATES.** | | | |
| Illinois, Cairo | December 8th to 16th | 2 | |
| Chicago | December 8th to 16th. | 1 | |
| Indiana, Allen County | December 13th | 27 | |
| Evansville | December 8th to 16th | 1 | |
| Louisiana, New Orleans | December 2d to 16th | 8 | |
| Shreveport | December 8th to 16th | 2 | |
| Maryland, Baltimore | December 8th to 16th | 1 | |
| Michigan, Benton Harbor | December 8th | Present. | |
| Benton Township | December 8th | Present. | |
| Carrollton Township | December 8th | Present. | |
| Detroit | December 8th | Present. | |
| Masonville Township | December 8th | Present. | |
| Watervliet Township | December 8th | Present. | |
| New York, New York | December 8th to 16th | 2 | |
| Pennsylvania, Pittsburg | December 8th to 16th | 1 | |
| Tennessee, Nashville | December 8th to 16th | 2 | |
| Utah, Salt Lake City | December 8th to 16th | 1 | |
| Virginia, Portsmouth | December 8th to 16th | 10 | 2 |
| **SMALLPOX—FOREIGN.** | | | |
| Belgium, Antwerp | November 18th to December 2d | 8 | 7 |
| Bohemia, Prague | November 18th to 25th | 20 | |
| Canada, Ontario | October 30th to November 28th | 120 | |
| Colombia, Barranquilla | November 25th to December 2d | 5 | |
| England, London | November 25th to December 2d | 1 | |
| France, Marseilles | November 27th to December 4th | .. | 9 |
| Greece, Athens | November 18th to December 2d | .. | 2 |
| India, Bombay | November 15th to 21st | .. | 7 |
| Madras | November 4th to 10th | .. | 1 |
| Japan, Osaka and Hiogo | November 11th to 18th | 1 | |
| Mexico, Chihuahua | December 2d to 9th | .. | 8 |
| C. P. Diaz | November 20th to December 10th. | 1 | 1 |
| Monclova | November 20th to December 10th. | 6 | 1 |
| Progreso | November 20th to December 10th. | 20 | |
| Sabinas | November 20th to December 10th. | 17 | 3 |
| San Felipo | November 20th to December 10th. | 22 | 18 |
| San Juan de Sabinas | November 20th to December 10th. | 7 | |
| Vera Cruz | December 7th to 14th | .. | 2 |
| Russia, Odessa | November 18th | 3 | |
| St. Petersburg | November 18th to December 2d | 18 | 1 |
| Warsaw | November 18th to 25th | .. | 4 |
| Spain, Corunna | November 18th to December 2d | 4 | 3 |
| Straits Settlements, Singapore | October 7th to 28th | .. | 51 |
| **YELLOW FEVER.** | | | |
| Colombia, Panama | December 4th to 12th | 6 | 1 |
| Cuba, Havana | December 2d to 9th | 10 | 2 |
| Mexico, Vera Cruz | December 7th to 14th | .. | 3 |
| **CHOLERA.** | | | |
| India, Bombay | November 14th to 21st | .. | 2 |
| Calcutta | October 14th to 28th | .. | 8 |
| **PLAGUE.** | | | |
| China, Hong Kong | November 4th to 11th | 19 | 19 |
| India, Bombay | November 14th to 21st | .. | 110 |
| Calcutta | October 22d to 28th | .. | |
| Kurrachee | November 11th to 18th | 6 | |
| Japan, Osaka and Hiogo | November 11th to 18th | 1 | |

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